INFORMATION, EDUCATION AND COMMUNICATION FOR ENROLMENT IN HEALTH INSURANCE IN NEPAL

Devaraj Acharya

A Dissertation for the Degree of Doctor of Philosophy in Education

[Health Education]

Submitted to

Dean's Office

Faculty of Education, Tribhuvan University

Kathmandu, Nepal

September, 2020

INFORMATION, EDUCATION AND COMMUNICATION FOR

ENROLMENT IN HEALTH INSURANCE IN NEPAL

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Abstract

The health insurance [HI] programme is novel for Nepalese people and it needs information, education, and communication [IEC] related intervention for raising awareness regarding HI. Though, it was unanswered that which methods or approach would be the best to make people aware and for enrolment of HI. Therefore, the study aimed to assess IEC for the enrolment of HI in Baglung and Kailali Districts of Nepal. Altogether 810 [405 enrolled and 405 non-enrolled] households were randomly selected from Baglung and Kailali Districts in 2018. A validated and structured interview schedule was used to collect information, particularly from household heads. Data were entered and analysed by using IBM SPSS Statistics 20. Ethical approval was obtained from the Nepal Health Research Council. Data show that the average amount of willingness to pay [WTP] for HI was NRs. 1429 per member per year which was about three-fold higher than the contribution amount the GoN has determined. There was a positive association between wealth status, educational status, and exposure to IEC, and WTP for HI. Similarly, there was an association between socio-demographic characteristics and enrolment of HI. Exposure to IEC was significantly associated with the enrolment of HI. Likewise, perceived susceptibility and severity about the consequences of diseases or illness were associated with the enrolment. Therefore, the study supported the HBM constructs mainly susceptibility and severity of diseases or illness with empirical evidence. The respondents who knew were noticed as 25.8 times higher odds compared to those who had not (p<0.001). Similarly, the respondents who had HI related books or guidelines were observed as higher odds (aOR = 4.66, 95% CI: 2.52 – 8.64, p<0.001). In the same way, the respondents who were requested to enrol by peers or neighbours were almost five times (aOR = 5.04, 95% CI: 3.25 – 7.80, p<0.001) more likely to enrol than those who were not requested. Multivariate analysis showed that communication with

peers or neighbours seemed a more powerful approach for decision making or behaviour change. It indicates that peers or neighbours may be used for formal or non-formal educational intervention to motivate people such as adult literacy, health literacy, and other health-related campaigns.

Copyright Statement

Declaration

I hereby declare that this dissertation is my original work and has not been summited for any other degree or diploma apart from article publication. I understand that my PhD dissertation will become a part of the permanent collection of Tribhuvan University Library. My signature below authorizes the release of my dissertation to any readers upon reasonable request.

…………………….

Devaraj Acharya

PhD Candidate

24th September 2020

Recommendation Letter

This is to certify that **Mr. Devaraj Acharya**, a PhD candidate has prepared the dissertation entitled ***Information, education and communication for enrolment in health insurance in Nepal*** under my guidance and supervision. He has made all necessary revisions according to the comments and suggestions by experts and reviewers. I, therefore, recommend the dissertation for acceptance, evaluation and award for the Degree of Doctor of Philosophy in Education with Specialization in Health Education.

……………………….

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Approval Letter

We certify that we approved the dissertation entitled ***Information, education and communication for enrolment in health insurance in Nepal*** presented by Devaraj Acharya to the Faculty of Education for the Degree of Doctor of Philosophy in Education [Health Education].

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Abbreviation/Acronyms

AIDS	Acquired Immune Deficiency Syndrome
BBA-BI	Bachelor of Business Administration- Banking and Insurance
BCC	Behaviour Change Communication
BI	Behavioural Intention
BPH	Bachelor of Public Health
BPKIHS	BP Koirala Institute of Health Science
BS	Bikram Sambat
CBHI	Community Based Health Insurance
CBO	Community Based Organization
CBS	Central Bureau of Statistics
CHF	Community Health Fund
CHW	Community Health Worker
CoN	Constitution of Nepal
EA	Enrolment Assistant
EHBM	Expanded Health Belief Model
FCHV	Female Community Health Volunteer
FGM	Female Genital Mutilation
FoE	Faculty of Education
FM	Frequency Modulation
GEFONT	General Federation of Nepalese Trade Union
GIS	Government Insurance Scheme
GoN	Government of Nepal
HBM	Health Belief Model
HERD	Health Research and Social Development Forum

HH	Household
HHH	Household Head
HI	Health Insurance
HIA	Health Insurance Act
HIB	Health Insurance Board
HIV	Human Immunodeficiency Virus
HIMAL	Health Insurance Model Activation and Levelling Up
HISP	Health Insurance Support Project
ICB	Information, Conformation and Behaviour Change
IEC	Information, Education, and Communication
INGO	International Non-Governmental Organization
IoM	Institute of Medicine
IR	Indian Rupees
IS	Interview Schedule
IYCN	Infant and Young Child Feeding
KNHIS	Korea National Health Insurance Scheme
KOICA	Korea International Cooperation Agency
LIS	Labour Insurance Scheme
MA	Meta-analysis
MDG	Millennium Development Goals
MEPS	Medical Expenditure Panel Survey
MPH	Master in Public Health
n.d.	No Date
NCMS	New Rural Cooperative Scheme
NDHS	Nepal Demographic and Health Survey

NGO	Non-Governmental Organization
NHI	National Health Insurance
NHIF	National Health Insurance Fund
NHIP	National Health Insurance Policy
NHISP	Nepal Health Insurance Support Project
NHP	National Health Policy
NHRC	Nepal Health Research Council
NHSP	Nepal Health Sector Programme
NRs.	Nepalese Rupees
OECD	Organization for Economic Cooperation and Development
OOP	Out-of-Pocket
OPD	Out Patient Department
P2P	Peer to Peer
PBC	Perceived Behaviour Control
PHC	Primary Health Centre
PHCRC	Primary Healthcare and Resource Centre
PHECT	Public Health Concern Trust
PMA	Peer Mediate Approach
PMT	Protection Motivation Theory
PSA	Public Service Announcement
PU	Pokhara University
Pvt.	Private
RC	Ration Card
RoK	Republic of Korea
RSBY	Rastriya Swasthya Bima Yojana

SDG	Sustainable Development Goals
SE	Self-efficacy
SGBV	Sexual and Gender Based Violence
SHGW	Self-help Group of Women
SHI	Social Health Insurance
SHIS	School Health Insurance Scheme
SHS	Social Health Security
SHSDC	Social Health Security Development Committee
SM	Social Marketing
SMT	Social Marketing Theory
SN	Subjective Norm
SPSS	Statistical Package for Social Science
SR	Systematic Review
TB	Tuberculosis
TV	Television
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TTM	Transtheoretical Model
TU	Tribhuvan University
UE-BHI	Urban Employee Basic Health Insurance
UGC	University Grants Commission
UHC	Universal Health Coverage
UHIS	Universal Health Insurance Scheme
UK	United Kingdom
UMN	United Mission to Nepal

UN   United Nations

UNFPA   United Nations Population Fund

USA   United States of America

WHO   World Health Organization

WTP   Willingness to Pay

CHAPTER I

Introduction

The introduction deals with the background of the study, statement of the

problem, objectives, and hypothesis of the study, the significance of the study,

limitation of the study, operational definition of the terms used in the study, and

chapter plan of the dissertation.

Background of the Study

Globally health service is considered a fundamental human right. Being a

member state of the United Nations [UN], the Government of Nepal [GoN] has

committed to achieving Universal Health Coverage [UHC] by 2030 one of the targets

of Sustainable Development Goals [SDG] (World Health Organization, OECD, and

International Bank for Reconstruction and Development/The World Bank, 2018). The

SDG 3 reiterates to 'ensure healthy lives and promote well-being for all at all age' and

the goal has nine targets. Of the targets, target eight incorporates 'achieve UHC

including financial risk protection, access to quality essential healthcare services and

access to safe, effective, quality and affordable essential medicine and vaccines to

all'(United Nations, 2014, p. 9). Similarly, the member states of the World Health

Organization [WHO] committed in 2005 to improve their financial mechanism so that

all citizens have access to health services and do not suffer from financial hardship

while receiving the services (World Health Organization, 2005).

The Constitution of Nepal 2015, article 35 has stressed basic health services

and emergency healthcare as a fundamental right of citizens and the state has the

responsibility to assure it (Nepal Law Commission, 2015). The GoN has committed to

achieving the SDG and other achievements as a member of the United Nations.

Despite the international commitments and mandatory provision of the constitution,

the GoN has allocated 56,419.7 million Nepali Rupees for the health sector which is just four percent (4.29%) of the total national budget according to the budget speech of the fiscal year 2018/19 (Ministry of Finance, 2018a). That is the continuity of inadequate budgeting (just three to four percent of the total budget) for the health sector as seen in the past fiscal years (Government of Nepal, Department of Health Services, 2017). The budget is said to be not sufficient to meet the target of international and national commitments. Therefore, an alternative source of health financing has been searched for an adequate budget for implementing the programmes as per the provision. It has been understood that without people's participation in contribution to health financing, the programme cannot be sustained (Abdel-Ghany & Wang, 2001; Acharya, Devkota, & Wagle, 2019; Adebayo et al., 2015). Health Insurance [HI] has widely been identified as an appropriate approach for sustainable health financing since many countries have already been adopted.

Diseases or sickness or accidents and injuries generally begin suddenly and individuals have no financial pre-plan and limited alternatives. In such a situation, patients have to lose money, productivity and sometimes precious time with disabilities and impairment (Koehler & Hoffmann, 2014). Unplanned and unexpected expenditure for healthcare pushes the individuals into poverty ratchet [further poverty even disability and handicap]. WHO indicates that each year more than two percent of poverty increases due to catastrophic cost while receiving health services (Gyawali, 2014). Naturally, individuals with the disease are physically, psychologically, and economically weaker than healthy ones. Hence, HI insures against the risk of incurring medical expenditures among individuals (Wang, Switlick, Ortiz, Zurita, & Connor, 2012). A survey from Vietnam shows that insurance could reduce the out-of-pocket expenditure by more than one third [34.9%] compared to uninsured (Thanh,

Anh, Xiem, & Minh, 2019).

Universal Health Coverage [UHC] could contribute better life quality, global peace as well as security which has three major bottom lines of coverage: population, service, and cost in terms of health services (World Health Organization, 2010) which are almost impossible without HI. HI is not only planning for catastrophic healthcare costs but also a component of sustainable development for global peace and prosperity. Different definitions of HI exist: 'a plan that covers or shares the expenses associated with healthcare', 'a financing mechanism to protect from catastrophic healthcare cost while receiving the services', 'coverage that provides for the payment of benefits as a result of sickness or injury includes insurance for losses from accident, medical expense, disability or accidental death and dismemberment' (Bozeman Health, n.d.).

The GoN has initiated the HI programme as Social Health Security [SHS] initially in three districts: Kailali, Baglung, and Ilam respectively since 2016. The programme has now been expanded to nearly half of the total districts and has been declared to expand it throughout the country by the coming fiscal year. Since the HI programme is a recently introduced, people may have not adequate information about it. Therefore, there may be numerous barriers and challenges to implementing the HI (Mishra, Khanal, Karki, Kallestrup, & Enemark, 2015). One of the main barriers is the lack of correct knowledge and proper information among the community people. In this context, commercial companies are parading special offer with treatment insurance that return direct financial benefits such as from banking institutions. The core concept of HI might be hard for community people to understand. They may have confusion on the concept, process, and benefits of HI and their readiness to pay very low or not all. However, there are limited studies on community people's

education and willingness to pay for HI in the programme implemented areas. So, it needs appropriate information, education, and communication [IEC] for the successful implementation of the programme.

Human behaviours depend upon their knowledge, belief, and attitudes as they perceived. Knowledge, attitude, and behaviours are the product of information, education and communication as they are exposed. So, it depends on the information, education, and communication they perceived. Health education is a favourable change in behaviour that is possible after a change in known knowledge, done skills, felt attitudes, performed practices and comprehended understanding as well (Acharya, 2006). All these are possible after proper information, education, and communication. For behaviour change to take place, it needs proper information, education, and communication thereby sustaining the change.

Health education aims to bring favourable change in the behaviour by informing them, motivating them and guiding them into action. So, IEC materials and strategy should be firstly informative, secondly motivating and lastly supportive for any action to happen. But these basic norms have been undermined. IEC is the major pillar for making the HI programme successful. It is an approach for changing or reinforcing favourable behaviour change in people or target audiences through appropriate means and methods of communication. It also includes formal and non-formal ways of communication which are essential for making the programme successful. Hence, the study aims to assess the effects of IEC on enrolment of HI in selected districts of Nepal.

Statement of the Problem

Health insurance is new for Nepalese people. So, it may be both an opportunity and a challenge for implementation. Opportunity in the sense of new

programme to the people as a service and challenge in getting adequate and correct information to the people for enrolment. HI is the way to protect from financial hardship while receiving health services. It is regarded as a means of reducing the overall risk of healthcare costs.

In the context of Nepal, HI in the government sector is very new and a big challenge to implement because a very nominal percentage of health services are utilized even they are available at free of cost. Similarly, the utilization of regular health services also seems weak even at reverse paying such as the rate of institutional delivery is just 55 percent in the fiscal year 2016/17 (Department of Health Services, 2018).

Different countries have implemented HI programme in different ways such as community-based HI, social HI, community HI, health protection plan. The GoN has introduced the HI programme (health services) as Social Health Security (SHS) in three districts since 2073/2/1 [14th May 2016] in Kailali district at first in the history of Nepal and scaled it up since 2073/5/1 [17th August 2016] at Baglung and Ilam districts. Now the programme has reached nearly half of the total districts (Social Health Security Development Committee, 2017b). There are also private health insurance providers working business in health insurance. They may also influence the government's HI scheme.

A study conducted in Kailali district shows that only four percent of the household had participated in HI scheme whereas 11 percent had heard about HI but only nine percent had good knowledge about HI. Interestingly, 93 and 88 percent of people from rural and urban areas wanted to know more about HI respectively (Health Research and Social Development Forum [HERD], 2016; KOICA-Nepal Health Insurance Support Project [NHISP], 2014). The study further recommended to

conducting proper advertisement with a public hearing programme to raise the people's level of awareness.

Recent data from the Health Insurance Board shows that nearly four (79%: 1233698 out of 1564729 individuals) out of five families did not renew their HI plan (Sapkota, 2019). The data is alarming to the policymakers that why this is happening. This may be one of the causes of the knowledge gap regarding HI and HIP. HI is not a solution at all. It is just a financial mechanism. The programme has its limitations in terms of processes, timing, amount, services as well as medicines. People may have high expectations. This is due to the low level of awareness or lack of proper IEC interventions. On the other side, less than three (2.4) percent of HHs are enrolled in the programme in the study areas (Health Insurance Board, 2017a). This may be due to a lack of proper IEC intervention. Inadequate IEC leads to low enrolment, fewer retention, and higher dropouts.

Therefore, an appropriate message should be created through the appropriate way of communication so that people may be convinced and participated in the programme. However, which media or communication channel could be appropriate for communication so that it could attract people to involve in the HI programme is still unanswered. So the study is intended to assess the different IEC approaches, how they influence the people's participation and what message might be strong to attract families to participate in the scheme. Moreover, it is equally important to determine to what extent the socio-demographic factors, sources of information and communication influence people's decision making process. No extensive research has been undertaken to find out the influence of IEC on HI. Therefore, the study aims to assess the effects of IEC on the enrolment of HI in Baglung and Kailali districts of Nepal.

Objectives of the Study

The main objective of the study is to assess the role of information, education, and communication [IEC] activities on enrolment of health insurance [HI] in the selected districts of Nepal. the specific objectives of the study are to:

1. find out the people's familiarity with HI and their willingness to pay

2. find out people's perception, susceptibility and severity of the disease, and enrolment

3. examine the association between socio-demographic characteristics and enrolment in HI

4. assess the effects of IEC in the family for deciding for enrolment

The Hypothesis of the Study

The study has considered the following hypotheses:

1. H_1: there is no significant difference between exposure to media and the wealth status of people and WTP for HI

2. H_4: there is no association between perceived severity and susceptibility of disease and enrolment in HI

3. H_2: there is no association between age, religion, sources of income and enrolment in HI

4. H_3: there is no statistical difference between exposure to IEC and enrolment in HI

Significance of the Study

Since the study was conducted in Baglung and Kailali districts, the study has created field-level evidence-based information. Therefore, the information may be beneficial for policymakers to develop intervention plans at household, community as well as at the national level. Additionally, the data, analyses and information

presented here may be useful for policy analysts, planners, development workers and those who want to develop their careers in the field of IEC, HI and Universal Health Coverage [UHC]. Besides these, the evidence of the study may be useful for researchers who want to engage and sharpen their knowledge and skills on HI, health communication and UHC. Since the study is focused to assess the effects of IEC, the result may be useful for developing IEC materials designing in the future. Additionally, the evidence from the study may further support and contradict the previous studies conducted in and outside the country. It will provide a platform for further discussions.

Limitations of the Study

Due to limited resources and constraints, the study has had some limitations. First, the study was only limited to health insurance. Second, the study aimed to assess the effects of information, education and communication. Third, the study was conducted in Baglung and Kailali districts since the GoN had initiated the social health security (later called health insurance) programme in these districts. The result of the study may or may not represent the districts other than the study area. I believe that the results provide an overall figure of the situation of the effects of IEC on the health insurance programme. Fourth, the study only has included some variables like socio-demographic, insurance-related, IEC related, public service announcement [PSA] related, components of Health Belief Model [HBM], feelings, perception, and satisfaction related variables; and wealth status-related information. Fifth, a representative sample survey was used in the case of enrolled households. Information was collected from the household head [HHH] so the validity and reliability of the information depend upon the HHH. It was carried out based on behaviour change perspective. So, all interpretations may be influenced by that lens. The study used a

cross-sectional survey design and employed quantitative data analyses so it provides information on the specific point of time. Wealth status has been calculated by using the value of household-related 42 assets as per demographic and health survey format. Similarly, ethnicity/caste code is followed as per the classification of the Ministry of Health and Population, Nepal. Lastly, the study has excluded the HI programme operated from community, private and commercial insurance companies other than the HIB.

Operational Definition of the Terms Used

Health insurance or Social health security	The financial mechanism to protect the individuals or families from catastrophic costs while receiving health services.
Household Head	The senior member of the family who especially plays a vital role in decision making
Information, education and communication [IEC]	IEC is a public health approach for changing desirable health behaviour through the means and methods of formal or informal ways of interaction, information, education, or communication
Enrolled family	The family who enrolled in social health security or health insurance programme operated by the GoN
Non-enrolled or unenrolled family	The family who did not enrol in social health security or health insurance programme operated by the GoN

Dissertation Integration

The dissertation includes eight chapters. The first chapter deals with the background of the insurance, its need, objectives of the study including hypothesis and statement of the problems. The second chapter contains policies and practices of

health insurance in a global and national context. Similarly, the third chapter highlights the theoretical aspects of the change process. Another chapter fourth elaborates information, education, and communication as a change process. The fifth chapter discusses the methodology of the study. Likewise, chapter sixth explores the analysis and interpretation of the data. The chapter seventh presents discussion and conclusion, and comparison with other studies. Lastly, chapter eighth deals with the research insight and pedagogical implication.

Chapter Summary

The Constitution of Nepal 2015 has guaranteed health services as a basic right of the citizen. Being a member state of the United Nations, Nepal is a signatory member that committed to ensuring UHC and SDGs to be achieved by 2030. The GoN has introduced the health insurance programme in 2016 but most people still unaware of how it functions. So appropriate IEC interventions are needed to aware of the people. However, it is unanswered that which methods or approaches are more effective to convey health insurance-related messages to the people for enrolment. So, the study aims to assess the effects of IEC in the enrolment of health insurance. The study may be beneficial for policymakers and researchers who want to engage in the health insurance sector. The study was conducted in Baglung and Kailali Districts and only health insurance programme launched by Health Insurance Board was assessed concerning IEC especially from behaviour change perspectives.

CHAPTER II

Health Insurance Policies and Practices in the Global and National Context

This chapter deals with global and national context of health insurance programme with its types and practices in different countries. The section highlights health insurance practices in different countries, practices and implementation strategies in India, China, Philippines, Thailand, South Korea, Indonesia, Germany, and Nepal with country wise health expenditure. This section also includes the initiation of the health insurance programme in Nepal with its history, policies, practices, and lesson learned from past experiences.

Health Insurance in Different Countries

Globally different types of HI programme are in practice. The German Chancellor, Otto von Bismarck had introduced HI in 1883 which is claimed as the first initiation in the history of HI throughout the world (Busse, Blümel, Knieps, & Bärnighausen, 2017; KOICA-Nepal Health Insurance Support Project [NHISP], 2014). The programme is appreciated as Bismarck's Health Insurance Act 1883 since Bismarck initiated it. The Social HI programme was built as a welfare model of the state with the spirit of solidarity and self-governance (Busse et al., 2017). The programme had been gradually followed by other states throughout the world in the most reasonable ways.

Worldwide, HI programmes are practiced in different modalities. HI programmes are generally categorized into four types (KOICA/HIMAL Project, 2012; Wang, Switlick, Ortiz, Connor, & Zurita, 2010). First, National Health Insurance [NHI]: it is operated by general taxes from the public sector. Some countries have followed NHI such as in Canada, Costa Rica, France, and the UK. Second, Social Health Insurance [SHI]: in this type financial resources are collected from employees

and employers on their payroll taxes. The SHI is generally operated by an autonomous body like social health security agencies and health funds. Some countries have implemented this type of insurance such as by Colombia, Germany, Japan, Korea, and the USA (Medicare) (Busse et al., 2017). Third, Private Health Insurance [PHI]; this insurance is commercial that means profit-based operated especially by the private sector. Participation in PHI is voluntary. Premium or contribution amounts are collected from individuals and/or employers. This modality of insurance can be seen in South Africa and the USA. Fourth, Community Based Health Insurance [CBHI]: a financial collection of this type of insurance are premiums or payments from individuals and/or employers or companies and sometimes from local authorities too. CBHI is generally operated by the community or by those involved in the programme. China, India, Philippines, Rwanda, and Senegal have practised this type of health insurance (Wang et al., 2010, 2012).

Health insurance in India. The Health Insurance Policy was endorsed by the parliament of India in 1983 and updated in 2002. With the liberalization of the economy and general awareness, health insurance industries have been grown up significantly in India since health insurance launched in 1986. After the liberalization of the economic policy Government of India started the open market for insurance business since 1991 and established the Insurance Regulatory and Development Authority (Itumalla, Acharyulu, & Reddy, 2016). By 2010, more than one-fourth of the total population accessed to some forms of health insurance (CDC Group Pvt Ltd, n.d.). There are private as well as government health insurance providers in operation. For public awareness, the General Insurance Corporation of India and the Insurance Regularity and Development Authority launched different awareness campaigns in different States. India's HI is covered 64 percent by the government, 22

percent by private sectors and 14 percent standalone which is categorized by the government insurance scheme, market-based and NGO- cooperative based HI (Binny & Gupta, 2017).

As in other developing countries, healthcare cost is paid out-of-pocket (OOP) during the time of service utilization in India. According to the World Bank, more than 60 percent of total health expenditures are paid OOP (Binnendijk, 2014). Social, community-based and private insurance companies exist in India (Ahuja, 2004; Kedare, 2012). However, the National Health Insurance Programme (Rashtriya Swasthya Bima Yojana [RSBY]) is an insurance scheme brought by the government for Indian poor that provides cashless insurance for hospitalization on both private and public hospitals. This scheme has been implemented in 25 states in India since 1st April 2008. Now Aadhar Card (previously Ration Card [RC]) is provided for every family, families with below poverty line holding yellow RC pay 30 Indian Rupees (IR) [US $ 0.40 @1 US $ equals to NRs. 119.55 as of 16th August, 2020) and cover up to 30, 000 IR [NRs. 48,000 since 100 IR = 160 NRs.] [US$ 401.51] for medical expenses (Ahuja, 2004). In terms of funding pattern of RSBY, the premium is paid by three agencies i. the central government, ii. State government and iii. Beneficiaries (Binnendijk, 2014; CDC Group Pvt Ltd, n.d.; The World Bank, 2015).

Health insurance in China. When the Chinese Communist Party started to rule in 1949, it initiated the Chinese healthcare system, especially for communist states. The national and local governments took ownership and funded the project to the hospitals and private health facilities displaced massively during the nationalization movement in the 1950s (Hsiao, Li, & Zhang, 2014).

China adopted two types of insurance schemes: Labour Insurance Scheme (LIS) and Government Employee Insurance Scheme (GIS) which was replaced by

'Healthy China 2020' a new rural cooperative medical system. In 1998, nine and a half percent of rural Chinese had medical insurance. Still, challenges have been seen in improving the Chinese life of the rural population. However, new health insurance has improved the health status of lower-middle-class people. According to new health insurance laws, middle-class families can receive around 20 Yuan [US$ 2.88] as health subsidies (CDC Group Pvt Ltd, n.d.).

China has made remarkable progress in the sector of HI and UHC. According to World Health Report (2010), China has implemented three types of HI policies: New Rural Cooperative Scheme [NCMS] has targeted for the people of rural residence since 2003 and Urban Employees Basic Health Insurance [UE-BHI] has targeted employers working at urban areas since 1998 and Urban Residents Basic Medical Insurance [UR-BMI] has been implemented for the people who live in urban areas other than the employees since 2007 (Barber & Yao, 2010; Dong et al., 2018).

China has made it possible by covering rural people under the HI programme from 13 to 94 percent coverage in 2009 compared to 2003. It is because of political commitment. However, it does not mean that higher coverage leads to higher risk protection. Some factors are identified as key issues to be addressed. They are insufficient budget, inequalities between urban to rural people, coverage versus benefits, out-of-pocket payments, incentives and design, and rural to urban mobility (Barber & Yao, 2010). There are some challenges identified from a study that UR-BMI did not change the utilization rate of preventive health services such as smoking behaviour, drinking, and other risky behaviours. That may increase the moral hazards of illness. Therefore, it demands appropriate interventions (Dong et al., 2018).

Health insurance in the Philippines. The Constitution of the Philippines 1987, Health Section 11 has declared that 'the state shall adopt an integrated and

comprehensive approach to health development which shall endeavour to make essential goods, health and other social services available to all the people at an affordable cost...'(Comparative Constitutions Project, 2020, p. 47). As per the spirit of the constitution, the Philippines has the attractive and challengeable vision of UHC to meet the international commitment 'Filipinos are among the healthiest people in South-East Asia by 2022 and Asia by 2040' (Center for Health Development, 2019, p. 2). There are different types of HI schemes: PhilHealth, The Government Service Insurance System, the Social Security System and Insurance from the Private Sector. And individual may access more than one insurance scheme. According to the Philippines National Demographic and Health Survey 2017, nearly one third (32%) women age 15-49 years have no health insurance while 65 percent of them were covered by any form(s) of PhilHealth coverage. Among them, 29 percent were from the formal economy, 19 percent from the National Household targeting system of Poverty Reduction and 10 percent from informal sectors. And just three percent of the women insured from private HI scheme (Philippine Statistics Authority [PSA] and ICF, 2018). In the Philippines, maternity care: antenatal, delivery and new-born cares, are covered by the National Health Insurance Programme.

The Philippines Health Insurance Corporation (PhilHealth) was established in 1995 to achieve Universal Health Coverage. The goal of this corporation was 'to ensure sustainable insurance for all'. According to the National Demographic Survey, 38 percent were enrolled in 2008 however it was claimed that 66 percent people were under universal health coverage in 2017 (Philippine Statistics Authority [PSA] and ICF, 2018) but more than two-thirds (68%) households were covered by any types of insurance package. Private sectors delivered 61 percent services whereas 39 percent

from public sectors (CDC Group Pvt Ltd, n.d.). For poor people, the Government of the Philippines has provided fully subsidized services.

Health insurance in Thailand. Thailand demonstrated as a model example of UHC by covering 98 percent of the population in 2007. The universal healthcare programme was started in 2002 with 30 Bhat [US$ 0.96] projects, however, public health facilities was expanded rapidly since 1961 throughout the country (Sakunphanit, n.d.). More than four percent of the gross domestic product has been spent in the health sector (Jurjus, 2013).

In Thailand, most of the health services are delivered by the public sectors. There are four types of health services available to meet universal health coverage. First, civil service welfare for civil servants and their families covered eight percent of the population; second, social security for the private sector employees covered 12.9 percent; and third, universal coverage scheme for the rest of others covered 74.6 percent. Fourth, some private hospitals are also included in the UHC programme covering two percent (Jurjus, 2013). People who join in the programme can receive a 'Gold Card' that allows them to access health services including specialists' treatment where health services available throughout Thailand (CDC Group Pvt Ltd, n.d.).

The following factors are considered as the key to be successful in Thailand's UHC programme. First, policy formulation (political commitment); second, effective implementation (good governance); third, close collaboration with academic and research agencies; and fourth, the linkage between policymakers and civil society with public support which can be great evidence and experience for other countries (Jongudomsuk et al., 2015).

Health insurance in South Korea. The Republic of Korea [RoK] has made remarkable progress in UHC. Since 1977, RoK has introduced Universal Health

Insurance and nearly all are involved in this programme. Health Insurance Law was endorsed in 1963 in South Korea. There were three types of insurance schemes for different people: i. Government employee, ii. Industrial employees/workers and iii. Self-employed. All these schemes merged as National Health Insurance in 2000. The separate tax-based programme has been implemented for poor people (CDC Group Pvt Ltd, n.d.). RoK met the standard of UHC by 1989 (G. V Anderson, 1989) within 12 years it made a record to meet the UHC (Korea National Health Insurance Service [KNHIS], 2014). The National Health Insurance has been successful not only in mobilizing resources but also in spreading the population coverage as per the insurance policy. For the sustainability of the programme, RoK has managed 82.7 percent amount for HI is covered by the general premium from the people, 10.2 percent from general tax and two percent from taxation on tobacco and five percent from other sources (KNHIS, 2014).

   Health insurance in Indonesia. There are five types of HI services available in Indonesia to meet the target of UHC. The civil servant health insurance was established in 1968. After the endorsement of government regulation no. 69/1991 and 6/1992, HI became mandatory for all civil servants. As per the rule, the civil servants need to contribute two percent of their salary. The government did not contribute any amount to it (Thabrany, 2003). Another private employee social health insurance scheme for employees of private sectors is operated under the social security law. The law covers provident fund, death benefits, and occupational injuries. There was a provision that employees from the private sector should deduct three percent of their salary for social security for single and six percent for the employees who were married.

Consequently, there were also commercial insurance providers. These types of insurance provide some benefits though they were not insurance companies. The concept was developed in 1992 in Health Act since the US influenced the healthcare system in Indonesia (Shihaba, Nurdinb, Kadirc, Thabrany, & Paturusie, 2017). Another micro and community healthcare financing was introduced by the Ministry of Health during the 1970s for the poor who generally spent more than 80 percent of their income on managing food for their family. In this scheme, the government has set the contribution amount Rupiah 100-1000 [US$ 0.0068 – 0.068] per household for the out-patients at health centres. However, the scheme was criticized arguing it as 'not being sustainable'. Another scheme was Social Safety Net Scheme targeted to provide some subsidies to poor families for pregnant women from poor families. The government provides a lump sum amount to the poor families and their pregnant women directly through the community midwives as per rule (Thabrany, 2003).

In Indonesia, the National Social Security System was established with the purpose of social welfare to all citizens. National Health Insurance Programme is mandatory for all Indonesian even foreigners who live in more than six months in Indonesia. Indonesia is planning to be the largest single-payer healthcare insurance programme now and in 2019 (CDC Group Pvt Ltd, n.d.). According to the plan, the Government of Indonesia has committed to providing universal healthcare to its 257 million (in 2017) citizens however employers and other citizens, who can pay, are obliged to pay the premium themselves. Social Security Agency has the overall responsibility to manage the national health programme. For financial management, the Government of Indonesia pays two US dollars per person per month for essential treatment for poor people but rich and economically sound people should pay five percent of their income for insurance (Shihaba et al., 2017).

Health insurance in Germany. Health insurance is mandatory in Germany as the country has made historical development in the field of health insurance (Busse et al., 2017). Germany is standing outstandingly for the healthcare system throughout the world proving its people the comprehensive health insurance coverage. Germany is said to be the first country that introduced a health insurance programme in 1883 (Grunow & Nuscheler, 2010). Funds regarding health insurance are based on geographical criteria. German Social Insurance System is run by the independent government body. There are 355 insurance funds in Germany (CDC Group Pvt Ltd, n.d.). Ministry of Health and Treatment takes overall responsibility for supervision including implementation of the rule of law according to the Social Code. For financial management, funds are collected from premiums, employers and insured people (Grunow & Nuscheler, 2010).

There are three options of HI available in Germany. First-public HI system regulated by the government (GKV), second-private or international HI (PKV) and third- combination of these two. Approximately 15 percent population has a private HI scheme while the rest of other people are involved in mandatory or voluntary HI from public sectors. People having income more than the ceiling [threshold] have had a full private HI plan (Grunow & Nuscheler, 2010). People having income less than Euro 4950 [US$ 5861.99] should be a member of mandatory or voluntary health insurance from the government HI system (Busse et al., 2017).

Health expenditure is made by different countries. Germany has invested a large amount (11.2%) of gross domestic product [GDP] for health sectors (Organization for Economic Cooperation and Development [OECD], 2019) whereas other countries have invested less in comparison. Current health expenditure is high in Germany that accounts for 11 percent followed by South Korea seven percent and

Nepal five percent, Germany spends 85 percent of current health expenditure from government health expenditure followed by Thailand 78 percent, Bhutan 74 percent, South Korea 59 percent and Nepal 19 percent. Twelve percent of external health expenditure of current health expenditure from Nepal is paid by other than government and private sectors, which is very high compared to Bhutan five percent, Philippines two percent and India one percent (World Health Organization, n.d.). Out-of-pocket (OOP) expenditure was high in India which accounts for 65 percent compared to Nepal 55 percent, Philippines 54, Indonesia 33 percent whereas OOP expenditure in Germany and Thailand was 12 percent only.

Table 1. *Health Expenditure in Selected Countries*

Country *	CHE as % GDP	CHE per capita US$	DOM as % of CHE	GGHE-D as % CHE	PVT-D as % CHE	VHI as % of CHE	OOPS as % of CHE	OTHER as % CHE	GGHE-D as % GDP	GGHE-D per capita US$	OOP per capita US$
Germany	11[#]	4714	100	85	15	1	12	2	9	3992	585
Bhutan	3	91	95	74	21	0	20	1	3	68	18
India	4	63	99	25	74	4	65	5	1	16	41
Indonesia	3	112	100	45	55	3	37	14	1	50	42
Nepal	6	45	88	19	70	0	55	14	1	8	25
Thailand	4	222	100	78	22	7	12	5	3	173	27
China	5	398	100	58	42	4	36	2	3	231	143
Philippines	4	129	98	32	66	11	54	2	1	41	70
S. Korea	7	2044	100	59	41	7	33	2	4	1209	681

Note: * WHO database of 2016, CHE [Current Health Expenditure], GDP [Gross Domestic Product], DOM [Domestic Health Expenditure], GGHE-D [Domestic General Government Health Expenditure], PVT-D [Domestic Private Health Expenditure], VHI [Voluntary Health Insurance], OOPS [Out-of-pocket], OTHER [Other Private Health Expenditure][Source: (World Health Organization, n.d.) [#OECD, 2019].

General Insurance and Health Insurance in Nepal

Nepal has not so long experience in the insurance sector. Domestic Postal Goods (Insurance) Act 1962 (2019 BS) might be the first insurance-related act in the history of Nepal. According to the act, there was a provision of compensation for lost or damaged postal goods during dispatch/delivery by post (Nepal Law Commission, n.d.-a). In the same way, the Government of Nepal had enforced the insurance act in 1968 (2025 BS). Later, the insurance act 1992 (2049 BS) repealed the act of 1968 (Nepal Law Commission, n.d.-b). Later, the Health Insurance Act (HIA) 2017 has been approved by the parliament of Nepal on 10th October 2017 (24 Ashwin 2074 BS) three years after the formation of the social health security development board by the Social Health Security Development Board (Formation) Order, 2014 (2071 BS) (Social Health Security Development Committee, 2017b). The base of the order was National health policy 2014. The HIA, 2017 aims to achieve UHC by ensuring the citizen's right to quality health service, reduce the risk of financial hardship at the time of receiving healthcare and confirm the people's access to health services by uplifting the institutional capacity and accountability for health service as the sentiment of the health insurance policy. The HIA, 2017 has made Health Insurance Board [HIB] as an autonomous body to operate, monitor and regulate HI in Nepal (Nepal Law Commission, 2015; Social Health Security Development Committee, 2017b).

The history of health insurance is also not so long in Nepal. The United Mission to Nepal (UMN) had initiated a health insurance programme with the name of Lalitpur Medical Insurance Scheme in 1976 at Ashrang in Lalitpur. The Government of Nepal introduced Health Insurance named Community Based Health Insurance (CBHI) as a pilot project in 2003. Later the Korean International Cooperation Agency (KOICA) supported for health insurance programme as a pilot

project called Community Based Health Insurance in 2010 (Grunow & Nuscheler, 2010).

The government of Nepal (GoN) is committed to ensuring basic health service that is a mandatory provision of the Constitution of Nepal 2015 (2072 BS) article 35(1) which was also mentioned in the Interim Constitution of Nepal in 2007 article no. 16 (2). Similarly, National Health Insurance Policy 2013 has been published for the implementation of health insurance programme (Nepal Law Commission, 2015). As per the constitution (2015), the citizen has the right to achieve basic health services, the GoN has implemented the programme initially in three districts where households normally have to pay NRs. 2500/- [US$ 20.91 @ 119.55 as of 16th August 2020] (for five-member family and NRs. 500 [US$ 4.18] each additional member) that covers up to NRs. 50,000/- [US$ 418.24] (10,000 [US$ 83.65] extra for each additional member and a maximum ceiling of 100,000 [USD$ 836.47]) of healthcare cost but freely available services will not be included within the insurance amount. But, the contribution amount and coverage amount has been changed after the endorsement of the Health Insurance Act 2017 [2074BS] and Health Insurance Regulations 2019 [2075BS] (Member of Parliament Nepal, 2017; Office of the Prime Minister and Council of Ministers (OPMCM), 2019).

For financial management, a mixed financial mechanism has been established. That is i. contribution from insured households, ii. government support for poor people, iii. support from various agencies, iv. funds from the national budget (Grunow & Nuscheler, 2010; Health Insurance Board, 2017a).

According to HIA, every citizen should enrol in the health insurance programme. Parents or caretakers and patrons shall have a responsibility to ensure enrolment in HI to their offspring or kids, differently able citizens within a family.

Likewise, all civil servants should enrol in the programme and managers should be liable for their staff and members of any social and/or private organizations. In this sense, the act may be the milestone for achieving the global agenda of UHC. The act has considered family as a unit for registration in health insurance programme (Health Insurance Board, 2017b, 2017a).

The Constitution of Nepal [CoN] 2015 has mentioned that the basic health service as a fundamental human right and the state has the responsibility of assuring the basic health service to its people. Article 35 of the CoN has provision for the right to basic health services at free of cost to all citizens from the state. The article has also mentioned that no one shall be deprived of emergency healthcare. Besides these, every citizen shall have the right to get about medical treatment-related information and have equal access to healthcare or services. Consequently, Article 43 provides the right of social security for indigenous people, incapacitated and helpless, single women, the person with disabilities, children. The constitution's directive principles, policies, and responsibilities ensure access to medical care while guaranteeing people's right to health insurance (Nepal Law Commission, 2015).

Since citizen's health and overall development of the nation are associated, health indicators are considered as a development indicator. In the last decades, Nepal has made strides of progress in the health sector than in other sectors despite different political turmoil faced by the country (Devkota & Teijlingen, 2010). However, most of the indicators of basic health services have not been achieved yet. National Health Policy [NHP] 2014 endorsed by the Ministry of Health and Population in 2014 has tried to address the constitutional provisions. Some programmes such as immunization, polio-eradication, tuberculosis control, prevention of leprosy, malaria control, and the female health community volunteer programme seem successful but

could be improved further. Some challenges are seen in terms of the implementation of policies and programmes.

Health services have not been equally distributed, malnutrition is observed, issues and results of climate change are not mitigated, the prevalence of non-communicable diseases raised, not access to quality health services, privatization in health services, high out-of-pocket expenditure, are some issues that should be addressed (National Health Sector Programme, 2014). On the other hand, inadequate budget, unplanned transfer of human resources for health, poor coordination among institutions are also hindering the quality of health services. International commitments and constitutional provisions guide the GoN to adopt the welfare model for health (Nepal Law Commission, 2015; World Health Organization, 2005). The NHP 2014 has a vision of making all Nepalese people healthy by utilizing resources at an optimum level by cooperating with multiple stakeholders. There is a goal of increasing access to quality health services from equitable and accountable health governance. It is expected to collect resources from internal and external agencies for the effective implementation of health programmes. The policy has prioritised the IEC as the right of health information (National Health Sector Programme, 2014). NHP has 14 policies and strategies to implement. But now the new National Health Policy 2019 [2076 BS] has been endorsed and published for further improvements in policies and strategies.

The GoN endorsed the National Health Insurance Policy [NHIP] on 25th April 2014 by its cabinet decision (Social Health Security Development Committee, 2017b). The policy aims to ensure the universal coverage of healthcare by increasing access and utilization of health services as required. The main objective of this policy is 'to ensure universal health coverage by increasing access to, and utilisation of,

necessary quality health' (Social Health Security Development Committee, 2017a, p. iii). The NHIP has three main strategies to meet its goals and objectives: first, to increase financial protection; second, appropriately mobilize resources; and third ensure quality healthcare (KOICA/HIMAL Project, 2012; Nepal Health Sector Programme, n.d.). Primary Healthcare and Resource Centre [PHCRC], Chapagau, Lalitpur had initiated Lalitpur community medical insurance scheme in 1980. The PHCRC had started the School Health Insurance Scheme [SHIS] but could not be successful. PHCRC reconstructed the SHIS into Community Based School Health Insurance as a pilot project and implemented it. Altogether, 2500 students were enrolled in the scheme from Chapagau, Jharuwarashi and Thecho Village Development Committees (KOICA/HIMAL Project, 2012). Similarly, the United Mission to Nepal [UMN], a faith-based organization, had initiated the HI programme as Lalitpur Medical Insurance Scheme at Ashrang village in 1976 targeting the rural people residing at Lalitpur (KOICA-Nepal Health Insurance Support Project [NHISP], 2014). The coverage of the programme increased to more than 8000 populations with a premium of 75 to 150 Nepalese Rupee [NRs. 119.55 = 1US$] per year per family. The programme had covered all health services including essential drugs available at the health facilities (Stoermer et al., 2012). Later, the HI scheme was expanded to other facilities but could not be continued because of poor political consensus, commitment and initiation of free health services by the government (Ghimire, 2012; KOICA/HIMAL Project, 2012).

After a decade, Bhattedanda Health Post initiated a health insurance package targeting people of the agricultural sector. The programme covered 2532 people from the rural area. The contribution amount was 100 to 200 Nepalese rupees [NRs. 119.55 = 1US$] per year that covered all health services including essential drugs available at

the health facility (Ghimire, 2012). In 1988, the association for craft producers started financial protection for low-income craft producers as medical allowance equivalent to seven percent of monthly earning with a maximum cap of up to 213 Nepalese rupees [NRs. 119.55 = 1US$] and facilitated maternity leave with allowance equal to 52 days of earing. The programme covered 600 members from urban as well as rural areas (Ghimire, 2012; Stoermer et al., 2012).

Further, the Public Health Concern Trust initiated a medical scheme for informal sectors like agriculture in 1993 with a premium of 60 rupees [NRs. 119.55 = 1US$] per member per year. The members could get 50 to 80 percent discount and compensation in medical consultation, medical and surgical services, bed charge, maternity care, etc. at Kathmandu Model Hospital. That covered 3500 members from rural and urban areas (Ghimire, 2012). In 1999, Dhulikhel Hospital introduced treatment insurance for the teacher, students, school staff and their family members (Stoermer et al., 2012). The premium was 25 to 4,000 rupees [NRs. 119.55 = 1US$] with 70 to 100 percent subsidy which covered all health services free of cost at Dhulikhel Hospital. The programme covered 3120 students, staff and their family members from urban and rural areas (Stoermer et al., 2012).

General Federation of Nepalese Trade Union [GEFONT] started a medical scheme for the workers engaged in trade union works and their dependents. The premium was 30 rupees [NRs. 119.55 = 1US$] that covered their dependents and could get benefits of general check-up and Doctor's consultation at GEFONT's health cooperative clinic. If needed, further investigation could get a six to 50 percent subsidy in surgery and laboratory investigations including hospitalization at Kathmandu Model Hospital. Similarly, BPKIHS also initiated a health insurance

scheme in 2000. The programme targeted the workers of informal sectors like

agriculture and other informal economy works.

Table 2. *General Overview of Health Insurance Schemes Implemented by Public and Private Sectors in Nepal*

Date	Name of Institution	Place, District	Premium NRs.[#]	Benefits NRs.[#]	Coverage services	Supported by	Area	Remark
2004	Mangalabare PHC	Morang	600-1400	20,000 to 120,000	Diagnosis, Operation, Bed Transportation	MoHP, GoN	Rural	NRs. 6000 without referral 50% co-payment for CT Scan and Endoscopy
2004	Dumkauli PHC	Nawalparasi	700-1800 up to 6 members 50-200 each extra	3,500 to 9,000	Medicine, Diagnosis, Bed	MoHP, GoN	Rural	10-50% co-payment
2006	Lamahi PHC	Dang	600 up to 6 members 100 each extra	14,000	Medicine, Diagnosis, Bed, Transportation,	MoHP, GoN	Semi-urban	75-90% co-payment
2006	Tikapur Hospital	Kailali	700 up to 6 persons 50 each extra	6,000	Medicine, Diagnosis, Bed, Transportation,	MoHP, GoN	Urban	10-25% co-payment
2006	Chandranigahapur PHC	Rautahat	700-2000 up to 6 members 100 each extra	14,500	Medicine, Diagnosis	MoHP, GoN	Rural	15% co-payment

2006	Katari Hospital	Udaypur	1000 up to 6 members 100 each extra	22,500 for family	Minor surgery, Bed Charge, Transportation	MoHP, GoN	Urban	60% co-payment [ICU and over the ceiling]
1972 1980*	PHCRC	Lalitpur	450 upto 4 members 100 each extra	50% discount & co-payment	Medicine, Diagnosis	HIMAL	Semi-rural	Community based
2001	Bikalpa	Kathmandu	900 per person	70% discount	Some services at KMH	PHECT HIMAL	Urban	Cooperative based
2003	Rajmarga	Dhading	365 per person	50% discount	Some services at KMH	PHECT	Rural	Cooperative based
2009	Syaphru	Rasuwa	336 per person	20,000 and 10,000 for death		KF	Rural	Provider-based
2010	Madhesa SHP	Sunsari	1200 upto 6 members 200 each extra	29,500 per family	Medicine, Diagnosis, Bed Transportation	KF	Rural	Provider-based
2011	Saubhagya	Dhading	1000 upto 6 members 100 each extra	5,150	Limited Medicine and diagnosis, Bed, Transportation	MIA, STC DEPROSC	Rural	Community-based

Note: MoHP- Ministry of Health and Population, GoN- Government of Nepal, PHECT- Public Health Concern, HIMAL- Health Insurance Model Activation & Levelling up, MIA- Micro-Insurance Academy, KF- Karuna Foundation, STC- Save the Children, PHCRC-Primary Healthcare Resource Centre, SHP- Sub Health Post, KMH- Kathmandu Model Hospital, DEPROSC- Development Project Service Centre. [Sources: (Ghimire, 2012; KOICA/HIMAL Project, 2012*; Stoermer et al., 2012)] [# = exchange rate of Nepali/Nepalese Rupee and US Dollar is NRs.119.55 = 1US$ as of date 16th August 2020]

The contribution amount varied from 90 to 816 rupees as per their status with a subsidy of 2500 to 10000 rupees (Ghimire, 2012).   The program covered various services like general treatment, medical consultation, hospital admission, and investigation fee. The beneficiaries of the programme were more than 18000 people from urban and rural areas (Stoermer et al., 2012).

In 2000, Bindhavasini Saving Fund and Cooperative Society limited started a health protection scheme differently. There was a provision of subsidy up to NRs. 10000 to 40000 [NRs. 119.55 = 1US$] with a premium of NRs. 70 to 280. The programme focused on workers engaged in agriculture sectors who NRs. 10000 for accidental death and NRs. 40000 for natural death. Altogether 2445 members benefitted by the programme from urban as well as rural communities (Ghimire, 2012).

In the same way, Highway Community Health Cooperative introduced a medical scheme in 2001 for rural people especially from agricultural sectors (Stoermer et al., 2012). There was a provision of a three to 80 percent subsidy while people had to pay NRs. 120 rupees per [NRs. 119.55 = 1US$] person per year and could get paramedic services, general to specialized medical consultation, surgery, maternity care and hospitalization for secondary and specialized care at Kathmandu Model Hospital. It was reported that altogether 378 people benefitted by the programme. At the same time (2001), Bikalpa Cooperative Limited started a medical scheme targeting the workers of informal sectors. There was a provision of 35 to 80 percent subsidy with a contribution of NRs. 120 per person per [NRs. 119.55 = 1US$] year. The programme covered medical consultation, paramedic services, bed and hospitalization charges, maternity care, and surgery at Kathmandu Model Hospital.

The programme covered 513 rural and urban populations (Ghimire, 2012; Stoermer et al., 2012).

Bikalpa Cooperative was also involved in the health insurance campaign. The cooperative initiated an insurance scheme in 2001 which was technically and financially supported by the Public Health Concern Trust [PHECT] and Health Insurance Model Activation and Levelling Up [HIMAL] project covering an urban population of Kathmandu. Similarly, Rajmarga Health Cooperative initiated healthcare facilities to its members in 2003 with a 50 percent discount in consultation, diagnosis, and admission at Kathmandu Model Hospital with 50 percent co-payment. The programme covered 599 members of the cooperative (Ghimire, 2012; KOICA/HIMAL Project, 2012). Syaphru was another provider-based organization for medical scheme started in 2009 in Rasuwa district. The programme targeted rural people engaged in agricultural activities.

Table 3. *Enrolment by Ethnicity in Public and Private CBHI Scheme (Stoermer et al., 2012)*

Caste/Ethnicity	Enrolled in Public CBHI (%)	Enrolled in Private CBHI (%)
Dalit	10	2
Disadvantaged Janajatis	41	21
Disadvantaged Non-Dalit Terai Caste Group	2	3
Religious Minorities	3	36
Relatively Advantaged Janajatis	1	0
Upper caste Group	43	38
Total	100	100

Likewise, Madhesa Sub-Health Post also initiated a medical scheme in 2010 in Sunsari district. It was a provider-based insurance scheme that targeted to the rural people. Saubhagya (an NGO supported) had also initiated a health insurance scheme

in Dhading district in 2011. The scheme covered more than 14000 people from different sectors, particularly from the agriculture sector. The programme was supported by Micro Insurance Academy, Development Project Service Centre and Save the Children (Ghimire, 2012; KOICA/HIMAL Project, 2012).

Most of the Dalit and disadvantaged Janajatis choose the public CBHI programme whereas religious minorities preferred CBHI operated by private sectors (Stoermer et al., 2012). The enrolment rate was not satisfactory since the programme neither popular, not effective in terms of service delivery (Ghimire, 2012). It was accepted that people did not have adequate information about CBHI leading to poor involvement of the people (KOICA/HIMAL Project, 2012). Some aspects were considered as influencing factors for the operation and implementation of CBHI from the public and private sectors.

HI programme in Nepal is just crawling in terms of experience and coverage (Health Insurance Board, 2019). However, there is no doubt that after implementation of the HI programme many people and families were benefitted in various ways after enrolment. On the other hand, some HI programmes could not be continued due to the poor participation of the people and high dropouts. A review from the previous programme suggests a need to make a single autonomous body to regulate the programme (Ghimire, 2012). Studies from previous practices show that HI programme needs to conduct proper sensitization and dissemination of information in mass-scale targeting people since the people who are well aware of HI are likely to enrol than others. Therefore, interventions related to sensitization, awareness, orientation and training should be conducted for mass enrolment (KOICA/HIMAL Project, 2012).

Curriculum Review

Despite the government's commitment to ensure the UHC by 2030, still, no curriculum has been developed in the formal education system. In the school and university level curriculum, no special content on health insurance has been added for students in secondary education as well as higher education from the Faculty of Education, TU. Pokhara University (PU) has included some contents of health insurance in the Bachelor of Business Administration in Banking and Insurance (BBA-BI); and Bachelor of Public Health (BPH) programme which is not enough (Faculty of Health Science, 2017; Faculty of Management Studies, 2013). In the same way, Tribhuvan University (TU), Institute of Medicine (IoM) has incorporated HI related curriculum of the Master in Public Health (MPH) Programme. The programme has a comparatively extensive course about HI as well as healthcare financing (Institute of Medicine, 2017). But very limited students can enrol in the BPH and MPH programme in TU and PU.

On the other hand, the GoN has committed to assuring universal health coverage by 2030 as per the international declaration of SDGs by the United Nations (National Planning Commission, 2015; World Health Organization, 2016). Similarly, health-related budget, resources for health and infrastructure still seem to be insufficient to assure the provision of the constitution and international commitments (FMoHP & NHSSP, 2018; Røttingen et al., 2014). In such a context, people's participation is compulsory for sustainable health financing and for that people should be motivated. However, neither the government nor the community has realized what would be the best way for health communication to motivate the people for enrolment in health insurance as well as the formal education system. It is one of the great gaps to be searched.

Chapter Summary

Many countries have implemented HI programme in different ways. After review of the HI programme throughout the countries, four kinds of HI programme can be observed: (i) national health insurance; (ii) social health insurance; (iii) private health insurance; and (iv) community-based health insurance. Countries have different ambitious plans and a slogan about it. India has introduced the National Health Insurance Programme as 'Rashtriya Swasthya Bima Yojana', China adopted a plan of 'Healthy China 2020'. The Philippines has introduced 'PhilHealth' since 1995. Thailand has achieved UHC by covering 98 percent of the population in 2007. South Korea also met the target of UHC in 1989. Indonesia has made a provision of mandatory HI even foreigners. In the Nepalese context, the history of health insurance is not so long. The UMN had introduced the HI programme in 1976 but could not continue which might be the first HI programme in the history of Nepal. Later, the GoN introduced HI programme after the endorsement of the health insurance act 2017 however it was implemented as social health security since 2016. Only BBA-BI, BPH, and MPH courses have some HI related contents informal education system in Nepal.

CHAPTER III

Theoretical Aspect of Behaviour Change through IEC

Health Insurance programme might be studied from a financial or economic

perspective, social perspective, legal perspective and behaviour change perspective.

Health education is a process of behaviour change (Shaikh et al., 2014). The study is

based on the perspective of behaviour change. Therefore, the study findings are

discussed from the process of change in behaviour/decision making. There are so

many theories related to behaviour change. A few of them are discussed below.

Theory of Motivation

There are basic needs of the people, however, needs are unfulfilled because

the hierarchy of needs does not end they are rather added. People want to fulfil their

needs by utilizing their resources available to them but limited resources do not meet

the unlimited needs, interests and drives (Gawel, 1997). Motivation is one of the

major factors for behaviour change. Problems are a part of human life. These

problems motivate the individual to overcome the problems (Güss, Burger, & Dörner,

2017).

Abraham H. Maslow (1908-70) constructed a hierarchy of needs and set out

that human beings are motivated to satisfy a series of needs, starting with the most

essential physiological needs that are fundamentally for normal functioning of life and

needs of safety as well as security. Maslow proposed that all mentally healthy people

share the same motivation with self-actualization being the most virtuous and socially

constructive. He constructed a linear hierarchy of needs beginning with physiological

needs and proceeding to those of safety, love, self-esteem and ending with self-

actualization (Stoyanov, 2017, p. 11).

The most important needs are physiological which is necessary for the healthy functioning of an individual. When all else is stripped away, an individual still needs oxygen, water and food to survive. Any of these elements is lacking a person may eventually die. The next important needs relate to safety finding shelter and protection for example. It is further claimed that the need is the primary reason why humans organize themselves into societies because people organize that they are safer in numbers than by themselves (Maslow, 1943). Maslow classified physiological and safety needs as essential needs because it is difficult to survive without addressing these needs first. Once these essential needs have been satisfied, even to a limited degree, other needs start to emerge as important. The third need relates to love and affection, and the sense of belonging to a group. The next relates to self-esteem: the need to be accepted and desired by others. The final need is self-actualization: people's drive to realize their full potential. While needs for love and self-esteem are commonly met in parts of the world where the essential needs are taken for granted, self-actualization is rare and often reveals itself in creativity. The hierarchy of needs can be arranged as follows (McLeod, 2013, p. 3).

First: biological and physiological needs - air, food, drink, shelter, warmth, sex, sleep, etc. Second: safety needs - protection from elements, security, order, law, limits, stability, etc. Third: social needs - belongingness and love, - workgroup, family, affection, relationships, etc. Fourth: esteem needs - self-esteem, achievement, mastery, independence, status, dominance, prestige, managerial responsibility, etc. Fifth: cognitive needs - knowledge, meaning, etc. Sixth: aesthetic needs - appreciation and search for beauty, balance, form, etc. Seventh: self-actualization needs - realizing personal potential, self-fulfillment, seeking personal growth and peak experiences. Lastly: transcendence needs - helping others to achieve self-actualization.

These needs show that the ladder of needs are unlimited and no-one fulfils it however when an individual achieves the lower-level need another need automatically raises and people try to fulfil it. In Nepal, 21.6 percent of the total population is still living under the poverty line (Ministry of Finance, 2018b). They have had a hand-to-mouth problem and are struggling to meet the physiological need. They even die without fulfilling the basic or physiological needs. In such a case, there may not expectation of additional needs as safety or above.

Studies show the different result in motivation and behaviour change (Anderson, 2004; Anenson, Brunt, Terbizan, & Christensen, 2014; Gipson & King, 2012; Redding, Rossi, Rossi, Velicer, & Prochaska, 2000; Rosenstock, 1974; Taylor et al., 2006). A study shows that motivation and performance including learning strategies have a positive association. Motivation can be distinguished into two types: autonomous and controlled motivation. Autonomous motivation is out of control that means beyond the interest or necessity whereas controlled motivation is directed by reward and punishment or threat (Wouters, Croiset, Galindo-garre, & Kusurkar, 2016).

A quasi-experimental study conducted in western Iran in 2017 shows that protection motivation theory with the base of educational intervention might help to prevent cervical cancer and improve the regular check-up of Pap smear for the prevention of cancer (Malmir, Barati, Jeihooni, & Bashirian, 2018, p. 6). This study was the peer education approach in the educational strategy used as a mediator. The advantages of using this strategy include acceptability, ability to transfer information, access to out-of-the-way people and hidden population, modelling and continuous contact. The results show that applying educational intervention based on the Protection Motivation Theory [PMT] would be an efficient strategy for preventing

cervical cancer among females living in marginal areas. Consequently, the application of this theory in the educational programs of the health centres might lead to some alterations regarding cervical cancer prevention and pap smear test administration, all of which are promising of beneficial impacts in the future.

A cross-sectional study shows that there was a positive correlation between motivation and self-efficacy, response efficacy and cancer-preventive behaviours whereas a negative correlation was found among protection motivation, cost and reward as well. The study further shows that self-efficacy and cost were significant predictors of preventive behaviour (Zare Sakhvidi et al., 2015). Another quasi-experimental study shows that for the prevention of cervical cancer an educational intervention would be an efficient approach that might lead to some changes regarding cervical cancer prevention and pap smear test administration, all of which are promising of positive impressions in the future (Malmir et al., 2018).

Since the need for health services may not be pre-planned due to casual circumstances of happening. I could not able to fit the theory in my research because there are so many factors that determine the change process.

Social Marketing Theory

Kotler, Roberto and Lee (2002) define 'Social Marketing [SM] is the use of marketing principle and techniques to influence a target audience to voluntarily accept, modify or abandon a behaviour for the benefits of individuals, groups or society as a whole' (as cited in Honeyman, 2008, p. 5). The SM approach consists four key elements [4Ps]: products, place, price and promotion which are interlinkage in the three triangular dimensions, (i) human welfare for community and society; (ii) satisfaction for costumers; and (iii) profit for business and sustainability, of SM approach (Shrivastava, Shrivastava, & Ramasamy, 2015).

Social marketing [SM] is used in the field of marketing but for the aspect of social changes. It is also considered as behaviour change for social context. SM aims to change in the targeted behaviour rather than profit in business. Moreover, the purpose of SM is to influence individual behaviour rather than the sales of products and aims to achieve social change as a campaign. The main objective of SM is to promote public health ultimately improving health for all (Shrivastava et al., 2015).

SM-based health intervention is useful in addressing healthy behaviour where health education and communication might not be effective (Tan et al., 2010). Over the recent decade, SM programmes have become a successful intervention strategy in the behaviour change process (Meekers & Rahaim, 2005). It is a commercial approach to expand access to essential goods/products as well as services people need. Some programmes are expanded throughout the world as in Nepal by using the SM approach such as Iodized salt distribution and intake, use of condoms, use of family planning devices, use of fluoridated toothpaste, tobacco consumption. It is a cost-effective approach to behaviour change or adaptation (Meekers & Rahaim, 2005). SM programmes benefit either individuals or society and the last beneficiaries always become community or society at large (Akinsanya & Bach, 2014).

Wiebe published a paper on social marketing in 1951 in Public Opinion Quarterly and became public discourse for discussing. Later different opinions and debates made it more comprehensive and applicable in the field of health, safety, environmental protection and provision of social participation (Kulter & Ozdemir, 2014). A study in Zambia shows that higher exposure to the social marketing approach leads to more likelihood of accepting the promotional campaign (Rossem & Meekers, 2007). However, Tanzania's experience shows that there was no association between social marketing and enrolment in community health fund [CHF] but the

association was seen between socio-demographic variables such as marital status and family size with CHF (Kapologwe et al., 2017). Another interventional study conducted by using the SM approach for African Americans shows that the SM approach increased walking and observed social connectedness in their community (Coulon et al., 2012). Another study applying SM theory and Health Belief Model [HBM] for promoting the screening of cervical cancer shows that an appropriate communication process in behaviour modification to prevent cervical cancer and recommended SM and HBM can be used to promote cancer screening for the targeted group (Wichachai, Songserm, Akakul, & Kuasiri, 2016).

Evans (2006) mentions that SMT can be used for health-related behaviour change as some studies showed a positive association between the application of SMT and desired behaviour change. Some interventions seemed positive and successful such as anti-smoking campaigns, cancer screening, physical activities, social connection, condom use. It is further suggested that SMT with a trusted source of health information, mass communication reinforce to make the desirable health behaviour besides that it can be used to address the public health challenges (Daniel, Bernhardt, & Eroglu, 2009; Evans, 2006). Similarly, SM for condoms has increased sales of condoms in developing countries. But there was still limited access to condoms for poor people, female and HIV infected people (Knerr, 2011).

Many types of research have applied eHealth interventions based on the SM approach to encourage people to reduce unhealthy behaviours, increase physical activities, and manage their weight in various ways. The eHealth interventions are cost-effective and applicable [as high reach and low cost] to the mass population within a very short period. A meta-analysis shows that such online interventions have influenced voluntary behaviours which might be more sustainable. SM approaches

combination with mass media online system could support people to achieve the goal of helping them to improve quality of lives and ultimately contribute to the community and nation as well (Cugelman, Thelwall, & Dawes, 2011). SM approach could offer an opportunity to make a bridge in connecting with health services delivery as well as products to the people who are willing to utilize and/or consume it (Shrivastava et al., 2015). A systematic review based on SM theory shows that most of the interventions promoted healthful working methods and improved awareness of promoted foods. Moreover, SM interventions were associated with changes in alcohol-related behaviours (Janssen, Mathijssen, Bon–Martens, Oers, & Garretsen, 2013).

Worldwide, there are two types of SM emerged. First is SM of products and second SM of non-products or services that are information, education and communication. In some cases, SM of non-product can be applied such as HIV/AIDS awareness 'let's talking about HIV/AIDS' which was practiced as 'The 'Black and White' celebrity campaign for HIV/AIDS in Nepal 2002/03' (Honeyman, 2008, p. 19). The systematic review [SR] shows that social marketing techniques and alcohol consumption related behaviours were associated (Janssen et al., 2013). Similarly, another meta-analysis and SR shows that SM approach seemed effective to reduce the obesity in school level students (Aceves-Martins et al., 2016). Another SR shows the interventions related to SM approaches had significantly influenced condom use behaviour with positive trends (Sweat, Denison, Kennedy, Tedrowc, & O'Reilly, 2012).

Evidence shows that the behaviour change process is the product of reciprocal choice (Fourie & Froneman, 2009). It may not be predicted the behaviour by using SM interventions. Therefore, I could not apply this theory in this research.

Theory of Planned Behaviour

Theory of Planned Behaviour [TPB] is one of the widely applied theories among behaviour change theories. It helps to predict or explain the health behaviour of the individuals based on the individual's belief and its relation to behaviour. TPB was proposed by Icek Ajzen in 1985. TPB is the revised version of the theory of reasoned action presented together by Martin Fishbein and Icek Ajzen in 1980. It is concerned with the individual's motivational factors as the determinants for intended health behaviour (Montaño & Kasprzyk, 2008).

TPB consists of three key variables: attitude; subjective norms; and perceived behavioural control [PBC]. Attitude denotes an individual's positive and/or negative evaluation regarding behaviour whereas subjective norm refers to the perceived social pressure to follow or not to follow the behaviour. Similarly, PBC refers to the individual experience of the difficulty level of behaviour while attempting it (Hayden, 2019). An individual may not apply or adopt intended behaviour without motivation. According to TPB, the nearest determinant of behaviour is the purpose to adopt the behaviour (Corcoran, 2007). The intention of the performing behaviours can be predicted by attitudes toward to the behaviour (Ajzen, 1991, p. 1) and further states that 'attitudes, subjective norms, and perceived behavioural control are shown to be related to appropriate sets of salient behavioural, normative, and control beliefs about the behaviour'. The TPB can be applied fields like beliefs, attitudes, intentions and behaviours in various area such as health campaigns, healthcare, sustainability as well as a public service announcement.

The basic essence of the TPB is that individuals' attitudes and beliefs are central for explaining behaviour and intention is the product of a combination of attitudes toward the behaviour (Morris, Marzano, Dandy, & O'Brien, 2012). 'That is

the positive or negative evaluation of the behaviour and its expected outcomes and subjective norms, which are the social pressures exerted on an individual resulting from their perceptions of what others think they should do and their inclination to comply with these' (p. 5).

The TPB is fit for predicting behaviour in terms of retrospective analysis especially used in the field of health various evidence shows that 20 to 30 percent of behaviour can be predicted by TPB (Morris et al., 2012). Various studies show that there were strong correlations observed between behaviour, attitudes towards behaviour and perceived behaviour control. Weinstein and Sandman (2002) state that decisions and actions are not original ideas. An individual develops an intention to act based on the risk of beliefs, results and self-efficacy in the initial phase. Later, the individual enters the decision phase and plans to act and deals with the difficulty s/he may face for acting successfully.

Behaviour is predictable and depends upon the intention. An intention is predicted by three variables: attitudes about the behaviour; subjective norms; and perceived control over the behaviour (Hayden, 2019). A survey conducted among 300 mothers having daughter shows that the predicted value of attitudes, subjective norms, perceived behavioural control and socio-demographic features of mothers indicated that attitude is the powerful predictor of their intention to allow their daughters to accept female genital mutilation [FGM] followed by subjective norms however less educated and residing in rural women had a more affirmative attitude towards FGM and feel more pressure to follow the socio-cultural rule of FGM (Hayden, 2019).

A systematic review [SR] and meta-analysis [MA] based on TPB on alcohol consumption shows that intention and attitude toward the behaviour had a strong relationship. In the same way, self-efficacy [SE] had a strong relationship with

intention than perceived behaviour control. Therefore, the study from SR and MA concluded that attitudes, subjective norms and SE had a strong relationship with behavioural intention (Cooke, Dahdah, Norman, & French, 2016). Another MA shows that smoking was associated with smoking intentions and smoking intentions were based on attitudes and subjective norms. The influence of subjective norms to the intention to behave and behaviour was modified depending upon whether individuals belonged to countries and/or cultures (Topa & Moriano, 2010). A study conducted by 517 selecting samples randomly to examine the association between attitudes and beliefs of dental service receivers and dental check-up intention and behaviour by applying the TPB. The results showed that the respondents had positive attitudes, subjective norms and self-efficacy beliefs towards services for dental care however perceived a lack of control over appointing the dentist. Data showed that components of TPB were significant predictors for intention and intention, self-efficacy and previous visiting for dental services were significant predictors for receiving the dental services. It can be concluded that dental patients had positive attitudes and beliefs towards visiting the dentist but perceive a lack of control for visiting and receiving the dental clinic and services as well (Luzzi & Spencer, 2008).

The SR and MA on discrete food choices based upon the TPB show that there was medium to large associations observed between intention and behaviour. There was a strong association between attitude and intention followed by perceived behavioural control [PBC] and subjective norms. In the same way, associations were also noticed between intention and behaviour, PCB and behaviour (Mcdermott et al., 2015). A qualitative assessment based on TPB in Malaysia shows without adequate information, the variables could not predict the behaviour so appropriate TPB based IEC intervention should be applied for anticipated results (Liang et al., 2015).

Positive results have also been observed that TPB is fitted in shared decision making [SDM] while a doctor's consultation and recommendation. Since SDM is essential and nowadays considered as patients' or clients' right that makes sharing knowledge and making a recommendation by clarifying the values and performance of patients with presenting the evidence. Evidence showed that subjective norms were associated with intention and that indicates the major interpersonal nature of SDM during counselling and clinical practices (Thompson-Leduc, Clayman, Turcotte, & Legare, 2014). Another SR based on TPB on dietary interventions for adolescents and young adults shows that overall interventions had a positive impact on obesity as well as health-related behaviour that can make people healthier and longer lives (Hackman & Knowlden, 2014).

Individual's behaviours are determined by their intention that is influenced by attitudes towards behaviour, subjective norms and perceived behaviour control. A study based on TPB shows that intention and behaviour were highly correlated (Cameron, Ginsburg, Westhoff, & Mendez, 2012) however TPB did not predict the behaviour but another study from Iran shows that TPB was the instrument to predict the behaviour followed by individuals (Haghighi, Rahrovy, & Vaezi, 2012). Though TPB is a well-established theory to predict intentional behaviour however there are so many debates and criticisms are presented whether the theory might be fitted in all situations or not. A review on TPB concluded that there might be other external predictors rather than TPB's components so these predictors should be assembled during interventions (Hasbullah, Mahajar, & Salleh, 2014). Lin and Chen claim that variables of TPB could predict 30 to 40 percent of the intention to perform the behaviours (Lin & Chen, 2011). But another study states TPB can predict 20 percent observed behavioural variance (Taylor et al., 2006) which was a more fluctuating

result than other studies. Therefore, I could not employ the theory in the research because the theory has poor predictive power.

Theory of Reasoned Action

The theory of reasoned action [TRA] was developed during the decade of the 1960s. TRA aims to elucidate the relationship between the attitudes and behaviour of individuals. Individuals' intentions are their decision to act in a particular way (Fitzmaurice, 2005) Beliefs, attitudes and behaviours are the main components of TRA. An Individual's behaviour is determined by his/her intention to perform the behaviour hat behaviour has two factors attitudes and subjective norms (Moore & Benbasat, 1996). TRA can predict behavioural intention based on attitudes. The TRA was developed by Martin Fishbein and Icek Ajzen in 1967. It is believed that behavioural intention is the product of an individual's attitude and subjective norms towards performing behaviour. Fishbein states that TRA 'assumes that behaviour is the outcome of an intention to perform that behaviour. The intention is influenced by one's attitude, or positive or negative feelings, towards performing that behaviour, and one's perception of social pressures or norms about that behaviour'(Bryan, 2009, p. 60,61).

At the time of TRA introduced, it was assumed that attitudes and behaviour were strongly related in that attitude determined behaviour but failed to show that evidence however there was an acceptance of this assumption. Later, reviews from studies showed some evidence to support the relationship between attitude and behaviour (Hayden, 2019), 'TRA was useful in explaining behaviours under an individual's wilful (volitional) control, but not so useful in explaining behaviours, not under wilful control' (p. 100). Later another construct was added and revised and

renamed it as a theory of planned behaviour. Some studies considered TRA as a framework for understanding as well as changing of behaviour.

TRA is considered as a traditional theory but no doubt that it was the base for the prediction of individuals' behaviour based on attitude. The basis of TPB is TRA. Variables (behavioural predictors) have been revealed to forecast a diverse group of health-relevant behaviour such as smoking marijuana/tobacco, immunization, contraceptive use, mammography, condom use (Weinstein & Sandman, 2002).

Attitude, subjective norms and perceived behavioural control are the components of TRA that can predict the intention and behaviour. An MA shows that attitudes had a strong correlation with intention and other components of TRA had small to media size correlation with intention. Except for individual autonomy, all constructs of TRA were significant predictors for intention (Mceachan, Hons, Taylor, Gardner, & Conner, 2016). A study entitled 'predicting and understanding mother's infant feeding intentions and behaviour' based on TRA shows that all findings supported the assumption of TRA in most respects. Attitude toward behaviour was found on a significant and independent contributor for infant feeding behaviour (Manstead, Proffitt, & Smart, 1983). But the combination of both TRA and TPB seems more effective to predict the behaviour (Blue, 1995). Besides that, the TRA is a suitable model for the intention and behaviour of breast self-examination which is a cost-effective technique for cancer detection (Dewi & Zein, 2017).

The TRA also fitted in the prediction for the purchasing behaviour of young people. Young customers' attitudes significantly influenced the purchasing intention and respondents' favourable attitudes had higher purchasing intentions in the market place. The study also shows that external variables including subjective norms did not influence the purchasing intention. So, the results partially support the TRA as a

predicting tool for the purchasing intention of young people (Belleau, Summers, Xu, & Pinel, 2007). Similarly, food-related behaviour also seemed predictable. A study with 538 respondents from insurance companies shows that moderate to a strong relationship between beliefs, attitudes, intention and behaviour. There were negative correlations between nutrition knowledge with attitudes components. The study concluded that nutrition knowledge was less clearly correlated to the consumption of food than more specific beliefs and attitudes (Shepherd & Towler, 2007). Another study also supported the TRA. The study conducted within 349 university students and found that the influence of attitudes and norms on recycling behaviours was facilitated by the intention to recycle. The gender difference was observed. Subjective norms and intention to recycle seemed more in female than male students. In such evidence, gender-specific intervention is suggested for influencing the recycling behaviours among youths and adults (Goldenhar & Connell, 1993).

TRA can predict the behaviour through attitudes, subjective norms, behavioural intention and other factors such as personal characteristics and environmental factors and it maintain the attitude towards action (Chaipornmetta, 2010). A longitudinal study conducted from four colleges in the Boston area among 105 women in 1973 followed them 14 years later in 1987. The results of the study supported the TRA. Attitudes of women regarding gender-role and their perception of important preferences were predicted by their career intentions which were predicted by their career behaviour 14 years later (Vincent, Peplau, & Hill, 1998).

Supports of TRA argue that people are more like to perform and agree with a certain behaviour if neighbour or peer, such as family members, teachers, friends approve and accept it (Marton, Joyce, & Vincze, 2014). A quasi-experimental study with 88 participants from four secondary schools at Bandar Abbas, Iran in 2014

shows that the application of TRA improved the scores of breakfast consumption behaviour. The findings agree on the components of TRA in improving the intention and behaviours of consuming breakfast (Hosseini, Gharghani, Mansoori, Aghamolaei, & Nasrabadi, 2015). Similarly, a qualitative study by conducting 16 focus groups among the age of 16-24 American Indian young people shows that they were negative towards teenage pregnancy. There were differences between American Indian parents and non-parents about attitudes and impacts of teenage pregnancy (Dippel, Hanson, McMahon, Griese, & Kenyon, 2018).

Most of the research and evidence support the main constructs and/or the variables of TRA however the theory has had many criticisms too. Trafimow (2009) states that the TRA is influential but not necessarily means that a good theory. Behavioural beliefs determine attitude. Attitude and subjective norms are expected to be determined by the collective course. On the contrary, 'attitudes are determined by beliefs and its consequences but subjective norms are determined by normative beliefs but what if behavioural beliefs and normative beliefs are different names for the same construct?' (Trafimow, 2009, p. 506). There is a strong distinction between normative and behavioural beliefs so in all respects the TRA cannot be fitted to predict the behaviour. Besides that, the TRA is criticized because the theory ignores the social nature of individual action. Ajzen also accepted that TRA was unable to predict health-related behaviour itself. Just one third (34 %) of observed health behavioural variance could be able to explain by TRA (Taylor et al., 2006). Since TRA has had low to middle-level capacity to predict health-related behaviour so I could not fit the theory in my research.

Transtheoretical Model

Trans-theoretical Model [TTM] is a prominent theory (Goldspink, 2002) and one of the well-known behavioural change theories and also known as 'stages of change' developed by James O. Prochaska, Carlo C. DiClemete and other colleagues in 1977 however it is further enhanced later. It is mentioned that TTM was developed by Prochaska, DiClemente and Norcross in 1992 and first applied in the field of diabetes management in 1993 (Hill, Turner, Hunt, & Perko, 2008). TTM mainly assesses one's readiness to act a healthy behaviour besides that TTM provides strategies and processes of change to guide an individual. There are five main constructs: stages of change, processes of change, decision balance, self-efficacy and level of change (Prochaska & DiClemente, 2005). However various psychologists and psychotherapists have presented the TTM in their ways by adding and renaming the constructs (Norcross & Goldfried, 2005).

Behaviour change or modification, harmful or addictive, is difficult for most of the people (Peterson, 2009). Change is universal but generally, people do not want to change due to fear or lack of knowledge or awareness. An individual may not ready for the change in the pre-contemplation stage and getting ready at the contemplation stage. If individuals feel positive towards change then s/he becomes ready to act. When s/he satisfies with the results the behaviour becomes sustain and if not it may relapse or back to the previous stage is called 'termination' (Kidd, Reed, Weaver, Westneat, & Rayens, 2003). An experimental study based on TTM of exercise behaviour plan from high school students shows that the experimental group had achieved better improvement than in the control group (Pan & Chen, 2010). Similarly, a quasi-experimental study based on TTM shows that e-health messages could be cost-effective and practical in changing healthy behaviour (Anenson et al., 2014).

Various empirical evidence has supported the TTM. Some TTM based interventions are being successful for desirable change in behaviour such as smoking cessation, appropriate exercise habit, dietary intake, safe sexual behaviour, consumption of alcohol, cocaine use, cancer screening, adolescent's destructive behaviour, sunscreen use, physician's behaviour, use of psychotherapy (Nolan, n.d.). A study based on both TTM and TRA shows its effectiveness that intervention with constructs of TTM and TRA can increase the breastfeeding initiation proportions through the increasing the mothers' intention to breastfeed to their child (Humphreys, Thompson, & Miner, 1998).

Similarly, a study conducted by utilizing Lime Survey software administrated by the entrepreneurship of German University shows that the constructs of TTM showed the good applicability as a framework for changing in health behaviour by testing the cross-sectional data with the assumption of TTM (Klonek, Isidor, & Kauffeld, 2014). Another study conducted among 200 university students to examine the association between TTM constructs and physical activities shows that TTM constructs were associated with physical activities. Physical activities were more likely to change the behaviour processes. TTM seemed to have some utility of promoting physical activities among university students and appeared not to be a function of anxiety levels (Joyner & Loprinzi, 2017).

An MA and SR show that behavioural interventions based on TTM were very promising to support smoking cessation in the long-term effect in youth. On the other side, adolescents are now more like to consume non-cigarette products. The review shows that the initial stage of change for smoking cessation. TTM based studies might be useful in defining public health policies to regulate smoking and tobacco products (Rios, Herval, Ferreir, & Freire, 2019). Similarly, the TTM based interventions were

found effective in promoting physical activities and inspiring partakers to follow a healthier diet (Arafat, 2016), especially for type II diabetes patients.

Another review of physical activities and dietary habits for maintaining the body weight by applying the constructs of TTM shows that the improvements in physical exercise or activities and dietary intake habits by applying the TTM constructs. Hence, the authors recommended for well-designed randomized control trials for lifestyle intervention on weight loss as well as healthy lives (Mastellos, Gunn, Felix, Car, & Majeed, 2014). Another SR shows that reducing the consumption of fat; increasing the intake of vegetables and fruits; and increasing the physical exercises were progressions in the stages of change and losing weight observed by the applying of TTM constructs (Menezes, Bedeschi, Santos, & Lopes, 2016).

However, some studies show less-effectiveness of TTM based intervention. An interventional study that consisted of group exercise two hours for five months and educational material distribution and compared pre and post-survey outcomes. 'The results indicated that during intervention there was no significant change in the physical activity in participants. Although there was no significant change in the data analysis, the raw data showed only complacency or advancement through the stages of change' (Bloom, 2015, p. 20). Another review shows a similar result that there was no strong conclusion of TTM constructs and its influence on changing health behaviour (Horowitz, 2003). So the stages of change and processes of change are still doubtable to predict in every context.

Similarly, an SR included 37 randomized controlled trials based on TTM shows that there was limited evidence observed to support the efficacy of TTM in terms of predicting health behaviour (Bridle et al., 2005; Robinson & Vail, 2012). Considering the above criticism and empirical evidence I did not feel comfortable

deploying the theory in my research since TTM has received more criticism in predicting behaviour.

Health Belief Model

Health Belief Model [HBM] is one of the prominent theories of behaviour change developed by, a group of social psychologists at the United States Public Health Service (Janz & Becker, 1984), Irwin M. Rosenstock, Godfrey M. Hochbaun, S. Stephen Kegeles and Howard Leventhal during the 1950s and also known as one of the first health behaviour change theories (Carpenter, 2010; Glanz & Bishop, 2010; Rosenstock, 1974). Initially, it was developed to make tuberculosis screening and became successful and later it was generalized in other fields of health as well as behaviour change aspects (Hayden, 2019).

It is assumed that intention causes behaviour (Webb & Sheeran, 2006). According to Health Belief Model (HBM), if the people feel higher susceptibility, severity and the threat of diseases then they are more likely to adopt or follow the health behaviour that is pay (more) for HI in advanced to reduce the catastrophic healthcare cost in the context of enrolment in health insurance. The HBM focuses that health behaviour is determined by an individual's belief and/or perception about the diseases and health problems and personal perceptions and beliefs are determined by intrapersonal and interpersonal factors that affect health such as knowledge, attitude, experiences, culture, and religion (Hayden, 2019). The essence of HBM is an individual's beliefs influence health behaviour. It is developed to identify why individuals do or not follow healthy and/or preventive behaviour (Glanz & Bishop, 2010). Champion & Skinner (2008) further state:

If individuals regard themselves as susceptible to a condition, believe that condition would have potentially serious consequences, believe that a

course of action available to them would be beneficial in reducing either their susceptibility to or severity of the condition and believe the anticipated benefits of taking action outweigh the barriers to (or costs of) action, they are likely to take action that they believe will reduce their risks (p. 47).

Initially, HBM consisted of four dimensions: perceived susceptibility, perceived severity, perceived benefits and perceived barriers (Janz & Becker, 1984) but later other constructs have been added by different psychologists and reviewers to make HBM more predictable. The main constructs of HBM are presented below (Abraham & Sheeran, 2015; Carpenter, 2010; Champion & Skinner, 2008; Glanz & Bishop, 2010; Hayden, 2019; Janz & Becker, 1984; Lennon, 2005; Loke, Davies, & Li, 2015; Orji, Vassileva, & Mandryk, 2012; Rosenstock, 1974):

Perceived susceptibility. It is a level in which a person knows his/her sensitiveness about the disease, an individual's belief at risk for negative outcomes due to diseases. The individuals' assessment of their chances of having diseases or health problems. It refers to a person's belief in the likelihood of contracting diseases. It is an individuals' belief in their vulnerability to health problems. It may feel at great risk/threat than more likely to adopt particular behaviour to minimize the risk. It is a belief about the chances of experiencing a risk or getting a condition or disease or the probability of having diseases or bad health consequences. In other words, it is an individual's perception of risk for contracting the condition of health concern. This construct consists of an individual's subjective feelings or perceptions of the risk of contracting a health condition.

Perceived severity. Severity is a kind of threat and the threat is the combination of susceptibility and its product with severity. Perceived severity is a perception of the person about the severity of diseases. A belief that the problem is

serious enough to warrant treatment. An individual's judgment as to the seriousness of the effects of contracting the health condition or diseases and health problems as well. It refers to a person's belief that contracting the diseases may result in harsh health consequences and economic conditions as well. This is a belief of how serious a condition or the belief of the consequences of diseases or health problems. It is a probability of having diseases with the gravity of complications and trouble or risk. It is a feeling of the results of the bad health condition. This construct includes an individual's evaluation of clinical, medical, social, or even financial consequences due to diseases or health problems.

Perceived benefits. This is the person's understanding of the advantages of doing preventive behaviour, individuals' beliefs about the benefits of treatment or precaution. An individual's evaluation of the positive things that will happen as a result of enacting health behaviour. It involves the belief of individuals in the value of adhering to health-related measures to prevent or reduce illness or diseases. It is a belief in the efficacy of the advised action to reduce the risk or seriousness of the impact. This is a feeling of making positive effects from performing the desired action. It is a feeling of good or positive effects that could happen from specific health behaviour. Moreover, it is an individual's judgement about the new health behaviour whether it is better than that they are already adopting. The construct includes an individual's beliefs or perception in terms of the effectiveness of the various course of actions to reduce the threats and/or consequences of diseases or health problems.

Perceived barriers. Each healthy behaviour and practice may encounter some barriers and problems or beliefs about the internal and external barriers to treatment or behaviour change. An individual's opinion regarding the difficulty or cost of adopting the new behaviour. It refers to the belief of cost (psychological or materials) that limit

a person to carry out the necessary health-related measures. These are beliefs about the tangible and psychological cost of the advised action. These are also considered as troubles or and obstacles to take action or perceived as poor access to receive the services. It is a feeling of troubles, difficulties, and cost of adopting the behaviour or it is individuals' perception that what might stop them to follow the targeted behaviour. The construct refers to potential negative effects of a particular action by following the recommended health behaviour that may be expensive, dangerous, inconvenient, time-consuming, unpleasant or painful.

Cues to actions. Some stimulations facilitate decision making. Factors that increase treatment readiness or readiness to change the behaviour. This consists of both internal and external prompts that will trigger an individual to perform the target behaviour. There are strategies to activate readiness or motivation towards the appropriate health actions. It is a state of mentally ready to take action. It is an exposure to factors that makes ready to take action. The factors that trigger an individual on the way to change health behaviour. The cues to action may be guided by internal or external aspects.

Self-efficacy. This is the belief about the capability to follow treatment recommendations. Personal belief on his or her own ability to enact the desired behaviour. It refers to an individual's confidence to perform the necessary health-related activities. It denotes the individual's ability to act or able to take decision making.

Various studies show that HBM based intervention was effective to make appropriate behaviour change. Many studies have supported the effectiveness of the HBM based intervention in desirable behaviour change (Renu et al., 2015). A study shows that HBM based intervention could improve people's knowledge and practice

regarding pap smear tests for screening of cancer (Shojaeizadeh, Hashemi, Moeini, &

Poorolajal, 2011). Some studies show more effective results by adding other variables

to make the behaviour more predictive. Orji et al., (2012) claim that the predictive

capacity of HBM could increase by 40 to 71 percent compared to old HBM constructs

if the other four constructs added. These are self-identity, perceived importance,

consideration of future consequences and concern for the appearance that determines

the health behaviour.

Individual perceptions	**Modifying factors**	**Likelihood of action**
	Demographic variables Socio-psychological variables structural variables	Perceived benefits minus perceived barriers to enrolment
Perceived susceptibility and Perceived severity of diseases or illness	Perceived threat of diseases or illness	Likelihood of taking preventive action: Enrolled in Health Insurance
	Cues to action	

Demographic variables: age, sex, caste, etc.; Socio-psychological variables: personality, social status, peer and neighbour's pressure, etc.; Structural variables: knowledge about diseases, previous experiences diseases, etc.; Cues to action: mass media, advice from peers and physicians, presence of diseases in family, newspapers, social media, etc.

Figure 1. The Components of Health Belief Model (Champion & Skinner, 2008, p.49)

Several studies show that HBM based study seemed successful in the

behaviour change process. HMB based research like brushing teeth for perfect teeth,

overweight and type two diabetes, flu and vaccination, yoga practice and health,

drinking and driving, dietary habits and obesity, cancer screening were fitted with the

HBM constructs (Hayden, 2019). Some studies suggest that health communication

message or public service announcement designed as per the HBM constructs may be

used to communicate awareness about dengue fever and its control. It can be also

applied in an individual's cultural context for the prevention and control of dengue as

cues to action (Lennon, 2005). Another study shows that perceived benefits and

seriousness had a greater influence on the health belief and perceived susceptibility and cues to action were the second and third furthermost important components of HBM respectively and the study concluded that HBM based health education programme used for injury prevention among students attending a high school (Cao, Chen, & Wang, 2014).

A meta-analysis of 18 studies based on HBM shows that perceived benefits and perceived barriers were the strong predictors consistently compare to other components of HMB (Carpenter, 2010). However, some researchers have suggested that intervention based on multiple models have more predictive power of behaviour change. Therefore, multiple model-based approaches are recommended for assessment and measurement of health behaviour change (Nigg, Allegrante, & Ory, 2002).

Rosenstock (1974) applied the HBM based study on x-ray for tuberculosis screening and found that effective for asymptomatic patients too, another study by Kegeles (1963) tested the theory for a dental problem and awareness found effective. Similarly, Haefner and Kirscht (1970) conducted HBM based intervention for doctor's consultation and found that the number increased for a check-up. Besides, these a series of HBM based interventions seemed strong to predict health behaviour (as cited in Abraham & Sheeran, 2015). A review shows that HBM constructs have had remarkable predictive capacity. Susceptibility of diseases or health problems were significant in 81 percent of the total reviews (no. 28). Similarly, the severity of diseases or health problems was significant in 65 percent and 78 and 89 percent were observed significant by benefits and barriers respectively and it was concluded that barriers were the reliable predictor for behaviour change process followed by the

susceptibility of health problems, benefits of recommended action and severity of the health problems (Abraham & Sheeran, 2015).

Perceived susceptibility and perceived severity create a threat. HBM constructs work together with threats, benefits and the ability to change as efficacy. The combination of the perceptions and beliefs leads to modify the behaviour. Various observations show that perceived barrier was the major and single predictor for behaviour change similarly perceived susceptibility was the significant prediction for preventive behaviour; and jointly perceived susceptibility and benefits seemed also important for modifying the behaviour however perceived severity seemed a least powerful predictor for behaviour change (Champion & Skinner, 2008).

An HBM based study on meditation for college students shows that the benefits of meditation showed reduced mood disturbance, fatigue and confusion; increased mindfulness scores enhanced better quality sleep and increased forgiveness. Besides these, ignorance of student regarding meditative practice was the main barrier and to overcome the problem awareness programme can be recommended for the betterment of the result (Gryffin, Chen, & Erenguc, 2014). The application of HBM constructs has also been effective to prevent suicidal attempts (Gipson & King, 2012).

Researchers and psychologists have used the HBM in diverse sectors and stated that the application of HBM components was most meaningful in terms of making desirable behavioural change however predictive capacity seemed varies in vivid fields (Hayden, 2019). Some studies show a higher correlation among the components others show a moderate degree (Champion & Skinner, 2008). Some studies also recommend making a combination of theoretical constructs that can make more predictive power (Nigg et al., 2002). Others express that application of more

than two theories makes a synergetic effect for the prediction of behaviour (Ersin &
Bahar, 2011; Gipson & King, 2012).

An empirical study of the telehealth programme demonstrates that the
constructs of HBM showed positive and significant effects on cues to action after the
joint application of the components together and recommended providing health-
related information to the individuals and their residence (Hsieh & Tsai, 2013).
Another study states that HBM based intervention can significantly reduce the sexual
and gender-based violence [SGBV] in highly susceptible populations and conformed
effective in younger adolescents to reduce the prevalence of SGBV (Baiocchi et al.,
2016).

The HBM hypothesizes three factors of health-related action: the existence of
motivation; beliefs of vulnerability; and beliefs of benefits of recommended
behaviour. For example, if an individual wants to quit smoking for maintaining the
health, s/he must believe that both quit smoking is beneficial for his/her health and
s/he can make quitting smoking (Rosenstock, Strecher, & Becker, 1988). The HBM
suggests that people need to get information before change as well as decision making
however personal characteristics are also associated with modifying factors for self-
efficacy (Korin, 2016).

Empirical evidence shows that HBM can predict behaviour in various fields of
behaviour change. Since HBM is successfully applied to a range of health behaviour
modification, I felt comfortable to deploy the theory in my study that in the case of
enrolment in HI, the HBM constructs work equally as previous studies show. If
people feel a threat to the diseases or health problems, then they may enrol in HI if not
perceive susceptibility and severity of the diseases or health problems they may not

enrol. That is the main assumption of the study. Therefore, the study aims to assess whether higher perceived susceptibility and severity may lead to higher HI enrolment.

Chapter Summary

HI programme can be observed from different perspectives such as financial, development, legal, social, behaviour change, etc. Since I am a student of health education, I wanted to study it from a behaviour change perspective. Some behaviour change related theories are discussed in this section. After review of behaviour change theories, I felt comfortable to deploy HBM since it is fit to observe since the theory predicts the behaviour as per perceived susceptibility, severity, and consequences of diseases or illness determine the individual's behaviour which if the outcomes of IEC. According to HBM, if an individual feel susceptibility and severity of diseases or illness then s/he will search a solution to overcome the consequences of diseases or illness. Therefore, throughout the study process, HBM is considered for interpretation.

CHAPTER IV

Information, Education, and Communication as a Change Process

In our society, our activities are shaped by our knowledge and education. Our knowledge and beliefs depend upon the information that we received. Information, education and communication [IEC] may be the single term but has several meanings (Mefalopulos, 2008). It is a combination of strategies, methods and approaches that enable individuals to perform an active role in improving quality of life through appropriate and healthy behaviours.

Communication is power and is also considered as the main tool of behaviour change (Piotrow, Kincaid, Rimon, & Rinehart, 1997). Communication makes the impossible possible but it should be proper, adequate and exact. Not only for the institutions but individuals, appropriate communication plays a key role to be successful. IEC is a programme aims to increase awareness, change the attitude and bring transformation in behaviour that is the product of decision making. So the IEC helps to empower in decision making after exchanging and sharing beliefs, feelings, ideas, thoughts, logic and knowledge as well. It creates a supportive environment and also strengthens people towards adopting desired behaviours. It builds up social networks, harmony and feelings of togetherness. IEC is an interventional tool and also considered as a fundamental part of policymaking and behaviour change as well (Devi, 2018) and aims to facilitate people's awareness, access to healthcare through proper information. IEC needs for social, political and economic transformation but not only for the behaviour change. Adequate and appropriate IEC programmes can encourage and support an individual to adopt desired behaviour change (Mundorf, Redding, & Paiva, 2018).

IEC can be defined as an approach which attempts to change or reinforce a set of behaviours in a 'target audience' regarding a specific problem in a predefined time. IEC strategies involve planning, implementation, monitoring and evaluation. When carefully carried out, health communication strategies help to foster positive health practices individually and institutionally and can contribute to sustainable change toward healthy behaviour. It creates awareness, increases knowledge, changes attitudes and moves people to change or continue their behaviour or to adopt an innovation (World Health Organization, 2001, p. 3).

Human behaviours depend upon their knowledge, belief and attitudes as they perceive. Knowledge, attitudes and behaviours are the product of information, education and communication as they are exposed. So, it depends on their education, information and communication as they perceived. Health education as a favourable change in behaviour which is possible after changes in known knowledge, done skills, felt attitudes, done practices and comprehended understanding as well (Acharya, 2006). All these are only possible after proper information, education and communication. In the perspective of behaviour change, all behaviour change processes need proper information, education and communication to sustain the behaviour change.

Information, education and communication (IEC) is an approach that aims to update and upgrade awareness, bring changes in attitudes and change in favourable. It plays an important role in changing behaviour through sharing information and ideas using appropriate messages, methods and channels (Zimbabwe National Family Planning Council, 1998). It consists of a range of activities, approaches and outputs

and IEC is a powerful weapon for behaviour change (World Health Organization, 2000).

IEC is a powerful mean to change the behaviour, appropriate IEC strategies can improve health behaviour. IEC influences how people behave, it affects what people wish and what they aspire to become. It shapes how people conduct their daily lives and at all levels: personal, family, community and mass media: so plays a vital role in decision making ultimately behaviour change (Piotrow et al., 1997). Various studies show that IEC can make a significant contribution to behaviour change as well as decision making. A study shows that IEC created awareness of the threat of hypertension-related to the high intake of salt and could minimize the higher consumption of salty diet and blood pressure (Borah et al., 2018).

Information, education and communication (IEC) - a package of planned interventions which combine informational, educational and motivational processes as a component of a national programme. IEC aims at achieving measurable behaviour and attitude changes or reinforcement within specific audiences based on a study of their needs and perceptions. IEC requires multidisciplinary skills and borrows techniques and methods from various disciplines (World Health Organization, 2001, p. 26).

Information, education and communication [IEC] is an approach for changing or reinforcing in favourable behaviour change of the people or targeted audiences through appropriate means and methods of communication. It also includes formal and non-formal even informal ways of communication. A study conducted in Northern India shows that behaviour intervention package reinforced to significant improvement in health-seeking behaviour (Awasthi, Srivastava, Agarwal, Pant, &

Ahluwalia, 2009). That means the IEC programme makes a significant contribution to behaviour change.

An experiment from Bangladesh named Giggasha shows that communication had indirect effects on behaviours through its effects on these causal links as well as directs effects. Participation in Giggasha had statistically a significant relationship with all but one intervening variable. Participants appear to be more strongly associated with the discussion of about intended behaviour (Piotrow et al., 1997, p. 150).

The linkage of IEC and desired behaviour can be presented as follows:
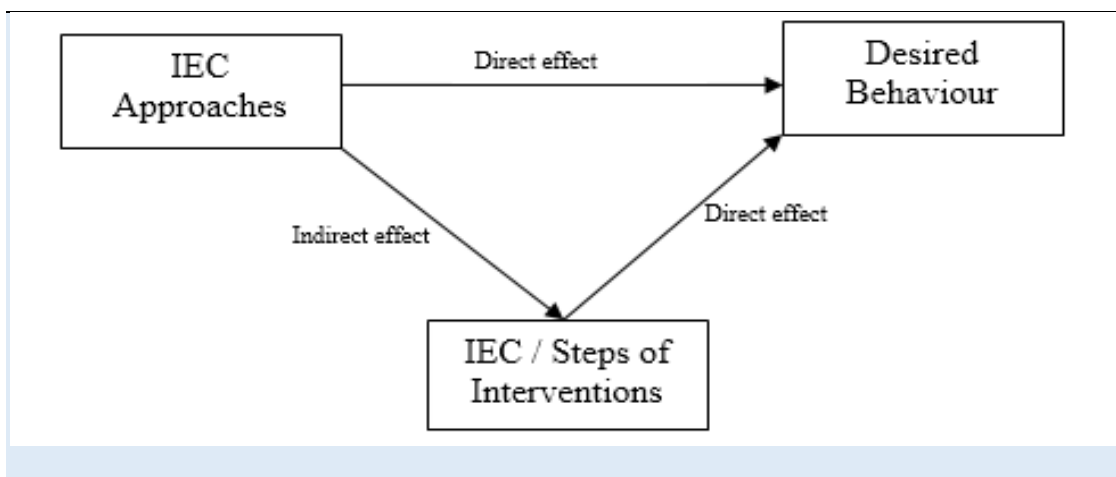
Figure 2. Direct and Indirect Effects of IEC

Communication Strategy for Health Insurance

Strategic communication can change the health behaviour of people. Appropriate communication strategy may sustain the behaviour or entirely changed health behaviour. Social Health Security Development Committee [SHSDC], now the Health Insurance Board [HIB], has prepared a communication strategy to meet the goal and aims of national health policy and act. It is not possible to meet all the provisions regarding appropriate communication. As per the communication strategy of HIB, appropriate information, education and communication [IEC] materials should be developed for disseminating with wide coverage. It needs all kinds of

possible means of communication like radio/FM, television, poster, pamphlets/brochure, hoarding board, newspaper. There is an issue that heterogeneous families exist in society. It needs multiple and different types of communication channels including personal, group and mass (Social Health Security Development Committee, 2015). Nepal Demographic and Health Survey (2016) shows the exposure to mass media as follows (Ministry of Health, New ERA, & ICF, 2017, pp. 56–61).

Table 4. *Exposure to Mass Media according to NDHS 2016*

Media Exposure → Sex ↓	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	Accesses all three media at least once a week	Accesses none of the three media at least once a week	Ever used Internet
Women (%)*	8.7	50.3	27.7	3.2	37.2	23.9***
Men (%)**	21.7	51.0	36.1	9.4	31.0	50.1****

Note: Sample (*n=12862, **n=4063, ***n=2970, ****n=1914)

According to the table, about 50 percent of people have had access to mass media whereas nearly one-third of the population has no access to mass media. This is a challenge for the communication strategy. So the SHSDC had applied a media-mix strategy combined with interpersonal and door-to-door communication through enrolment assistant. The SHSDC had initiated a three-tier communication approach from the policy level to the household. They were:

(i)   Advocacy for political commitment at policy [tertiary] level,

(ii) Social mobilization for wider participation at community [secondary] level;

(iii) An awareness campaign for behaviour change at the household [primary] level

In the same way, SHSDC had categorized behaviour change communication process under three pillars: (a) advocacy, (b) social mobilization, (c) community awareness and behaviour change communication. The audiences were categorized as tertiary, secondary and primary audiences (Social Health Security Development Committee, 2015, p. 7). SHSDC has developed monitoring and evaluation of

communication strategy from top to bottom. At the top advocacy level, some indicators for monitoring and evaluation are the amount of resources allocation for HI, number of policy briefs, number of orientation to stakeholders, number of policy revisions and technical guidance to stakeholders. At the community level: number of community events organized, participants from different social groups, trained human resources for health, enrolment assistants and social mobilizers trained, number of students, teachers and CBO leaders oriented and number of the meeting conducted ant community level are some indicators for secondary audiences. Similarly, indicators for household-level are: IEC/BCC materials developed and distributed, people's participation in HI, people's proportion about HI message heard, a home visit by EAs/SMs, family enrolment and renew rate, dropout rate, service utilization rate by enrolled household, the proportion of health services received from the first point and referred for further treatment (Social Health Security Development Committee, 2015).

All the policies and strategies need evidence-based information for appropriate planning and implementation but there is a lack of information and research in the field of health insurance in the context of Nepal.

Various empirical evidence shows that IEC plays a vital role in awareness creation, develop positive attitudes and decision making as well. An IEC approach through a self-help group of women [SHGW] at Andhra Pradesh, India shows that new technologies based IEC helped on SHGW to create awareness on HIV/AIDS and other sexually transmitted infections. The study further showed that all SHGW had knowledge, awareness and preventive measures of HIV/AIDS (Devi, 2018). Another study shows that IEC training significantly increased the participants' knowledge, attitude, perception and behaviour towards organs donation after brain death (Harrison, Morgan, & Corcia, 2008).

An individual, generally, does not do right [good] behaviour because good behaviour is often more time consuming, difficult, costly, inconvenient, complicated even less rewarded (Water Aid, n.d.). So it needs appropriate IEC to make positive towards the behaviour. IEC is a combination of techniques for exchanging and sharing of facts, information, ideas, attitudes, perception, feelings, emotions to encourage and stimulate the new behaviour favourable to health. It gives individuals the command and power to select appropriate behaviour suitable for themselves. A bad IEC can damage people's wellbeing whereas a good IEC can support them to make well-informed decisions that can positively affect their behaviour and lives (Barker, 2003). A behaviour change intervention based study conducted at Lucknow shows that the intervention led to the improvement in professional healthcare seeking for newborns significantly (Awasthi et al., 2009).

An IEC based intervention for creation of awareness about malaria in Jodhpur, India shows the remarkable increase in awareness in mosquito breeding place, mode of transmission, knowledge on symptoms of malaria, visiting the health facility for treatment and improvement in using of bet (mosquito) nets and the study further suggested for appropriate IEC campaign to change appropriate behaviour (Dhiman, 2018). Similarly, remarkable changes were observed after IEC activities about dengue, mosquito breeding and sources of reduction to prevent dengue fever at Jodhpur, India (Dhiman, 2016). Both studies show that IEC can make remarkable changes in preventive as well as protective behaviour. Similarly, a study conducted in Nagercoil, India shows that IEC packages showed a significant contribution to adequate knowledge and favourable attitude towards testicular cancer and testicular self-examination for early detection of cancer (Valan, 2016).

The IEC not only makes changes in specific behaviour for the protection of health problems but also stimulates individuals to follow or participate in the targeted behaviour to seek a better life through social transformation by an individual's action (Schall, 1995). A study about IEC and the use of contraceptive from Indonesia Demographic and Health Survey 2012 shows that IEC, media and the medical officer were the vital aspects in contraceptive use. IEC from television and poster/flyer had a significant association with contraceptive use. Medical officers had played the most significant role for contraception use followed by family planning officers and informal figures among community people (Winarni & Dawam, 2016). IEC can raise awareness, knowledge and understanding of the social environment becomes positive, more progressive and sustainable effects could be achieved (Aggleton, Jenkins, & Malcolm, 2005).

An IEC based intervention at the community level in Taluk Kotri, Jamshore shows that IEC significantly improved mothers' knowledge and practice on child care: growth and development, immunization, feeding, home treatment, and health service seeking (Shaikh et al., 2014). Another study from the Gambia shows that IEC through mass media especially from the radio was an attractive and feasible strategy and proven as a successful intervention for HIV/AIDS control (Anya, Hydara, & Jaiteh, 2008). Besides these, an IEC also seemed an effective approach to reducing the heart-related problems by improving dietary habits (Borah et al., 2018).

Community Health Workers [CHW] are one of the key components of IEC. Experience from South Africa shows that CHW often incorporated local language, knowledge and understanding of diseases and illness in their communication and made people easy to understand and follow. They were also making a bridge to the lifestyle of community people and formal services available to them by reinterpreting

the information convenient to them for better understanding (Zulliger, Moshabela, &
Schneider, 2014). A longitudinal study from Vietnam shows that IEC particularly
communication made by flip chart applied by community groups were identified as
the most effective communication means to make behaviour change especially food
safety behaviour and food hygiene (Takanashi et al., 2013). Another similar
experience from Ghana shows that social and behaviour change communication was a
significant contributor for maternal knowledge about danger signs during pregnancy
and childbirth and the study also identified the IEC as an important step towards
attending universal health coverage (Saaka, Aryee, Ali, & Masahudu, 2017).

It was also assumed that behaviour change and communication strategy can
reduce intimate partner violence within the married couples (Clark et al., 2017).
Another study from Tanzania shows that behaviour change communication
interventions could lead to better maternal health and childbirth outcomes for women
with a low household setting (Kaufman, Harman, Smelyanskaya, Orkis, & Ainslie,
2017). Similar results have been observed in southern Malawi that social and
behavioural change communication interventions showed its effectiveness for
supplementary feeding practice (Wilner, Suri, Langlois, Walton, & Rogers, 2017).
Likewise, behaviour change communication [BCC] seemed also effective in infant
and young child nutrition [IYCN] that involved in BCC intervention had more score
in IYCN knowledge and more likely to feed nutritious foods to their children
(Hoddinott, Ahmed, Ahmed, & Roy, 2017).

The BCC influences knowledge, attitude and behaviours. A study from India
shows that BCC from interpersonal and group communication resulted in better
knowledge, attitude and practices towards visceral Leishmaniosis/Kala-azar and

recommended the BCC campaign for the elimination of Kala-azar (Srinivasan, Ahmad, Raghavan, Kaushik, & Pathak, 2018).

All these theoretical and empirical evidence show that IEC is an important and crucial factor for behaviour change through updating and upgrading knowledge, attitude and behaviours. Different kinds of IEC based interventions showed that IEC approaches are effective for appropriate behaviour change. The National Health Policy 1991 had mentioned that one of the low health standards of the Nepalese people is the lack of public awareness of health matters (National Health Education, Information and Communication Centre, 2060).

An overview of public service announcements. Health Insurance Board [formerly Social Health Security Development Committee] has developed various public service announcements in different media. Some messages are broadcasting from Radio, Television and some from printed and display materials. These especially focused on the benefits of the programme but it has not focused on perceived susceptibility, severity and threat of disease so people may not motivate just for benefits. Behaviours are the product of perceived knowledge, attitude and belief so above ways of informing people may or not appropriate for behaviour change as expected.

There were three messages disseminated from Radio to the people. They were: 'save seven rupees every day ….'['Hearek din saat rupauya jamma gardau lanu…'], 'diseases and illness do not inform before happening…'['Rog biaar apthero aaudaina sodhera…], 'greetings uncle, you are in so hurry…'['Namskar kaka nikai hatarma hunhunchha...'], and noticeable information. Similarly, there were eight TV messages to disseminate. They were: 'message of Rajesh Hamal', the message of Suntali/Dhurmus', 'message of Jigri/Pande', 'message of Dr. Bhagwan Koirala',

'message of mother and son talking from aboard', 'message of Pashupati's song',

'message of husband and wife (spouse) talking about insurance' and other noticeable

information broadcasted from Television. There were also Hoarding Boards in

programme implemented areas, services points and referral hospitals.

Table 5. *Focus on Message of HI about Components of HBM*

| Message name | Components of Health Belief Model | | | | | Remark* |
	Perceived susceptibility	Perceived severity	Perceived threat	Perceived benefits	Support to self-efficacy	
Save seven….				√		A aid
Diseases and illness...	√			√		A aid
Greetings uncle…				√		A aid
TV: Rajesh Hamal..				√		AV aid
TV: Yamraj..				√		AV aid
TV: Suntali Dhurmus	√	√		√	√	AV aid
TV: Jigri, Pande				√		AV aid
TV: Dr. Koirala	√	√	√	√		AV aid
TV: Aboard call	√			√		AV aid
TV: Pashupati song	√			√	√	AV aid
TV: Spouse talks				√		AV aid
Hoarding Boards	√			√	√	V aid
Newspapers	√			√		V aid
Poster, Pamphlet				√		V aid
Guidelines, Brochure	√			√		V aid

Note: * AV = Audio and Visual, V= Visual, and A = Audio

Besides these, HI related messages were disseminated from newspaper, poster,

pamphlet, brochure, flyers, leaflets etc. Most of the messages were related to the

financial benefit of enrolment in HI. If we accept the Health Belief Model, the

message should be focused on raising the severity and susceptibility of diseases and their consequences.

A survey conducted by KOICA shows that four percent informants participated in the health insurance scheme, 15 and one percent respectively from urban and rural areas. More than nine out of ten (92%) respondents showed their interest to involve but only 11 percent had heard about health insurance. Respondents residing in rural areas (93%) were more interested to involve in HI compared to urban areas (88%). Only nine percent of people have good knowledge of about health insurance (Health Research and Social Development Forum [HERD], 2016). For the effectiveness of the programme, HERD (2016) recommends conducting proper advertisements including a public hearing programme to raise the awareness level of the people. However, no study has been found in this regard. Therefore, the study aims to assess information, education, and communication initiatives on the enrolment in health insurance in the selected districts of Nepal.

Research Gap

There is no doubt that IEC can raise awareness and understanding which may achieve positive and sustainable effects on the decision-making process. Most of the empirical studies show that IEC plays a crucial role in the decision making towards desired action as well as enrolment in health insurance. But still, I could not find that which means or approach of the IEC would be the best approach to make people motivated for enrolment in health insurance in the context of Nepal. Therefore, the study aimed to search for the answer of the best approach for making change the people to participate in health insurance schemes considering some constructs of the health belief model whether it would be fit or not.

Conceptual Framework

The research is based on the Health Belief Model, according to the model people generally changed themselves if they feel the circumstances severe or susceptible to them then they would like to take action to overcome the problem, or threats.
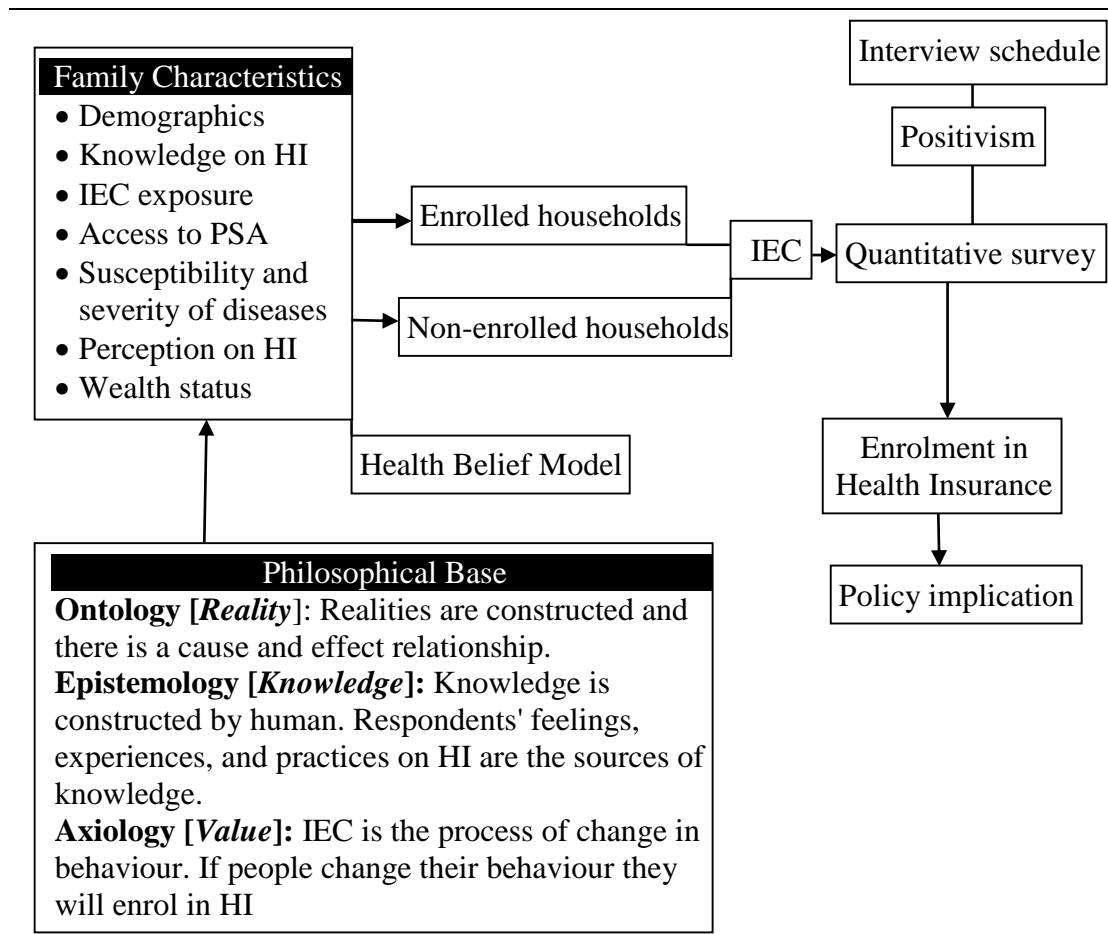
Figure 3. Conceptual Framework

It is assumed that socio-demographic status and exposure to IEC influence on the enrolment of HI. The base of the analysis was quantitative mainly it was accepted the cause and effect relationship. The ontology of the research was 'knowledge is constructed by human and it could be changed and the source of the knowledge is human experiences and feelings'. In this research socio-demographic variables are independent variable and enrolment on health insurance is the dependent variable. Some factors play a vital role in decision making, these are supporting and/or

discouraging factors such as demographic characteristics, economic status of the family, exposure to mass media that are presented in the conceptual framework figure. In this study effects of information, education and communication in enrolment of health insurance have been analyzed especially focused on the effects of IEC in cues to action concerning IEC and its linkage to enrolment including perceived susceptibility and severity of diseases or illness [HBM].

Chapter Summary

IEC is an approach to change the individual's attitude and behaviours as well. It enables an individual to take the desired course of action. It consists of several approaches such as individual, group, and mass methods of communication to sensitize the people. HIB has had three tiers of communication strategy: (i) advocacy for policymaking: tertiary level, (ii) social mobilization for community level: secondary level, and (iii) awareness campaign for behaviour change: primary level or household level. Most of the HI related messages are being conveyed from Radio/FM, TV, Hoarding Boards, Newspaper, Posters/Pamphlet, Brochure, Flyer etc. However, it is still unanswered that which means of the communication would be the most appropriate for enrolment.

CHAPTER V

Methodology

This section deals with the philosophy of inquiry, research approach and design, study area, population and sample size, sampling procedure, data collection tools and validation, the procedure of data collection, data quality management and analysis, and ethical consideration for conducting research.

Philosophy of Inquiry

The inquiry of the subject generally begins with the epistemology and ontology. 'What is the basis and nature of knowledge? What is the nature of and how the researcher accounts for the existence of an object?'(Ernest, 1991, p. 24). Assumption of ontology concerns questions with the nature of reality, which means what is the nature of reality? The ontology is known as 'the study of the nature of being or existence'(Hall, 2004, p. 4). I believe in the cause and effect relationship. In the study, to find out the prediction, capacity various variables were adjusted to estimate the forecasting power in multivariate analysis.

Similarly, epistemology concerns the origin/source of knowledge and ways of knowing, that means how we know the things (Bernard, 2006) and 'what is the relation between the knower and the known? What role do values play in understanding?' (Maykut & Morehouse, 1994, p. 4). Epistemology deals with 'the study of how we know what we know?'(Hall, 2004, p. 4).

Epistemology means 'the study of how we know things' (Bernard, 2006, p. 3). In this study, primarily, the theory of knowledge and source of knowledge were the respondents who involved during and for data collection. Since the knowledge is constructed by a human, epistemology supports us 'to think about knowledge, representation, education and the world does not result in, or seek, closure' (Osberg,

Biesta, & Cilliers, 2008, p. 204). Similarly, the nature of reality is ontology, therefore the respondents' experiences and reflection of that experience was ontology in this research. However, knowledge and reality are dynamics so the findings of the research explore the facts for the point of time as reality. In other words, the philosophy of inquiry might ask 'how does our understanding of knowledge relate to, impact, and/or constrain our understanding of our existence? Is our social and individual existence determined by the ways that we collectively organize knowledge?'(Hall, 2004, p. 4).

There are fundamental beliefs of five different inquiry paradigms in health education as well as social science research. They are positivism; post-positivism; critical theory; constructivism; and participatory. The research is conducted in the positivist school of thought. That means the study aims to find out the cause and effect relationship. Where, 'positivist is concerned with surface events or appearances, establishes meaning operationally, sees its central purpose to be a prediction, and finally, deterministic and bent on certainty' (Colton & Covert, 2007, p. 32).

Furthermore, 'positivism assumes a stable observable reality that can be measured and observed. So, for positivists, scientific knowledge is proven knowledge, and theories are therefore derived in a systematic, rigorous way from observation and experiment' (Bruce, Pope, & Stanistreet, 2008, p. 3). 'Positivism believes the world to be an external, knowable entity, existing 'out there' independent of what people believe or perceive it to be' (Brewer, 2000, p. 31) and 'data analysis by positivist compared to numerate data by constructing objective indicators of insiders' understandings and expressing them in a formal language, almost as a kind of measurement' (p107).

The nature of the research is applied in terms of application; descriptive in

terms of objective, and quantitative in terms of inquiry mode. Since the research is

based on a constructive approach that means the philosophical position of the research

is positivism, 'positivists usually interpret the problem of demarcation in a naturalistic

way, they believe they have to discover a difference, existing like things' (Popper,

2005, p. 12). Based on the philosophical base, the overall research process can be

presented as below:
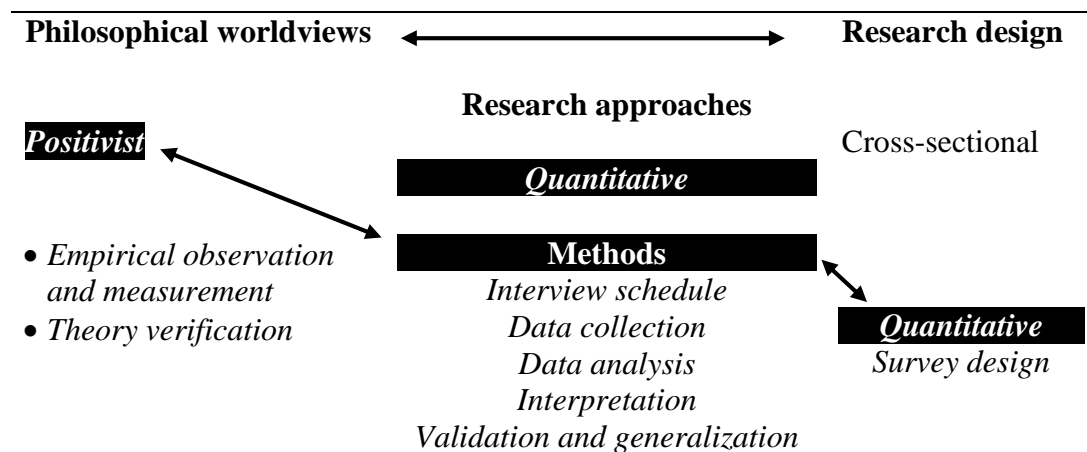
Figure 4. Methodology: The Process of Research

Most of the survey research is quantitative and positivistic that deploys the

structured approach for information collected from the respondents (Vaus, 2002).

'Positivists are happy to see it lapse into the realm of the dispensable, contenting

themselves with the laws of observable phenomena alone' (Harre, 2002, p. 22,23).

Therefore, the study observed the reality with the retrospective lens.

Research Approach and Design

Since the research was household-based from a retrospective view. Therefore,

it was considered that the household as the smallest unit of the study. I used a cross-

sectional survey design. 'A cross-sectional study can examine current attitudes,

beliefs, opinions, or practices. Attitudes, beliefs, and opinions are ways in which

individuals think about issues, whereas practices are their actual behaviour'(Creswell,

2012, p. 377). The survey research deals with a numeric expression of practices,

trends, opinions, or attitudes of the population by studying a sample of the population. It contains a cross-sectional study using a set of questions or questionnaires or structure interviews for data gathering with the intention of generalization of results from the sample population (Creswell, 2014).

Study Field/Area

In the initial phase, the Health Insurance Board [HIB] formerly known as Social Health Security Programme announced the implementation of HI in three districts (Kailali, Baglung and Ilam) in the fiscal year 2014/15 [2071/72] but enrolment process was started since 7th April 2016 [25th Chaitra, 2072] for Kailali and 29th June 2016 [15th Ashad, 2073] for Baglung and Ilam respectively (Social Health Security Development Committee, 2017a). The programme has been gradually expanded and now has covered some 48 districts of Nepal (Health Insurance Board, 2019). Among the three districts, I chose Kailali from Terai and Baglung from Hill. A total two districts have been selected for the study. Baglung district lies nearly the central west part of Nepal whereas Kailali lies in the south-west and between boarder of Nepal and Uttar Pradesh of India. Baglung lies in the hill part of Nepal and Kailali located in the plain area called Terai.

Figure 5. Map of Nepal with Study Area: Baglung and Kailali

Population and Sample Size

All households that were enrolled in HI residing within the study area were the population of the study and in the same way, all households that were not enrolled in the HI were the population for the study. There were 4488 and 5291 households enrolled in HI by mid-January, 2018 respectively from Kailali and Baglung according to the record of Health Insurance Board, District Offices. So the total population of the study for the enrolled household was 9779 and 194223 non-enrolled households. The study needed two types of sample: enrolled and non-enrolled households. The sample size was calculated by using Daniel's formula (Acharya et al., 2019; Naing, Winn, & Rusli, 2006):

$$\eta = [z^2 \rho (1 - \rho)]/d^2$$

Where,

n = sample size,

z = level of confidence,

ρ = expected prevalence (assuming 50/50 probability or 50%) (50%, ρ = 0.5), and

d = accepted margin of error (5% that is 0.05).

Therefore, the unadjusted sample size equals 384.16 or 385 and the adjusted sample size equals to unadjusted sample size divided by the response rate. The sample size was also calculated by using the online software SurveyMonkey, where the population size was 204002, confidence level 95 percent and five percent margin of error (Sample size calculator, 2019). It also showed the same size of samples.

By adjusting the non-response rate of five percent as experienced in the province-based average at the latest national representative Nepal Demographic and

Health Survey 2016 (Ministry of Health et al., 2017), it came out to be 405 for

enrolled households and the same size of the sample was allocated/taken for the non-

enrolled household assuming that enrolled and non-enrolled HH had an equal

opportunity and chances for access to information, healthcare, and other practices.

Therefore, the total sample size was 810 households. According to the latest census

2011, the total number of households was 61,522 and 142,480 [total 204,002] in

Baglung and Kailali districts respectively (Central Bureau of Statistics, 2014).

Proportionately, the sample size for Kailali accounted for 566 [283 for the enrolled

and 283 for the non-enrolled households] and Baglung 244 [122 for the enrolled and

122 for the non-enrolled households].

Sampling Procedure

There were two types of samples: enrolled households and non-enrolled

households. For the selection of enrolled households, the list of the enrolled

households was obtained from Health Insurance Board, district offices: Kailali and

Baglung respectively. The household list was enlisted into numeric number/order then

the sample was selected by using a lottery number generator [available at

www.google.com] for enrolled household and the proximal non-enrolled household

was taken for the non-enrolled sample. In the case of more than one non-enrolled

household nearby the enrolled household then the simple random sampling was

applied to select the non-enrolled household and the equal sample size was made for

the non-enrolled sample.

Data Collection Tool

Interview schedule [IS] was used for data collection [Appendix I]. The IS had

eight sections that consisted: household's profile; socio-demographic status; HI

related information; IEC related information; PSA related information; HBM

components related question; feelings, opinions and perception about HI; and household's wealth status. The IS was 14 pages with the consent form on the first page.

Validation of Tool

For the reliability and validity of IS, it was tested at different places at Baglung, Kailali, Palpa, then again in Kailali. Initially, my PhD supervisor and I revised the tool. Then, consulted with a statistician to ensure more validity and reliability of the tool. Five percent (42 samples: 21 enrolled and 21 non-enrolled) of the total sample was used to test in Baglung, Kailali, and Palpa. As per the guidance of the supervisor and statisticians, it was corrected, edited and further deleted and added some variables and calculated Cronbach's alpha for reliability analysis [Table 6]. Major amendments of the IS were made as follows:

Table 6. *Test, Retest and Amendment of Interview Schedule*

Pre-test	Date	Place	Amendment/revisions/corrections	Remarks
First	2074/06/06 to 08 (22 to 24/09/2017)	Baglung	The socio-demographic and insurance-related question made and IS divided into two sections, some attributes of variables changed/corrected	Tested at Baglung Bazar
Second	2074/07/01 to 03 (18 to 20/10/2017)	Kailali	Wealth related questions added in a separate section, Likert's scale set for opinions and perception, IEC and PSA related questions added, Skip pattern and multiple choices added in some questions, IS edited for code structure for data entry, household's profiles incorporated, the positive and negative statement added in Likert type scale	Re-tested at Dhangadhi

Third	2074/10/23 to 27 (06 to 10/02/2018)	Palpa	Attributes of some variables added corrected, HBM related questions added, a total eight section made, section seven amended, the three-point scale made for opinion questions from a five-point scale, and PSA incorporated.	Calculated Cronbach's alpha (result - 0.734).
Fourth	2074/11/10 to 12 (22 to 24/02/2018)	Kailali	Consent form added, separate IS form for enrolled and non-enrolled household developed	Interview schedule finalized

Before the finalization of IS, it was tested, re-tested, amended and Cronbach's alpha for the Likert type scale was calculated. For the opinion and feeling of respondents on HI, it was merged at three-point scale in the nearness for Likert's type scale statements. The Cronbach's alpha was 0.734 which was eligible to administrate since the acceptable value was more than 0.70 (Hair, Black, Babin, & Anderson, 2014). The final version of IS has been attached in Appendix I.

Inclusion and Exclusion Criteria

The household enrolled before January 15th, 2018 were included in the study. Households enrolled other than the HIB [formerly SHSDC] were excluded. Information was obtained mostly from household heads [HHs]. Therefore, the reliability of information was based on the HHs or other member who responded. Households that were supported by local authorities, individuals, charity available for poor and ultra-poor for enrolment were excluded. The respondents who rejected to respond were excluded.

Data Collection Procedure

First of all, I requested the Faculty of Education [FoE], Tribhuvan University [TU] for an official letter to Nepal Health Research Council [NHRC] and Health

Insurance Board [HIB] formerly Social Health Security Development Committee [SHSDC], Teku. Simultaneously, I submitted an online application to NHRC for ethical approval which was mandatory for health research.

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                        ┌──────────────────┐
                        │ Process Beginning │
                        └──────────────────┘
          ┌─────────┐         │          ┌──────────┐
          │ FoE, TU │         │          │   NHRC   │
          └─────────┘         ▼          └──────────┘
                   ┌──────────────────────┐
                   │   HIB, Teku, Kathmandu │
                   └──────────────────────┘
                             │
                   ┌──────────────────────┐
                   │  HIB, District Offices │
                   │    Baglung, Kailali    │
                   └──────────────────────┘
                             │
                   ┌──────────────────────┐
                   │  Enrolment Assistants  │
                   └──────────────────────┘
                             │
                   ┌──────────────────────┐
                   │   Enrolled Households  │
                   └──────────────────────┘
  ┌────────────────────────┐     │     ┌────────────────────────┐
  │ Non-enrolled Households │     │     │ Non-enrolled Households │
  └────────────────────────┘     ▼     └────────────────────────┘
                   ┌──────────────────────┐
                   │      Respondents       │
                   └──────────────────────┘
```
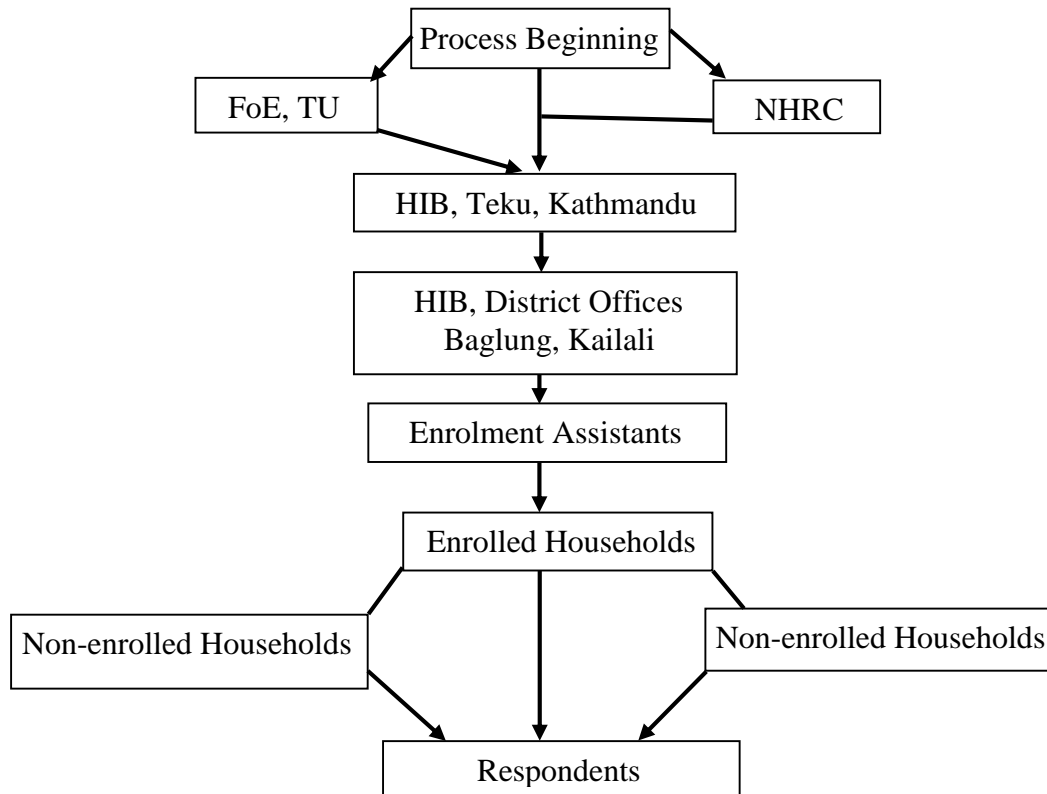
Figure 6. Data Collection Procedure

After getting the ethical approval I did request HIB with my application, the official letter from FoE, TU and the ethical approval from NHRC for data of enrolled household and cooperation. I obtained a letter from HIB, Teku that forwarded a letter to HIB district office Kailali and Baglung to provide data available there about the enrolled households' information. I met enrolment assistant and found enrolled households. HHs were interviewed for data collection. In case of absence or rejection to get involved by HH, another senior member was selected as a respondent or another household was selected as a sample. Similarly, the proximal non-enrolled household was selected for the non-enrolled sample. If more than one household was there, then simple random sampling was administrated for the selection of a

household. Respondents were informed about study objectives and written consent [if respondents were literate] was taken before the interview. Data were collected at respondents' house or at the place where they felt comfortable to answer.

The average time to interview was 25 minutes and the response rate was one hundred percent for the dependent variable because if the respondent did not want to respond then another member of the household was selected however about five percent of non-response rate was detected in some independent and intervening variables but data were collected from more than the unadjusted sample size. Data were collected from 20th March 2018 and 16th April 2018 and took 35 and 40 days respectively in Kailali and Baglung.

Data Quality Management and Analysis

I have maintained four steps to maintain the quality of data. First, the interview schedule was checked right after the collection of data from the respondent. Data were inspected and edited to omit the errors before entry. IBM SPSS Statistics 20 software was used for data entry and statistical analysis. I prepared a codebook for data entry in SPSS. Second, 20 percent [162] of the total samples were rechecked and cross-checked for reducing the mistake during data entry. Some errors were corrected/edited. Data entry was started on 16th May 2018 and completed on 5th August 2018. Third, individual variable frequency checked for ensuring the quality of data. For the analysis of data univariate, bivariate and multivariate analyses were performed as per the variables' nature and objective of the study. The confidence level was marked at 95 percent so the significance value was considered at p-value <0.05. I prepared tables for statistical analyses as per the consultation with the supervisor and statisticians. Finally, the data was handled by an authorized person

only which means I handled the data. These are the common measures to maintain the quality of quantitative data.

Sources of Secondary Data and Literature

Supporting information, data, as well as statistics, were gathered by online searches from Google Scholar, PubMed, HINARI (Health Inter-Network Access to Research Initiative), Research Gate, JSTOR (Journal Store), and web sites of the Ministry of Health and Population, Department of Health Services, Health Insurance Board, Ministry of Finance, World Health Organization, World Bank, and Central Bureau of Statistics, Nepal and printed copy from TU Central Library, Library of Graduate School of Education, FoE, TU, Kirtipur, and various reports from concerned organizations. For online search, the main search terms were, but not limited to,: '[health insurance]', '[information, education and communication]', '[health belief model]', '[policy and practice]', [theory of motivation]', '[social marketing]', '[theory of planned behaviour]', '[theory of reasoned action]', '[Transtheoretical model]', '[willingness to pay]', '[communication strategy]', '[attitude and perception]', and their synonyms with appropriate use of Boolean operator [AND, OR, NOT], truncation [*], and wildcard [?]. Some works were searched from bibliographic references [information] from other articles.

Ethical Consideration

There are basic ethical principles for conducting research. According to the Belmont report (Department of Health, Education, and Welfare, 1979): respect of respondents; beneficence; and justice are the core values of ethical principles. Since I had neither right nor intention to harm the respondents, I did fully follow the basic ethical issues during my research work and even after the completion of the research. I completed all administrative procedures from concerned authorities. Besides these, I

obtained ethical approval from the Nepal Health Research Council on 15th February 2018 [Ref. 1807, Reg. no. 473/2017] [Appendix II].

The research had been conducted at the principle of 'no harm'. So, the researcher did not intentionally harm any respondents neither physically nor psychologically. After getting ethical approval it was handed over to Health Insurance Board [HIB], Teku Kathmandu with the official letter of the Faculty of Education, Tribhuvan University for making legitimacy. I obtained a letter from HIB [Appendix III] and it was handed over to the HIB district offices Kailali and Baglung. HIB district offices provided another letter for Enrolment Assistant and local authorities [Appendix IV] which was handed over to the concerned authorities after that their permission was taken for data collection. I was aware of research with human participants. The respondents were informed and written consent was taken from the literate respondents before the interview and verbal consent was taken for the illiterate respondents and the shy respondents who hesitated to sign in the consent form.

Almost all the respondents agreed for written consent only a few respondents hesitated to provide written consent but accepted for verbal consent to respond. The respondents were informed about the purpose and objective of the study and requested to participate voluntarily. The information obtained from respondents was kept confidential with anonymity since I had promised them to kept their information confidential. Besides these, the respondents had the right to quit, reject to participate or not to participate in the interview. I did carry out the data collection procedure with due respect to the cultural and social norms of the respondents. The information from respondents was not been manipulated. I followed the National Ethical Guidelines for Health Research in Nepal and Standard Operating Procedure published by NHRC and the Ethical Compliance Checklist made by the American Psychological

Association throughout the process of research (American Psychological Association, 2010; Nepal Health Research Council, 2011).

Chapter Summary

The study was based on a cross-sectional retrospective survey design and was quantitative. Information was collected from 810 randomly selected from enrolled and non-enrolled HH by using validated IS from Baglung and Kailali Districts. I used IBM SPSS Statistics 20 software for univariate, bivariate, and multivariate analysis. Socio-demographic characteristics, IEC approaches, HBM constructs, perception and feeling on HI were independent variables and enrolment in HI was the dependent variable. NHRC reviewed and approved the research proposal. National Ethical Guidelines for Health Research in Nepal were followed throughout the research process.

CHAPTER VI

Analysis and Interpretation of Data

This chapter presents the analysis of data using univariate, bivariate and multivariate analyses according to the objectives of the study.

Background Characteristics of Household Members

Out of the total 810 households, the total population was 4564. Females occupied more than half (50.5%) and males were a little less than half (49.5%).

Table 7. *Background Characteristics of Households and Family Members*

Characteristics	Attributes	N	%
Gender	Male	2257	49.45
	Female	2306	50.53
	Others	1	0.02
Occupation* [No. 3396]	Service	417	12.28
	Business	304	8.95
	Labour Work	143	4.21
	Foreign Job	250	7.36
	Agriculture	821	24.18
	Study	547	16.11
	Domestic Work	708	20.85
	Social Work	21	0.62
	Without Job	148	4.36
	Others	37	1.09
Educational Status ** [No. 3970]	Illiterate	394	9.92
	Literate	1434	36.12
	Basic education	1158	29.17
	Secondary education	637	16.05
	Bachelor or higher	347	8.74
Age group	Up to 5 years	381	8.35
	6 to 15 years	777	17.02
	16 to 60 years	3049	66.81
	More than 60 years	357	7.82
Total		4564	100.00

Note: ** = Age less than 10 years for educational status, and * = age ≤ 16 years not included for occupational status.

Data show that one quarter (24.2%) household's main occupation was agriculture that consisted of 24.18 percent and 20.9, 16.1, 12.3, 9 percent belonged to

domestic work, study, service and business respectively. Only one out of ten (9.9%) of household members older than 10 years were could not read and write [Table 7]. More than one-third (36.1%) were literate and 29.2, 16.1 and 7.9 percent of the household members completed their basic education, secondary education and bachelor or higher education respectively. In terms of age, more than two-thirds (66.8%) were from the independent age group (16 to 60 years) and 17.0, 8.4, 7.9 percent were from 6 to 15 years, up to 5 years and more than 60 years respectively.

Background Characteristics of Households and Respondents

The study was conducted in Baglung and Kailali Districts of Nepal. A total of 566 (69.9%) respondents were selected from Kailali and 244 (30.1%) were from Baglung District as per population proportion. Out of them, more than one-fourth (25.9%) were selected from the rural area and 74.1 percent from the urban area. Similarly, more than half (51%) were females and the rest of others were males. Of the respondents, nearly two-thirds (65.9%) were household head. Out of the total respondents, 59.5 percent was age 21 to 40 years [Table 8]. The average age of the respondents was 39±13 years and the age group of 41 to 60 years occupied 28.8 percent.

The majority of respondents (43.5%) were from Adibasis/Janajatis per the definition of Ministry of Health and Population, Nepal, 36.2 and 10.9 percent were from Brahman/Chhetri and Dalit respectively. More than nine (91.2%) out of 10 respondents were from Hindu. The majority of respondents (58.3%) expressed the Nepali language as their mother tongue and 29.8 percent of the respondents informed that Tharu was their native language. The main source of income was agriculture which accounted for 67 percent and followed by services, business, labour work and remittance. The majority of the respondents (92.6%) were literate, 30.4 percent were

just literate, 26.4 percent completed basic education, 24.3 percent completed their

secondary education and 11.5 percent completed a bachelor or higher education.

Table 8. *Background Characteristics of Households and Respondents*

Characteristics	Responses	N	%
District	Baglung	244	30.1
	Kailali	566	69.9
Residence	Urban	600	74.1
	Rural	210	25.9
Sex of respondents	Male	397	49.0
	Female	413	51.0
Household head	No	276	34.1
	Yes	534	65.9
The age group of respondents	Upto 20 years	23	2.8
	21 to 40 years	482	59.5
	41 to 60 years	233	28.8
	More than 60 years	72	8.9
Caste	Dalit	88	10.9
	Adibasis/Janajatis	352	43.5
	Madhesi	14	1.7
	Muslim	19	2.3
	Brahman/Chhetri	293	36.2
	Others/Dasnami/Thakuri	44	5.4
Religion	Hindu	739	91.2
	Buddhist	26	3.2
	Islam	19	2.3
	Christian	25	3.1
	Others	1	.1
Mother tongue	Nepali	472	58.3
	Tharu	241	29.8
	Doteli	66	8.1
	Aachhami	3	.4
	Others	28	3.5
The main source of income^	Service	311	38.4
	Business	212	26.2
	Labour work	185	22.8
	Remittance	145	17.9
	Agriculture	543	67.0
	Pension	43	5.3
	Others	23	2.8
Educational status	Illiterate	60	7.4
	Literate	246	30.4

Characteristics	Responses	N	%
	Basic education	214	26.4
	Secondary education	197	24.3
	Bachelor or above	93	11.5
Type of family	Nuclear	332	41.0
	Joint	478	59.0
Size of family	Up to 5 members	457	56.4
	6 to 10 members	340	42.0
	More than 10 members	13	1.6
Wealth status	Poorest	162	20.0
	Poor	162	20.0
	Middle	162	20.0
	Rich	162	20.0
	Richest	162	20.0
Title of expenditure^	Food	437	54.0
	Clothes	618	76.3
	Education	632	78.0
	Healthcare	587	72.5
	Communication	251	31.0
	Transportation	207	25.6
	Others	9	1.1
Income/Production adequate to feed	Throughout the Year	415	51.2
	9 to 12 Months	61	7.5
	6 to 9 Months	90	11.1
	3 to 6 Months	114	14.1
	Less than 3 Months	130	16.0
A family member having chronic diseases	No	530	65.4
	Yes	280	34.6
Types of diseases^	Cancer	5	1.8
	Heart-related	95	33.9
	Respiratory diseases	57	20.4
	Arthritis/Joint-related	62	22.1
	Gastritis	72	25.7
	Diabetes	50	17.9
	Kidney-related	7	2.5
	Mental-related	37	13.2
	Thyroid-related	27	9.6
	Others	16	5.7
Enrolled in the health insurance scheme	No	405	50.0
	Yes	405	50.0
Duration of enrolment	Upto 12 months	196	48.4
	13 to 18 months	101	24.9
	More than 18 months	108	26.7

Characteristics	Responses	N	%
Renewed health insurance	No	236	58.3
	Yes	169	41.7

^ = Percent may exceed than 100 due to multiple responses

Forty-one percent of the total respondents belonged to a nuclear family. More than half (56.4%) families had up to five members in their home and 42 percent families had six to 10 persons and nearly two percent families had more than 10 members in their family. Main expenditure of the respondents was in education followed by utensils/clothes, healthcare, foods, communication and transportation. Majority of the respondents (51.2%) were sustainable to feed their family throughout the year whereas 16 percent expressed they could feed their family for three months or less. More than one-third (34.6%) of the respondents had a family member(s) with some type of chronic disease(s) among them more than one-third (33.9%) had a heart-related health problem. Gastritis, arthritis and respiratory diseases also seem like the most prevalent diseases. More than half (51.6%) of the enrolled households had more than one year of experience of enrolment and more than one-fifth (26.7%) had more than 18-months of experience of membership in the health insurance programme. Nearly 81 percent of the households had renewed their enrolment in health insurance who had more than a year of enrolment experience.

People's Familiarity and Willingness to Pay for Health Insurance

The study was conducted in 810 households of Baglung and Kailali districts using IS in 2018. More than two-thirds [72%] knew health insurance. Similarly, four out of ten [40%] did not know the place where the health services after enrolment. One third [34%] expressed that they know about the contribution amount but 65 percent of the respondents responded the exact [right] answer while interviewing.

Willingness to pay [WTP] mostly depends upon individuals' socio-economic characteristics, satisfaction from the health services available to them, attitudes and

perception towards health insurance. In this study, respondents were asked what was their WTP for health insurance if all possible health services are available to them from the hospital. Most of the respondents [74%] stated that their WTP for health insurance was more than the current contribution amount [at the time of interviewing]. Nearly half [48.8%] of the respondents expressed that they could pay NRs. 501 to 1500 per person per year [1US$ = NRs.119.55]. Similarly, one fourth [25.2%] of the respondents pointed out that they could pay more than NRs. 1500 per person per year. Twenty-six percent of the respondents stated that they could pay equal or less than NRs. 500 [Table 9].

During interviewing there was a provision of NRs. 2500 for a five-member family per year and an additional member had to pay NRs. 500 each for enrolment. A normal five-member family can get up to NRs. 50,000 medical insurance coverage and additional NRs. 10,000 for each additional member with the maximum ceiling of NRs. 100,000 [1US$ = NRs.119.55] (Health Insurance Board, 2017a). However, the contribution amount and coverage mount have been changed after the endorsement of health insurance regulation 2075 (Office of the Prime Minister and Council of Ministers (OPMCM), 2019).

Table 9. *Willingness to Pay for Health Insurance*

Amount (Nepalese Rupees) *	Number	Percent	Mean	Median	Mode	SD	Range	Min.	Max.	Skewness	Std. Er.	Kurtosis	Std. Er.
≤ NRs. 500/-	211	26.0											
NRs. 501 to 1500	395	48.8	1429	1000	1000	1736	24800	200	25000	6.546	0.086	66.696	0.172
> NRs.1500/-	204	25.2											

Note: *per person per year [1US$ = 119.55 Nepalese/Nepali Rupees (NRs.)]

Data show that respondents' average WTP was nearly threefold high than the contribution amount [500 vs 1429] however the contribution amount has been increased to NRs. 700 per member per year since 2019. Still, people's WTP for HI

seemed two-fold higher than the contribution amount. The data show that the mean, median, mode, standard deviation, range were 1429, 1000, 1000, 1736, 24800 Nepalese rupees respectively [1US$ = NRs.119.55]. Data further show that asymmetry result from the normal curve, with positively skewed and positive kurtosis or Leptokurtic that means more picked than the normal distribution of data (Hair et al., 2014). It showed a wide range of respondents' WTP.

Respondents'/Households' Characteristics and WTP for HI

Data show that most of the socio-demographic characteristics were significantly associated with WPT for HI. Respondents' districts, gender, household headship, respondents' native language, wealth status, family members having chronic diseases, enrolment in HI, knowledge of HI, exposure to mass media: radio and TV, and access to health facilities were significantly associated with WTP for HI.

The respondents who lived in Baglung had more WTP than the respondents who live in Kailali [1978 vs 1192, p<0.001]. Males respondents had more WTP [1610] than females [1255, p<0.01]. In the same way, household head [HHH] had more WTP than not being HHH [1520>1251, p<0.05] [Table 10]. The respondents, whose mother tongue was Nepali, had more WTP than other language speakers as mother tongue [1617 > 1166, p<0.001]. No doubt that rich HHs have more WTP compared to the poor. Data show that rich respondents had more WTP the poor [1638 > 1221, p<0.001]. The HH having a member(s) with some kind of chronic disease(s) had more WTP compared to the HH not having chronic diseases within family members [1623 > 1326, p<0.05]. Similarly, the enrolled HH had more WTP compared to non-enrolled HH [1627 > 1230, p<0.001]. The respondents, who knew HI, had more WTP compared to those who had not [1540 > 1141, p<0.001].

Table 10. *Sociodemographic Characteristics and WTP for HI*

Variables	Attributes	N	Mean	SD
District***	Baglung	244	1977.64	1992.87
	Kailali	566	1191.83	1555.98
Place of residence	Urban	600	1396.80	1776.97
	Rural	210	1519.25	1614.13
Sex**	Male	397	1609.59	1872.41
	Female	413	1254.51	1576.84
Age	≤37 years	414	1396.39	1898.23
	>37 years	396	1462.16	1550.21
Household headship*	No	276	1251.06	1318.62
	Yes	534	1520.28	1911.22
Caste	Others	458	1447.75	1646.31
	Aadibasi/Janajatis	352	1403.55	1848.44
Religion	Others	71	1467.27	1396.59
	Hindu	739	1424.82	1765.99
Native language***	Others	338	1165.69	1408.16
	Nepali	472	1616.78	1916.49
Literary status	Illiterate	60	1273.13	982.99
	Literate	750	1440.98	1782.46
Type of family	Nuclear	332	1507.67	2066.55
	Joint	478	1373.59	1463.16
Family size	> 5 members	353	1374.47	1464.82
	≤5 members	457	1470.32	1920.09
Wealth status***	Poor	407	1221.25	1267.82
	Rich	403	1637.90	2086.76
Chronic diseases within Family members*	No	530	1325.98	1584.90
	Yes	280	1622.69	1979.60
Enrolled in HI***	No	405	1230.08	1458.02
	Yes	405	1627.01	1957.18
Knowledge on HI**	No	227	1141.14	1550.12
	Yes	583	1540.45	1792.10
Listened HI information from Radio/FM**	No	424	1299.76	1770.50
	Yes	386	1570.00	1688.43
Watched HI related information on TV**	No	500	1287.65	1860.71
	Yes	310	1655.79	1488.56
Access to health facility**	>30 minutes	225	1217.13	1098.81
	≤30 minutes	585	1509.86	1920.46
Total		810	1429	1736

Note: significant at *p<0.05, **p<0.01, ***p<0.001 [1US$ = NRs.119.55]

The respondents who listened to HI related message from radio had more

WTP compared to those who did not listen [1570 >1300, p<0.01]. Similarly, the

respondents, who watched HI related message from TV, had more WTP compared to

those who did not watch [1656 > 1288, p<0.01]. The distance to receive health

services had also meaningful for WTP for HI. The respondents who had access to health facilities within a half an hour had more WTP compare to those who had access to health facilities more than 30 minutes [1510 >1217, p<0.01]. All these data show that socio-demographic variables were significantly associated with WTP for HI.

Multivariate Analysis of Sociodemographic Variables and WTP for HI

Data show that socio-demographic characteristics of the HH influence on the WTP for HI. Some characteristics such as respondents' district, the gender of respondents, age group, household headship, the ethnicity of respondents, enrolment in HI, and access to health facilities were the significant predictors for WTP. The respondents who lived in Kailali had less likely to have WTP compared to Baglung [β = -.178, p<0.001] [Table 11]. Similarly, female respondents had less likely to have WTP compared to male [β = -.076, p<0.05]. In the same way, the respondents of age more than 37 years had less likely to have WTP compared to those who had age less or equal to 37 years [β = -.090, p<0.05]. But household headship had more likely to have WTP comes pared to those who were not household head [β = .078, p<0.05]. Likewise, in the case of ethnicity, Adibasis/Janajatis had more likely to have WTP for HI compared to others castes [β = .108, p<0.05] (Acharya, Devkota, & Adhikari, 2018).

The enrolled households had more likely to have WTP compare to the non-enrolled household [β = .110, p<0.05] and access to health facilities within 30 minutes seemed more likely to have WTP compared to the household that takes more than 30 minutes to reach the health facilities [β = .091, p<0.05] [Table 11]. Data further show that place of residence [rural], mother tongue [Nepali], wealth status [rich], HH having members with chronic diseases, and listened and watched HI

related message from Radio or TV tended to be more likely to have WTP. But,

respondents knowing HI, HH having less than five members, joint family, literate

respondents, Hindu respondents were less likely to have WTP.

Table 11. *Coefficient of Sociodemographic Variables on WTP for HI*

Variables	Attributes	β	t
District	Baglung (ref.)		
	Kailali***	-.178	-4.116
Place of residence	Urban (ref.)		
	Rural	.067	1.840
Sex	Male (ref.)		
	Female*	-.076	-2.007
Age	≤37 years (ref.)		
	>37 years*	-.090	-2.240
Household headship	No (ref.)		
	Yes*	.078	1.961
Caste/ethnicity	Others (ref.)		
	Aadibasi/Janajatis*	.108	2.116
Religion	Others (ref.)		
	Hindu	-.039	-1.094
Native language	Others (ref.)		
	Nepali	.026	.513
Literary	Illiterate (ref.)		
	Literate	-.002	-.042
Family type	Nuclear (ref.)		
	Joint	-.060	-1.395
Family size	> 5 members (ref.)		
	≤5 members	-.006	-.131
Wealth status	Poor (ref.)		
	Rich	.070	1.817
Food sufficiency	<a year (ref.)		
	≥a year	-.001	-.019
Enrolled in HI	No (ref.)		
	Yes*	.110	2.591
Knowledge on HI	No (ref.)		
	Yes	-.007	-.160
Listened HI information from Radio/FM	No (ref.)		
	Yes	.028	.723
Watched HI related information on TV	No (ref.)		
	Yes	.016	.397
Access to a health facility	>30 minutes (ref.)		
	≤30 minutes*	.091	2.516
Constant		2.776**	2.776

Adjusted R Square	0.073	

Note: significant at *p<0.05, **p<0.01, ***p<0.001

Respondents' Perception of Health Insurance

Out of the total respondents, the majority (57.9%) agreed with the statement that anyone can enrol easily in health insurance or there is no difficulty to enrol. However, 23.3 percent disagreed and the remaining were neutral (18.8%). Forty-six percent of the total respondents agreed that the primary service point was suitable for them but more than one-third (34.6%) disagreed with that statement. The majority of the respondents agreed that the contribution amount was appropriate, however, one-fifth of them did not agree with the statement. More than half (53.5%) of the respondents stated that the coverage amount was appropriate but one-fifth of the respondents disagreed with the statement.

Table 12. *Perception and Attitudes Towards Health Insurance and Enrolment*

Variable	Category	N	%
Anyone can easily enrol in health insurance or there is no difficulty to enrol	Disagree	89	23.3
	Neutral	52	18.8
	Agree	69	57.9
The primary service point is suitable for me to receive health services	Disagree	280	34.6
	Neutral	157	19.4
	Agree	373	46.0
The contribution amount is appropriate	Disagree	164	20.2
	Neutral	204	25.2
	Agree	442	54.6
The coverage amount is appropriate	Disagree	162	20.0
	Neutral	215	26.5
	Agree	433	53.5
My family is susceptible to diseases or health problems	Disagree	113	14.0
	Neutral	271	33.5
	Agree	426	52.6
There may be financial loss and other problems if any of my family members become sick	Disagree	63	7.8
	Neutral	151	18.6
	Agree	596	73.6
Enrolment in health insurance may solve the aforementioned health problems	Disagree	235	29.0
	Neutral	291	35.9
	Agree	284	35.1

Variable	Category	N	%
Proper dissemination of IEC materials may help to enrol in health insurance	Disagree	113	14.0
	Neutral	187	23.1
	Agree	510	63.0
The health services [available at free of cost] provided by the government is not satisfactory	Agree	311	38.4
	Neutral	244	30.1
	Disagree	255	31.5
The health service quality provided by GoN has not been improved after health insurance programme launched	Agree	330	40.7
	Neutral	265	32.7
	Disagree	215	26.5
Existing IEC materials for health insurance is not appropriate and sufficient	Agree	379	46.8
	Neutral	229	28.3
	Disagree	202	24.9
Health insurance-related queries are addressed in time	Disagree	361	44.6
	Neutral	281	34.7
	Agree	168	20.7
Health insurance-related complaints are not addressed in time	Agree	400	49.4
	Neutral	249	30.7
	Disagree	161	19.9
It is not easy to receive health services even after enrolment in health insurance	Agree	422	52.1
	Neutral	220	27.2
	Disagree	168	20.7
Neighbours/Peers or friends did not request me to enrol	Agree	358	44.2
	Neutral	110	13.6
	Disagree	342	42.2
Health insurance-related information is not adequate from communication media	Agree	383	47.3
	Neutral	196	24.2
	Disagree	231	28.5

The majority of the respondents agreed with the statement that their family members were susceptible to diseases but 14 percent did not accept the statement. Nearly three fourth of the respondents agreed with the statement that there may be financial trouble due to health problem however 7.8 percent did not agree to it. More than one-third (35.1%) agreed with the statement ' enrolment in health insurance may solve the health problems but 29 percent did not accept the statement. Nearly two thirds (63%) of the respondents accepted the statement 'proper dissemination of information, education and communication materials may help to enrol' but 14

percent refused the statement. More than one-third (38.4%) of the respondents agreed with the statement 'quality of health services provided free of cost was not satisfactory', however, 31.5 percent of the respondents did not accept the statement. More than four out of 10 (40.7%) of the respondents agreed with the statement that the quality of health services was not improved after enrolment but more than one-fourth (26.5%) agreed with it [Table 12].

Nearly half of the respondents agreed with the statement 'information, education and communication materials were not sufficient but 24.9 percent did not agree with that statement. Nearly 45 percent of the respondents disagreed on 'health insurance-related queries were addressed in time' but 20.7 percent agreed with the statement. Similarly, nearly half (49.4%) of the respondents considered health insurance-related complaints were not addressed in time while one-fifth (19.9%) disagreed with it. More than half (52.1%) of the respondents agreed with the statement 'receiving services were not easy even after enrolling in health insurance'.

Four out of ten of the respondents agreed with the statement 'neighbours or peers/relatives did not request to enrol in health insurance' but nearly the same (42.2) percent did not agree to it. Nearly half (47.3%) of the respondents agreed with the statement 'health insurance-related information was not adequate, but more than a quarter (28.5%) disagreed with that statement.

Opinion and Perception of Health Insurance and Enrolment

Of the total respondents, 63 percent of the enrolled respondents agreed on the statement on 'anyone can enrol easily in health insurance' whereas 42 percent did not agree on that statement (p<0.001). One-fifth (20%) was neutral. Six out of ten (60%) of the enrolled respondents agreed with that 'primary service or the first point of the service is suitable for me' but 46 percent who were enrolled in health insurance

disagreed on that statement (p<0.001). The majority of the respondents (60%) enrolled in health insurance opined that statement 'current contribution amount was appropriate' but 43 percent of the enrolled respondents expressed that it was not (p<0.001). More than half (59%) of the enrolled respondents agreed on the statement 'current coverage amount was appropriate' (p<0.001). More than half (53%) of the enrolled respondents agreed with the statement 'my family was susceptible to diseases' while 49 percent of the enrolled respondents disagreed with that statement. The majority of the respondents (52%) enrolled in health insurance agreed with the statement 'there may be financial loss and other problems if any of my family members become sick' but 52 percent of the enrolled respondents disagreed with the statement.

Fifty-nine percent of the enrolled respondents agreed with the statement enrolment in health insurance may solve health and financial problems' but 53 percent disagreed with the statement (p<0.001). The majority of the respondents (51%) who enrolled in the health insurance agreed with the statement 'proper dissemination of information, education and communication materials may help to enrol in health insurance' but 53 percent of the enrolled respondents disagreed with that statement. The majority of the respondents (57%) who enrolled in health insurance disagreed on the statement 'health service [at free of cost] quality provided by the government is not satisfactory' but more than half (51%) enrolled respondent agreed with that statement (p<0.001) [Table 13].

Nearly two-thirds (65%) of the enrolled respondents disagreed with the statement 'health service quality provided by the government has not been improved after launching of health insurance programme' however the majority (52%) of the enrolled respondents agreed with the statement (p<0.001). Fifty-eight percent of the

enrolled respondents disagreed that 'information, education and communication material was not sufficient' but 53 percent of enrolled respondents agreed with that statement (p<0.001). Two third (67%) of the respondents who enrolled in health insurance agreed with the statement 'health insurance-related queries are addressed in time' but less than half (49%) of the respondents disagreed with that statement (p<0.001).

Table 13. *Opinions and Perception of Health Insurance and Enrolment*

Variables	Category	Enrolled in health insurance				Chi-Square	P-Value
		No		Yes			
		N	%	N	%		
Anyone can easily enrol in HI or there is no problem to enrol.	Disagree	110	58.2	79	41.8	93.027	<0.001
	Neutral	122	80.3	30	19.7		
	Agree	173	36.9	296	63.1		
The primary service point is suitable for me.	Disagree	151	53.9	129	46.1	36.892	<0.001
	Neutral	106	67.5	51	32.5		
	Agree	148	39.7	225	60.3		
The contribution amount for HI is appropriate	Disagree	94	57.3	70	42.7	45.328	<0.001
	Neutral	136	66.7	68	33.3		
	Agree	175	39.6	267	60.4		
The coverage amount for HI is appropriate.	Disagree	87	53.7	75	46.3	32.340	<0.001
	Neutral	139	64.7	76	35.3		
	Agree	179	41.3	254	58.7		
My family is susceptible to diseases or health problems.	Disagree	58	51.3	55	48.7	4.226	0.121
	Neutral	148	54.6	123	45.4		
	Agree	199	46.7	227	53.3		
There may be financial loss and other problems if any of my family members become sick.	Disagree	30	47.6	33	52.4	4.317	0.115
	Neutral	87	57.6	64	42.4		
	Agree	288	48.3	308	51.7		
Enrolment in HI may solve the afore mentioned problems.	Disagree	111	47.2	124	52.8	23.161	<0.001
	Neutral	177	60.8	114	39.2		
	Agree	117	41.2	167	58.8		
Proper dissemination of IEC materials may help to enrol in HI.	Disagree	53	46.9	60	53.1	2.646	0.266
	Neutral	103	55.1	84	44.9		
	Agree	249	48.8	261	51.2		
The health service quality provided by the GoN is not satisfactory.	Agree	151	48.6	160	51.4	14.301	<0.001
	Neutral	145	59.4	99	40.6		
	Disagree	109	42.7	146	57.3		

Variables	Category	Enrolled in health insurance				Chi-Square	P-Value
		No		Yes			
		N	%	N	%		
Health services quality has not been improved after HI programme launched	Agree	158	47.9	172	52.1	41.428	<0.001
	Neutral	171	64.5	94	35.5		
	Disagree	76	35.3	139	64.7		
Existing IEC materials for HI are not appropriate and sufficient.	Agree	177	46.7	202	53.3	22.573	<0.001
	Neutral	144	62.9	85	37.1		
	Disagree	84	41.6	118	58.4		
HI related queries are addressed in time	Disagree	184	51.0	177	49.0	27.347	<0.001
	Neutral	165	58.7	116	41.3		
	Agree	56	33.3	112	66.7		
HI related complaints are not addressed in time.	Agree	191	47.8	209	52.3	13.470	<0.001
	Neutral	147	59.0	102	41.0		
	Disagree	67	41.6	94	58.4		
It is no easy to take health services even after enrolment.	Agree	194	46.0	228	54.0	26.715	<0.001
	Neutral	142	64.5	78	35.5		
	Disagree	69	41.1	99	58.9		
Relatives or friends did not request or discuss for enrolment	Agree	218	60.9	140	39.1	48.713	<0.001
	Neutral	65	59.1	45	40.9		
	Disagree	122	35.7	220	64.3		
HI related information is not adequate from communication media.	Agree	196	51.2	187	48.8	15.590	<0.001
	Neutral	116	59.2	80	40.8		
	Disagree	93	40.3	138	59.7		

Fifty-eight percent of the total enrolled respondents disagreed with the statement on 'health insurance-related complaints are not addressed in time' whereas 52 percent of the enrolled respondents agreed with that statement (p<0.001). Fifty-nine percent of the enrolled respondents disagreed with the statement 'it is not easy to receive health services even after enrolment in health insurance' but 54 percent of the enrolled respondents agreed with the statement(p<0.001). Sixty-four percent of the enrolled respondents disagreed with the statement 'relatives, friends or neighbours do/did not request me to enrol in health insurance' however, 39 percent of the enrolled respondents agreed that (p<0.001). Nearly six out of ten (60%) of the enrolled respondents disagreed with the statement 'health insurance-related information is not

adequate from communication media' but 49 percent of the enrolled respondents

agreed with the statement (p<0.001).

Perceived Susceptibility and Severity of Diseases or Health Problems

Out of the total 810 respondents, nearly half (47.7%) expressed that they were

susceptible to health problems. Among them, nearly two-thirds (64.8%) stated that

they were susceptible to non-communicable diseases. More than half (55.2%) of the

respondents felt that they were susceptible to health problems related to

accidents/injuries. Similarly, 50.8 percent said they were susceptible to communicable

diseases and one-third (33.2%) expressed that they were susceptible to surgical cases.

Of the total respondents, 39.1 percent felt some type of health problem within the past

six months. Nearly two-thirds (64.7%) of them said minimum one member of their

family had felt health problem and one-third (36.9%) of them were admitted to the

hospital for treatment. Most of the respondents (72.2%) had access to health facilities

within half an hour and the average time to reach to visit health facilities was 30±22

minutes. Nearly one-fourth of the respondents (23.5%) had access to health

institutions within 30 minutes to an hour. The majority of the respondents (54.7%)

used to go health facilities on foot for treatment, more than one third (36.8%) used

Bicycle, 19.9 percent of the respondents went healthcare centre by Motorcycle, 16.3

percent used Taxi and 15.1 percent took Auto/E-Rickshaw to visit health

organizations for treatment or health services. Most of the respondents (62%)

managed financial loss due to diseases by borrowing money from relatives and

neighbours [Table 14]. Six out of ten (60.1%) respondents managed financial loss by

Bank deposit, more than half (54.2%) by collect money at home, 18.8 percent

managed by taking a loan from banking institutions, 13.2 percent managed by selling

their assets. More than three-fourth (77.2%) of the respondents expressed economic

load by the consequence or severity of health problems. More than two-thirds stated that tension was the severity of the health problems and 62.7 percent expressed family difficulties by the severity of health problems. The majority of the respondents (61.1%) stated that the economic status of the people was the problem to enrol, 48.6 percent stated the problem to receive health services, 31 percent told health facility in the distance, 25.2 percent expressed ignorance by the health personals and 22.6 percent indicated lack of trust to government health services were the main causes to hamper on enrolment.

Table 14. *Perceived Susceptibility and Severity of Potential Health Problems*

Variables	Category	N	%
Susceptible to health problem	No	424	52.3
	Yes	386	47.7
Susceptible health problem^	Communicable Diseases	196	50.8
	Non-communicable Diseases	250	64.8
	Accident/Injuries	213	55.2
	Operation related Cases	128	33.2
	Others	21	5.4
Suffered from any health problem in the last six months	No	493	60.9
	Yes	317	39.1
Number of a family member having health problem in the last six months	1 Member	205	64.7
	2 Members	88	27.8
	3 Members	13	4.1
	4 or More Members	11	3.5
Family member admitted in hospital in last 6 months	No	200	63.1
	Yes	117	36.9
Time to reach health facilities	Upto 30 minutes	585	72.2
	31 to 60 minutes	190	23.5
	More than 60 minutes	35	4.3
Mode of transport to visit health facilities^	On Foot	443	54.7
	Bicycle	298	36.8
	Motor Cycle	161	19.9
	Ambulance	9	1.1
	Bus	118	14.6
	Taxi	132	16.3
	Jeep	66	8.1
	Auto/E-Rickshaw	122	15.1
	Others	2	.2
Financial loss managed by ^	Bank Deposit	487	60.1
	Collect Money on Home	439	54.2

Variables	Category	N	%
	Borrowed From Neighbour/Relatives	502	62.0
	Loan From Bank	152	18.8
	Remittance	71	8.8
	Sales of Asset	107	13.2
	Others	23	2.8
The severity of health problem^	Economic Load	625	77.2
	Family Problem	508	62.7
	Tension	552	68.1
	Leading to Poverty	117	14.4
	Others	17	2.1
Problems to enrol^	Economic Problem	495	61.1
	Problem to Receive Services	394	48.6
	Health Facility in Distance	251	31.0
	Ignorance by Health Personnel	204	25.2
	Lack of Trust	183	22.6
	Others	95	11.7
Service available after enrolment^	General Treatment/Medicine	533	65.8
	Doctor's Consultation	353	43.6
	Operation/Surgery	160	19.8
	Bed Charge	179	22.1
	Laboratory Services	192	23.7
	Radiology Services	77	9.5
	Specialized Care	77	9.5
	Unknown	228	28.1
	Others	26	3.2
Family member are/were agreed to enrol in HI	No	223	27.5
	Yes	587	72.5
Family member in aboard	No	566	69.9
	Yes	244	30.1
Motivated by neighbour to enrol	No	399	49.3
	Yes	411	50.7
Want to recommend to enrol to others	No	72	17.8
	Yes	333	82.2
The inquiry made by any organization	No	344	84.9
	Yes	61	15.1

Note: ^ = percent may exceed than 100 due to multiple responses

Nearly two-thirds of the respondents (65.8%) expressed that general treatment could be available after enrolment, 43.6 percent stated access to medical consultation, 23.7 percent expressed laboratory services, 22.1 percent expressed bed charge and nearly one-fifth of the respondents said service of operation and surgery would be available after enrolment in HI. However, more than one-fourth (28.1%) of the

respondents were unknown about services that were available after enrolment.

Similarly, 72.5 percent conveyed that their family members were agreed to enrol.

Three out of 10 of the respondents had at least one family member aboard at the time

of interviewing. More than half (50.7%) of the respondents wanted to be enrolled by

the neighbours. Out of the enrolled respondents, 82.2 percent wanted to recommend

others to enrol and 84.9 percent of the enrolled respondents informed that nobody

asked them about health insurance services after their enrolment.

Perceived Susceptibility and Severity of Health Problems and Enrolment

Out of the total respondents, 59 percent enrolled in health insurance expressed

that they were susceptible to health problems (p<0.001) whereas 42 percent of

enrolled respondents stated that they were not susceptible to any health problem.

Nearly two-thirds (63%) of the enrolled respondents said they were susceptible to

communicable diseases, 59 percent expressed that they were susceptible to accidents

or injuries and 58 percent to non-communicable diseases and surgical health

problems.

Table 15. *Severity and Susceptibility of Diseases and Enrolment*

Variables	Category	Enrolment in HI				Chi-Square	P-Value
		No		Yes			
		N	%	N	%		
Susceptible to health problem	No	246	58.0	178	42.0	22.885	<0.001
	Yes	159	41.2	227	58.8		
Susceptible health problem^	Communicable diseases	73	37.2	123	62.8	7.565	0.182
	Non-communicable diseases	106	42.4	144	57.6		
	Accident/Injuries	88	41.3	125	58.7		
	Operation related cases	54	42.2	74	57.8		
	Others	4	19.0	17	81.0		
Felt any health problem in the last 6 months	No	289	58.6	204	41.4	37.447	<0.001
	Yes	116	36.6	201	63.4		
	1 member	80	39.0	125	61.0	2.150	0.341

Variables	Category	Enrolment in HI				Chi-Square	P-Value
		No		Yes			
		N	%	N	%		
Number of family member affected	2 members	30	34.1	58	65.9		
	≥ 3 members	6	25.0	18	75.0		
Family member admitted in hospital in last 6 months	No	70	35.0	130	65.0	0.593	0.441
	Yes	46	39.3	71	60.7		
Time to reach health facilities	≤ 30 minutes	286	48.9	299	51.1	1.072	0.585
	31 to 60 minutes	100	52.6	90	47.4		
	> 60 minutes	19	54.3	16	45.7		
Mode of transport for healthcare^	On foot	234	52.8	209	47.2	13.421	0.098
	Bicycles	153	51.3	145	48.7		
	Motor cycle	66	41.0	95	59.0		
	Ambulance/Others	4	36.4	7	63.6		
	Bus	65	55.1	53	44.9		
	Taxi	63	47.7	69	52.3		
	Jeep	35	53.0	31	47.0		
	Auto/E-Rickshaw	58	47.5	64	52.5		
Means of financial loss management ^	Bank deposit	237	48.7	250	51.3	13.177	0.068
	Collect money at home	225	51.3	214	48.7		
	Borrowed from Neighbour/Relatives	254	50.6	248	49.4		
	Loan from bank	75	49.3	77	50.7		
	Remittance	31	43.7	40	56.3		
	Sales of asset	56	52.3	51	47.7		
	Others	4	17.4	19	82.6		
The severity of health problem^	Economic load	300	48.0	325	52.0	31.972	<0.001
	Family problem	241	47.4	267	52.6		
	Tension	251	45.5	301	54.5		
	Leading to poverty	58	49.6	59	50.4		
	Others	2	11.8	15	88.2		
Problems to enrol^	Economic problem	264	53.3	231	46.7	30.937	<0.001
	Problem to receive services	183	46.4	211	53.6		
	Health facility in distance	123	49.0	128	51.0		
	Ignorance by health personnel	81	39.7	123	60.3		
	Lack of trust	108	59.0	75	41.0		
	Others	41	43.2	54	56.8		
Service available after enrolment^	General treatment/Medicine	229	43.0	304	57.0	204.730	<0.001
	Doctor's consultation	139	39.4	214	60.6		

Variables	Category	No		Yes		Chi-Square	P-Value
		N	%	N	%		
	Operation/Surgery	63	39.4	97	60.6		
	Bed charge	59	33.0	120	67.0		
	Laboratory services	61	31.8	131	68.2		
	Radiology services	21	27.3	56	72.7		
	Specialized care	29	37.7	48	62.3		
	Unknown	160	70.2	68	29.8		
	Others	9	34.6	17	65.4		
Family members are/were agreed to enrol	No	210	94.2	13	5.8	240.146	<0.001
	Yes	195	33.2	392	66.8		
Family member abroad	No	283	50.0	283	50.0	0.000	1.000
	Yes	122	50.0	122	50.0		
Aboard family member	Father/Husband	49	60.5	32	39.5	8.112	0.017
	Son/Daughter	59	42.1	81	57.9		
	Other member	14	60.9	9	39.1		
Motivated by neighbour to enrol	No	255	63.9	144	36.1	60.858	<0.001
	Yes	150	36.5	261	63.5		

Note: ^ = multiple responses

Nearly two-thirds (63%) of the enrolled respondents expressed that they felt some health problem in the last six months (p<0.001) and three fourth (75%) of them reported three or more members were affected and 61 percent were admitted in a hospital in the past six months. More than half (51%) of the enrolled respondents had access to health services within half an hour and 47 percent had in between half an hour to an hour and 46 percent of enrolled respondents had access to health services in more than an hour's travel. The majority of the enrolled respondents (59%) used to go hospital by Motorcycle, followed by Auto/E-Rickshaw (53%), Taxi (52%), Bicycle (49%), Jeep and by foot (47%), and Ambulance/others (53%) [Table 15].

The majority of the enrolled respondents (56%) had managed financial loss by remittance followed by Bank deposit and loan (51%), borrowing from relatives and neighbours and collected money at home (49%) and sale of assets (48%). More than half (55%) of the enrolled respondents expressed that mental tension was a severe

health problem whereas 53 stated family problems, 52 percent economic load and 50 percent poverty as a severe health problem (p<0.001).

The majority of the respondents enrolled in health insurance expressed that ignorance by the health professionals was also a problem to enrol, 54 percent expressed that the problem to receive health services was the problem to enrol, 51 percent stated that health facilities being at distance place was the problem to enrol. Similarly, 47 percent and 41 percent of the enrolled respondents stated that economic problem and lack of trust in the government health services were the problems to enrol (p<0.001). Nearly three-fourths (73%) respondents enrolled in health insurance expressed radiology service was available after enrolment followed by laboratory services (68%), bed charge (67%), specialized care (62%), medical consultation and surgery (61%) and general treatment and medicine (57%) (p<0.001). More than two-thirds (67%) of the enrolled respondents expressed that their family members were agreed to enrol in health insurance compared to six percent were not agreed to enrol (p<0.001). Just half (50%) of the enrolled respondents had a family member(s) aboard while interviewing. More than half of the enrolled respondents (58%) had a son or daughter or daughter-in-law aboard compared to father/husband (40%) and other family members (39%) (p<0.05). Nearly two-thirds (64%) of the enrolled respondents were sensitized by the neighbours against who were not motivated by the neighbour to enrol (36%) (p<0.001).

Logistic Regression on Susceptibility and Severity of Health Problems and Enrolment

The respondents who felt that they were susceptible to health problem seemed more likely to enrol in health insurance than those who did not feel susceptible to diseases or health problems (aOR = 1.685, p<0.05). The respondents who had two or

three family members got a health problem in the last six months seemed more likely

to enrol than less or more than the family members had got health problems in the last

six months.

Table 16. *Logistic Regression on the Health Severity and Enrolment in HI*

Variables	Category	aOR	95% CI Lower	Upper
Susceptible to health problem	No *(Ref.)*			
	Yes	1.685*	1.036	2.741
Number of family member got health problem in the last 6 months	1 member *(Ref.)*			
	2 members	1.361	.789	2.348
	3 members	3.210	.668	15.419
	4 or more members	.956	.254	3.604
Family member admitted in the hospital over the last 6 months	No *(Ref.)*			
	Yes	.707	.425	1.174
Time to reach health facilities	Upto 30 minutes *(Ref.)*			
	31 to 60	1.178	.645	2.153
	> 60 minutes	.645	.220	1.896
Family member abroad	No *(Ref.)*			
	Yes	1.086	.653	1.804
Motivated by peer or neighbour to enrol	No *(Ref.)*			
	Yes	2.741***	1.683	4.462

Constant = 0.721, -2 Log likelihood = 389.174, Cox & Snell R Square = 0.082

Note: significant at * = p<0.05, *** = p<0.001; aOR = Adjusted Odds Ratio

The respondents whose family member admitted to the hospital in the last six

months seemed less likely to enrol than who did not admit in hospital in the last six

months. The data show that proximal or far distance to access to health services

seemed less likely to enrol than in middle-level access to health services in terms of

the timing to reach in the health facility [Table 16]. The respondents who had family

member aboard were more likely to enrol in health insurance than those who had no

family member aboard (aOR = 1.086). The neighbour seemed like a key predictor for

enrolment, the respondents who were motivated by neighbours were more likely to enrol than those who were not motivated by neighbours (aOR = 2.741, p<0.001).

Characteristics of Respondents/Households and Enrolment in HI

Out of the total 810 respondents, more than half (50.3%) of the respondents from urban were enrolled compared to rural areas (49%). The males were enrolled (53.1%) more compared to females (47%). Similarly, more than half of the respondents from household head were more enrolled (52.8%) compared to those who were not household head (44.6%). Data shows that the higher the age group higher the enrolment (p<0.001). More than a quarter (26.1%) of the respondents from the age group up to 20 years were enrolled in health insurance, 44 percent enrolled from the age group 21 to 40 years, 59.2 and 68.1 percent enrolled from the age group from 41 to 60 years and more than 60 years respectively. Brahman/Chhetry and Dasnami/Sanyasi/others were more enrolled than other castes which accounted for 54.9 and 56.8 percent respectively. Within the religion, Buddhists and Hindus were more enrolled then other religion which accounted for 73.1 and 50.9 percent respectively (p<0.001). Regarding mother tongue, Doteli/Ashami and Nepali speakers were more enrolled than others which accounted for 53.6 and 52.8 respectively. Data shows that the pension holders were more enrolled (62.8%, p<0.01), than who had income from service (51.8%), business (51.9%), agriculture (51%), remittance (48.3%) and labour work (45.9%) [Table 17].

Table 17. *Sociodemographic Factors Associated with Enrolment*

Variables	Category	Enrolled in health insurance				Chi-square	ρ value
		No		Yes			
		N	%	N	%		
District	Baglung	122	50.0	122	50.0	0.000	1.00
	Kailali	283	50.0	283	50.0		
Residence	Urban	298	49.7	302	50.3	0.103	0.748

Variables	Category	Enrolled in health insurance				Chi-square	ρ value
		No		Yes			
		N	%	N	%		
	Rural	107	51.0	103	49.0		
Sex of respondents	Male	186	46.9	211	53.1	3.088	0.079
	Female	219	53.0	194	47.0		
Household head	No	153	55.4	123	44.6	4.949	0.026
	Yes	252	47.2	282	52.8		
Age group	Upto 20 year	17	73.9	6	26.1	29.565	<0.001
	21 to 40 year	270	56.0	212	44.0		
	41 to 60 year	95	40.8	138	59.2		
	More than 60 year	23	31.9	49	68.1		
Caste	Dalit	45	51.1	43	48.9	9.633	0.086
	Adibasis/Janajatis	188	53.4	164	46.6		
	Madhesi/Muslim	21	63.6	12	36.4		
	Brahmin/Chhetry	132	45.1	161	54.9		
	Others/Dasnami/Sanyasi	19	43.2	25	56.8		
Religion	Hindu	363	49.1	376	50.9	20.030	<0.001
	Buddhist	7	26.9	19	73.1		
	Islam	14	73.7	5	26.3		
	Christianity and others	21	80.8	5	19.2		
Mother tongue	Nepali	223	47.2	249	52.8	5.943	0.203
	Tharu	135	56.0	106	44.0		
	Doteli/Ashami	32	46.4	37	53.6		
	Others	15	53.6	13	46.4		
Source of income^	Service	150	48.2	161	51.8	19.410	0.007
	Business	102	48.1	110	51.9		
	Labourer	100	54.1	85	45.9		
	Remittance	75	51.7	70	48.3		
	Agriculture	266	49.0	277	51.0		
	Pension	16	37.2	27	62.8		
	Others	3	13.0	20	87.0		
Educational status	Illiterate	27	45.0	33	55.0	2.490	0.646
	Literate	132	53.7	114	46.3		
	Basic education	103	48.1	111	51.9		
	Secondary education	99	50.3	98	49.7		
	Bachelor or above	44	47.3	49	52.7		
Type of family	Nuclear	169	50.9	163	49.1	0.184	0.668
	Joint	236	49.4	242	50.6		
Size of family	Upto 5 members	231	50.5	226	49.5	0.935	0.626
	6 to 10 members	166	48.8	174	51.2		
	More than 10 members	8	61.5	5	38.5		

Variables	Category	Enrolled in health insurance				Chi-square	ρ value
		No		Yes			
		N	%	N	%		
Wealth quintiles	Poorest	80	49.4	82	50.6	8.296	0.081
	Poor	87	53.7	75	46.3		
	Middle	92	56.8	70	43.2		
	Rich	78	48.1	84	51.9		
	Richest	68	42.0	94	58.0		
Title of expenditure^	Food	220	50.3	217	49.7	6.008	0.422
	Clothes	308	49.8	310	50.2		
	Education	313	49.5	319	50.5		
	Healthcare	282	48.0	305	52.0		
	Communication	133	53.0	118	47.0		
	Transportation	99	47.8	108	52.2		
	Others	2	22.2	7	77.8		
Income/Production covers to feed	Throughout the year	208	50.1	207	49.9	16.280	0.003
	9 to 12 months	28	45.9	33	54.1		
	6 to 9 months	56	62.2	34	37.8		
	3 to 6 months	41	36.0	73	64.0		
	Less than 3 months	72	55.4	58	44.6		
Having chronic diseases	No	292	55.1	238	44.9	15.916	<0.001
	Yes	113	40.4	167	59.6		
Types of diseases^	Heart related	35	41.2	50	58.8	20.688	0.008
	Respiratory diseases	19	41.3	27	58.7		
	Joint related	16	38.1	26	61.9		
	Gastritis	17	45.9	20	54.1		
	Diabetes	4	17.4	19	82.6		
	Mental related	9	45.0	11	55.0		
	Thyroid related	8	66.7	4	33.3		
	Others	5	33.3	10	66.7		

Note: ^ multiple responses

Interestingly, illiterate respondents were enrolled more (55%) than those who were literate or had higher education. In the same way, respondents from joint family were enrolled (50.6%) than from the nuclear families (49.1%). More than half (51.2%) from six to ten member families were enrolled compared to up to 5-members (49.5%) and more than 10-members (38.5%). In the case of wealth status, more than half of the respondents (58%, 51.9 % and 50.6%) from the richest, rich and poorest category were enrolled respectively compared to 46.3 and 43.2 percent enrolled from

poor and middle-class families. More than half (52.2%) the households that had more expenditure on transportation were more enrolled in health insurance compared to the households having more expenditure in healthcare (52%), education (50.5%), clothes (50.2%), food (49.7%) and communication (47%). Nearly half (49.9%) of the households that had no problem to feed their families throughout the year were enrolled (49.9%, p<0.01) and more the half 64 and 54.1 percent of the households were enrolled that were able to feed their families from three to six months and nine to 12 months respectively. The households having any diseases within family members were enrolled more (59.6%) compared to families that had no family member with chronic disease (44.9%, p<0.001). More than four-fifth (82.6%) from the household having member(s) with diabetes were enrolled (p<0.01) compared to the households having arthritis/joint problems (61.9%), heart-related diseases (58.8%), respiratory diseases (58.7), mental related (55%), gastritis (54.1%) and; cancer, kidney-related and the other (66.7%).

Logistic Regression on Demographics Characteristics and Enrolment in HI

Among the respondents, households from the rural areas (Rural Municipalities) seemed more likely to enrol in HI compared to urban households (Urban Municipalities) (aOR = 1.018). Female respondents were more likely to enrol compared to males (aOR = 1.023). Similarly, household heads seemed more likely to enrol compared to those who were not the household heads (aOR = 1.027) [Table 18]. Data show that the higher the age higher the probability of enrolment in HI. The age group of the respondents, 21 to 40 years, 41 to 60 years and more than 60 years seemed more likely to enrol than the age group less than 20 years. In the case of caste/ethnicity, the Brahman, Chhetry and other castes seemed more likely to enrol

than the Dalit caste. The respondents who belonged to the Buddhist religion seemed

more likely to enrol than the Hindu but less likely to enrol by Islam and Christianity.

Table 18. *Logistic Regression of Sociodemographic Characteristics and Enrolment*

Variables	Attributes	aOR	95% CI	
			Upper	Lower
Residence	Urban *(Ref.)*			
	Rural	1.018	.717	1.445
Sex of respondents	Male *(Ref.)*			
	Female	1.023	.719	1.456
Household head	No *(Ref.)*			
	Yes	1.027	.702	1.502
The age group of respondents	Upto 20 yrs *(Ref.)*			
	21 to 40 yrs	1.933	.699	5.345
	41 to 60 yrs	3.617*	1.238	10.567
	More than 60 yrs	5.481**	1.623	18.505
Caste	Dalit *(Ref.)*			
	Aadibasi/Janajatis	.905	.475	1.724
	Madhesi/Muslim	.866	.202	3.709
	Brahmin/Chhetry	1.283	.755	2.178
	Others/Dasnami/Sanyasi	1.636	.740	3.620
Religion	Hindu *(Ref.)*			
	Buddhist	3.755**	1.374	10.264
	Islam	.481	.097	2.383
	Christianity and others	.244**	.087	.689
Mother tongue	Nepali *(Ref.)*			
	Tharu	1.293	.732	2.285
	Doteli/Ashami	1.119	.636	1.969
	Others	1.620	.549	4.785
Educational status	Illiterate *(Ref.)*			
	Literate	.848	.452	1.589
	Basic education	1.283	.657	2.505
	Secondary education	1.386	.686	2.801
	Bachelor or above	1.475	.663	3.277
Type of family	Nuclear *(Ref.)*			
	Joint	.858	.583	1.262
Size of family	Upto 5 members *(Ref.)*			
	6 to 10 members	1.075	.736	1.568
	More than 10 members	.815	.227	2.921
Wealth status	Poorest *(Ref.)*			
	Poor	.658	.407	1.062
	Middle	.497**	.300	.824
	Rich	.698	.417	1.168

Variables	Attributes	aOR	95% CI	
			Upper	Lower
	Richest	.928	.549	1.569
Income/Production adequate to feed	Throughout the year (R*ef.*)			
	9 to 12 months	1.137	.634	2.041
	6 to 9 months	.660	.394	1.105
	3 to 6 months	1.762*	1.084	2.865
	Less than 3 months	.864	.544	1.373
Family member having chronic diseases	No *(Ref.)*			
	Yes	1.553**	1.122	2.149

Constant = 0.355, -2 Log likelihood = 1034.041, Cox & Snell R Square = 0.104

Note: significant at * = p<0.05, ** = p<0.01; aOR = Adjusted Odds Ratio

The respondents who spoke Nepali as mother tongue seemed less likely to enrol than Thru, Doteli and other language speakers. Respondents having higher educational status seemed more likely to enrol than illiterate. Respondents belong to the joint family were less likely to enrol than the respondents belong to the nuclear family (aOR = 0.858). Middle size families (6 to 10 members) were more likely to enrol than small size (less than 6 members) or large size (more than 10 members) family (aOR = 1.075). Higher wealth status seemed less likely to enrol than the poorest ones. Respondents having chronic diseases in the family were 1.5 times more likely to enrol than the respondents who did not have chronic diseases in their families (aOR = 1.553, p<0.01).

Information, Education and Communication concerning HI

Data show that 72 percent of the total respondents expressed that they had known about health insurance. Enrolment assistants were the key conveyer of health insurance-related message to the households which accounted for 70.8 percent. Respondents received the information from Radio/FM (49.4%), neighbours (40.3%), Television (TV) (36.5%), family members (14.8%) and female community health volunteers (FCHV) (13.7%). Most of the enrolled respondents (64.4%) were motivated by enrolment assistants followed by neighbours (11.1%), teachers (4.2%),

family members (3.7%), FCHV (3.5%) and Radio/TV (2.7/2.7%). More than four out of 10 (42.2%) of the total respondents had experience of having financial trouble due to health problems [Table 19].

Nearly half of the respondents, who faced financial trouble due to diseases, had managed required money borrowing from neighbours and friends. Similarly, 27.5 percent of the respondents managed financial problem taking a loan from financial institutions and 20.8 percent sold the asset for managing financial crises due to health problems. The majority of the respondents (54.6%) expressed that lack of proper information was the main obstacle for non-enrolment whereas the rest 40.2 percent blamed that economic cause was the reason for non-enrolment. More than one fifth (22.7%) of the respondents said health insurance programme was not necessary and they did not enrol and other 21.5 percent of the respondents stated that poor quality of health services was the cause of non-enrolment.

Table 19. *Sources of Health Insurance-related Information*

Variables	Attributes	N	%
Perceived knowledge of health insurance	No	227	28.0
	Yes	583	72.0
Sources of Information^	Neighbour	235	40.3
	Radio/FM	288	49.4
	Television	213	36.5
	Family Members	86	14.8
	Health Worker/Doctors	65	11.1
	Teacher	66	11.3
	FCHV	80	13.7
	Training/Seminar	24	4.1
	Enrolment Assistant	413	70.8
	Print Media	11	1.9
	Others	11	1.9
Preferred source of information	Neighbour	45	11.1
	Radio/FM	11	2.7
	Television	11	2.7
	Family Members	15	3.7
	Health Worker/Doctors	10	2.5

Variables	Attributes	N	%
	Teacher	17	4.2
	FCHV	14	3.5
	Training/Seminar	7	1.7
	Enrolment Assistant	261	64.4
	Print Media	1	.2
	Others	13	3.2
Faced financial trouble due to health problem	No	468	57.8
	Yes	342	42.2
Managed financial problem by	The loan from Financial Company	94	27.5
	Sales of Asset	71	20.8
	Borrowed from Friends/Neighbour	162	47.4
	Collect Donation	6	1.8
	Others	9	2.6
Causes of non-enrolment^	Economic Cause	163	40.2
	Poor Quality Services	87	21.5
	Lack of Proper Information	221	54.6
	Not Necessary	92	22.7
	Services not Available	66	16.3
	Health Facilities in Distance	13	3.2
	Didn't Ask by EA	50	12.3
	Others	18	4.4
Benefits of enrolment^	Services from Specialized Hospitals	194	24.0
	Reduce Economic Load	695	85.8
	Reduce Tension	443	54.7
	Early Treatment	244	30.1
	Quality Services	124	15.3
	Others	42	5.2
The perceived problem if not-enrolled^	Economic Load	675	83.3
	Tension	456	56.3
	Late Treatment	270	33.3
	Inaccessible to Quality Services	157	19.4
	Others	43	5.3
Wanted to ensure against^	Communicable Diseases	189	23.3
	Non-communicable Diseases	218	26.9
	Hospital Admit	164	20.2
	Accident/Injuries	334	41.2
	Operation/Surgery	168	20.7
	All Health Services	515	63.6
	Others	27	3.3
Visited health facilities	Health Post	160	39.5

Variables	Attributes	N	%
before enrolment^	PHC	92	22.7
	Government Hospital	221	54.6
	Private Pharmacy	170	42.0
	Private Hospital	228	56.3
	Community Hospital	13	3.2
	Teaching Hospital	52	12.8
	Others	2	.5
	Health Post	96	23.7
	PHC	97	24.0
	Government Hospital	311	76.8
Visited health facilities	Private Pharmacy	49	12.1
after enrolment^	Private Hospital	75	18.5
	Community Hospital	9	2.2
	Teaching Hospital	15	3.7
	Others	16	4.0
Service received after	No	119	29.4
enrolment	Yes	286	70.6
	Not-improved than before	95	33.2
Quality of services	Improved than before	158	55.2
	Worse than before	23	8.0
	Unknown	10	3.5
	Poor	416	51.4
	Rich	292	36.0
	Educated	462	57.0
	Uneducated	118	14.6
	Urban People	165	20.4
Type of people enrolled^	Rural People	158	19.5
	People having Chronic Diseases	363	44.8
	Unknown	41	5.1
	Others	39	4.8
	Poor	337	41.6
	Rich	260	32.1
	Educated	107	13.2
	Uneducated	466	57.5
Type of people not-enrolled^	Urban People	125	15.4
	Rural People	160	19.8
	Unknown	72	8.9
	Others	39	4.8
Knowledge about hospital	No	327	40.4
for health services	Yes	483	59.6
	No	278	34.3

Variables	Attributes	N	%
Knowledge about contribution amount	Yes	532	65.7
Said right contribution amount	No	7	1.3
	Yes	525	98.7
Satisfied from HI	No	117	28.9
	Yes	288	71.1
Want to continue in next year	No	67	16.5
	Yes	338	83.5
Want to enrol in coming days	No	172	42.5
	Yes	233	57.5

Note: ^ = percent may exceed/over 100 due to multiple responses

Of the total enrolled households, most of them (64%) were motivated by enrolment assistants. Since the enrolment assistants were from the same village or community. People might have a chance to believe them because they can ask doubtable and other information from them at any time and also complain to them about the services as well as the quality of health services. Similarly, 11 percent of the enrolled respondents were motivated by neighbours. It means that people believe in neighbours' suggestions where two-way communication and effective communication possible. In the same ways, nearly four percent of the respondents who enrolled in health insurance were motivated by teachers, family members and female community health volunteers. Enrolment assistants were deployed to motivated people to enrol by HIB.

With regards to benefits of enrolment, 85.8 percent of the respondents expressed that enrolment on health insurance could reduce economic load, 54.7 percent stated that enrolment on health insurance could reduce tension and in the same way, 30.1 percent wanted as early treatment, and 24 percent wanted services from specialized hospitals. Nearly three-fourths (74%) of the respondents wanted to pay more than the current contribution amount if all health services were available to them throughout the country. Mean amount of willingness to pay was NRs.

1429±1736 for health protection. Nearly two-thirds (63.6%) of the respondents wanted to cover all health services under health insurance whereas 41.2 percent respondents expressed that they wanted to cover accidents/injuries by health insurance. Nearly 27 percent wanted protection from non-communicable diseases.

The majority of the respondents (56.3) used to go the private hospital for treatment before enrolment on HI, 54.6 percent o received services from government hospitals, 39.5 percent from the health post and 42 percent from a private pharmacy. However, after enrolment, 76.8 percent of the families received health services from the government hospital. Nearly 71 percent of the respondents received health services after enrolment and more than half (55.2%) of the respondents expressed that the quality of health services was improved than before but 33.2 percent stated that the health services did not improve compared to the past. According to the respondents educated (57%), poor (51.4%), a family member having chronic diseases (44.8%) and rich people (36%) were enrolled compared to others.

Nearly 60 percent of the total respondents had information about the hospitals where the services were available for the insured family. Nearly two-thirds (65.7%) of the total respondents stated that they had knowledge about contribution amount and among them, 98.7 percent had the right information about the contribution amount. More than 71 percent of the respondents expressed that they were satisfied with the health insurance programme. Out of them, 83.5 percent stated that they wanted to continue in the next year and 57.5 percent of non-enrolled respondents said that they wanted to enrol in the coming days.

Information, Education and Communication for HI related Information

Out of the total respondents, only 16.8 percent had health insurance-related booklets and guidelines. Only five percent of the total respondents participated in

health insurance-related programmes such as training, workshops or seminars. Nearly one third (32%) of the respondents had discussed with neighbours and relatives about health insurance. About one-fifth (19.1%) of the respondents received information from social media. Nearly two-thirds (63.5%) were invited to enrol in the health insurance programme. More than three fourth respondents had Radio/FM and Television, 11.7 percent of the respondents had internet access and only seven percent had access to print media for health insurance-related information [Table 20].

Data show that information from Radio/FM and Television was the most reliable for more than 73 percent of the respondents. However, for health insurance-related information, the respondents expressed that they believed Radio (62.8%) was most reliable, followed by Television (60.7%), enrolment assistants (45.3%), neighbours (33.3%), health worker (27.5%), family members (25.1%), teacher (16.8%) and FCHV (15.4%).

Table 20. *Information, Education and Communication for HI related Information*

Variables	Category	N	%
Having HI related books	No	674	83.2
	Yes	136	16.8
Participated in HI related training/workshop	No	770	95.1
	Yes	40	4.9
Discussed with neighbour, relatives	No	551	68.0
	Yes	259	32.0
Known from social media	No	655	80.9
	Yes	155	19.1
Requested to enrol by peers	No	296	36.5
	Yes	514	63.5
Media available at home^	Radio/FM	616	76.0
	Television	611	75.4
	Print Media	26	3.2
	Internet	115	14.2
	Others	52	6.4
Most reliable media for HI related information^	Radio/FM	592	73.1
	Television	593	73.2
	Print Media	58	7.2
	Internet/Social Media	95	11.7

Variables	Category	N	%
	Unknown	20	2.5
	Others	17	2.1
Reliable information for HI from^	Neighbour	270	33.3
	Radio/FM	509	62.8
	Television	492	60.7
	Family Member	203	25.1
	Health Worker	223	27.5
	Training/Workshop	73	9.0
	Teacher	136	16.8
	Enrolment Assistant	367	45.3
	Print Media	27	3.3
	FCHV	125	15.4
	Unknown	17	2.1
	Others	7	.9
Knowledge on health services at free of cost	No	354	43.7
	Yes	456	56.3
Types of services freely available^	General treatment or Medicine	272	59.6
	Immunization	375	82.2
	Maternal Child Health	152	33.3
	Family Planning	296	64.9
	Malaria	102	22.4
	TB/Leprosy	210	46.1
	Health counselling	75	16.4
	Others	14	3.1

Note: ^ = percent may exceed than 100 due to multiple responses

More than half (56.3%) of the respondents knew about free health services.

More than four-fifth (82.2%) of the respondents knew that immunization was free of cost, 64.9 percent knew family planning services, 59.6 percent recognized general treatment, 46.1 percent mentioned Tuberculosis/Leprosy treatment, 33.3 percent said maternal and child health services and 22.4 percent expressed treatment of malaria was free of cost at the government health institutions and some other non-governmental hospitals.

Public Service Announcement and Preferences

Out of the total respondents, less than half (47.7%) listened to health insurance-related information from Radio/FM. Nearly 71 percent listened 'save seven rupees every day...' [*Harek din 7 rupiya jamma gardai janu....*], nearly 40 percent of

the respondents listened to 'greetings uncle, why so hurry?…' [*Namaskar kaka nikai hatarma hunhunchha…*], and 21 percent listened to health insurance-related notice and 'disease and illness never inform…' [*Rog bimar apththero…*] [Table 21]. More than two-thirds (66.7%) of the respondents liked the Radio message 'save seven rupees every day...' [*Harek din 7 rupiya jamma gardai janu….*], 31.1 percent liked 'greetings uncle, why so hurry?…' [*Namaskar kaka nikai hatarma hunhunchha…*], about 15 percent liked health insurance-related notice and 14 percent of the respondents liked 'disease and illness never inform…' [*Rog bimar apththero…*].

Table 21. *Public Service Announcement about Health Insurance*

Variables	Category	N	%
Listened information from Radio/FM	No	24	2.3
	Yes	386	47.7
Radio message listened^	Harek Din 7 Rupees....	272	70.5
	Rog Bimar Apthero......	79	20.5
	Namaskar Kaka	153	39.6
	HI related Notice	80	20.7
	Others	57	14.8
Radio message liked^	Harek Din 7 Rupees....	242	66.7
	Rog Bimar Apthero......	51	14.0
	Namaskar Kaka	113	31.1
	HI related Notice	54	14.9
	Others	26	7.2
Prime time to listen to Radio^	Morning	499	61.6
	At Noon	152	18.8
	Evening	446	55.1
	Night	212	26.2
	Others	14	1.7
Watched HI related information on TV	No	500	61.7
	Yes	310	38.3
TV message watched^	Rajesh Hamal	126	40.6
	Yamraj	64	20.6
	Suntali/Dhurmus	152	49.0
	Jigri/Pande	104	33.5
	Dr. Bhagwan Koirala	53	17.1
	Mother/Son call from Aboard	157	50.6

Variables	Category	N	%
	Song of Pashupati Sharma	25	8.1
	Husband Wife talks about HI	23	7.4
	Others	9	2.9
TV message liked^	Rajesh Hamal	81	26.7
	Yamraj	41	13.5
	Suntali/Dhurmus	108	35.6
	Jigri/Pande	67	22.1
	Dr. Bhagwan Koirala	38	12.5
	Mother/Son call from Aboard	123	40.6
	Song of Pashupati Sharma	12	4.0
	Husband Wife talks about HI	10	3.3
	Others	4	1.3
Primetime to watch TV^	Morning	356	44.0
	At Noon	158	19.5
	Evening	460	56.8
	Night	347	42.8
	Others	22	2.7
Seen hoarding board	No	594	73.3
	Yes	216	26.7
Read newspaper	No	704	86.9
	Yes	106	13.1
Seen brochure/poster/pamphlet	No	668	82.5
	Yes	142	17.5
Appropriate language for PSA	Nepali	583	72.0
	Local	216	26.7
	Others	11	1.4
Type of message liked^	Dramatic	649	80.1
	Funny	497	61.4
	Symbolic	113	14.0
	Musical	300	37.0
	Others	44	5.4
Appropriate method to convey message^	Radio	646	79.8
	Television	605	74.7
	Newspaper	170	21.0
	Hoarding Board	186	23.0
	Mobile Message	191	23.6
	Poster/Pamphlet/Brochure	129	15.9
	Others	41	5.1

Note: ^ = percent may exceed than 100 due to multiple responses

The Majority of the respondents (61.6%) preferred to listen to Radio/FM at the morning time, 55.1 percent preferred evening and 26.2 percent wanted to listen at night. More than one third (38.3%) of the respondents watched health insurance-related information from Television. Of the total respondents, more than half (50.6%) watched the message of *mother-son talking from aboard*, nearly half 49 percent watched *Suntali-Dhurmus talking,* 40.6 percent watched the message from *Rajesh Hamal*, 33.5 percent watched *Jigri-Pande discussion* and 20.6 percent watched message of *Yamraj* and 17.1 percent watched *Dr Bhagwan Koirala's* message. More than 40 percent of the respondents liked the massage of *Mother-son talking from aboard,* 35.6 percent liked *Suntali-Dhurmus conversation,* 26.7 percent liked *Rajesh Hamal's* message and 22.1 percent like the message of *Jigri-Pande discussion*. Nearly 14 percent of the respondents liked *Yamraj conversation* and 13 percent liked *Dr Koirala's* message.

Out of the total respondents, 56.8 percent stated that they preferred to watch TV in the evening followed by 44 percent in the morning, 42.8 percent night time and nearly one fifth (19.5%) liked noon. Nearly 27 percent of the respondents reported that they had seen health insurance-related messages at Hoarding Board. Only 13.1 percent of the respondents read health insurance-related information from Newspaper. Nearly 18 percent of the respondents saw health insurance-related messages from brochure, poster and/or pamphlet.

Preference language and the appropriate method for IEC. Of the total respondents, 72 percent expressed that the Nepali language was the appropriate language for disseminating health insurance-related messages and 27 percent expressed that it should be in local languages [Table 21]. More than forth-fifth (80.1%) of the respondents preferred comedy messages for conveying health

insurance-related messages, 61.4 percent opted funny messages, 37 percent expressed in favour of musical messages and 14 percent wanted symbolic messages. Nearly fourth-fifth (79.8%) of the respondents stated that Radio/FM was the appropriate method or means to convey a message on health insurance. Nearly three-quarters (74.7%) said Television was the best means to convey the messages. About 23.6, 23, 21 and 15.9 percent of the respondents suggested mobile message, Hoarding Board, Newspapers and Poster/Pamphlets.

Motivating message for enrolment in health insurance. Out of the total enrolled household, nearly four (39.5%) out of ten respondents responded that they enrolled in the HIP to minimize the healthcare cost. Seventeen percent of the respondents expressed that they enrolled in getting financial benefits [Table 22].

Table 22. *Motivating Message for Enrolment*

Message	N	%
Minimize the healthcare cost	160	39.5
Financial benefit	68	16.8
Service and facilities available	64	15.8
Tension-free/feeling of security	51	12.6
Easy and comfort to receive health services	31	7.7
Regular medicine/check-up	19	4.7
Cooperation and others	12	3.0
Total	405	100.0

In the same way, 16 and 13 percent mentioned that they participated in the HIP to receive health services and facilities, and to be tension free or feeling of security for healthcare cost. Other respondents expressed that they involved in the HIP to receive health services easily and comfortably and to receive regular health check-up and medication.

Judgement on public service announcement. Table 18 shows, out of the total four Radio messages, 93 percent of the total 250 respondents expressed that 'save seven rupees every day...' [Harek Din Saat Ruapiya Jamma Gardai Janu..]'[Appendix

VIII: 1.1] was memorable and 96 percent expressed that it was appropriate and attractive. Only 23 percent of them stated that it is available and 96 and 98 percent opined that it was pleasurable and suitable language as well. In the same way, 89 percent of the total 65 respondents expressed that Radio message 'disease and illness never inform…' [Rog Bimar Apthero Aaudaina Sodhera…]' [Appendix VIII: 1.2] was memorable, 92, 95, 23, 96 and 93 percent expressed that it was appropriate, attractive, available, pleasurable and suitable language respectively. Another Radio message 'greetings uncle, why so hurry?…' [Namskar Kaka Nikai Hatarma Hunuhunchha…]' [Appendix VIII: 1.3]   was found as memorable and appropriate by 89 percent of the respondents, 94 percent said attractive, 16 percent said available, 92 percent said pleasurable and 87 percent said suitable language. Health insurance-related notice from Radio/FM was found as 85 percent of the respondents replied as memorable, 44 percent stated as appropriate, 91 percent expressed as attractive, 4 percent stated as available, 91 percent expressed as pleasurable and 87 percent opined as suitable language.

Among the Television messages, health insurance-related message from 'Rajesh Hamal' [Appendix VIII: 2.1] was found as memorable by 86 percent of the respondents, similarly, 93, 95, 12, 96 and 98 percent of the respondents expressed as appropriate, attractive, available, pleasurable and suitable language respectively. Likewise, 86 percent of the respondents stated that the message of 'Yamraj' [Appendix VIII: 2.2]   is memorable 82 percent of respondents expressed it as appropriate, 96 percent said as attractive, 13 percent expressed as available 98 percent said as pleasurable and 93 percent of the respondents expressed as suitable language.

Out of the total 117 respondents, 84 percent expressed the message of 'Suntali-Dhurmus' [Appendix VIII: 2.3] was memorable, 95 percent expressed as appropriate

96 percent stated as attractive. And 15 percent said as available, 96 percent expressed as pleasurable and 89 percent expressed as suitable language. The television message of 'Jigri-Pande' [Appendix VIII: 2.4] was also memorable as stated by 91 percent of the total 81 respondents, 91 percent of them expressed as appropriate, 94 percent stated as attractive, six percent of them expressed as available, 96 percent said as pleasurable and 84 percent expressed as suitable language. The message of 'Dr. Bhagwan Koirala' [Appendix VIII: 2.5] seemed also popular, 92 percent of total 39 respondents expressed that it was memorable, cent percent of the respondents expressed as appropriate, 97 percent expressed as attractive, 16 percent expressed as available, 97 percent expressed as pleasurable and cent percent expressed as suitable language.

The television message of mother-son talking 'aboard call' [Appendix VIII: 2.6] seemed as the most-watched TV message. Ninety-six percent of the total 134 respondents expressed it as memorable and appropriate, 98 percent stated as attractive, eight percent expressed as available, 97 percent said as pleasurable and 98 percent expressed as a suitable language. Eighty-five percent of the total respondents stated that message of 'Pashupati Sharma' [Appendix VIII: 2.7] was memorable, cent percent expressed as appropriate, 92 percent as attractive, 39 percent said as available, 92 percent expressed as pleasurable and suitable language.

The TV message of husband and wife talking 'couple talking' [Appendix VIII: 2.8] seemed 92 percent memorable. Eleven, out of 12 respondents stated as memorable, whereas cent percent of the respondents expressed that it was appropriate and attractive, 17 percent of the respondents stated as available, cent percent of the respondents said pleasurable and 92 percent expressed as a suitable language.

Out of the total 216 respondents, 76 percent of them expressed that message from Hoarding Board was memorable, 88 percent expressed as appropriate, 92 percent stated as attractive, 26 percent said as available, 90 percent expressed as pleasurable and 86 percent said as a suitable language. Seventy-six percent of the total 106 respondents expressed that health insurance-related message at Newspaper memorable, 89 percent stated as appropriate, 91 percent expressed as attractive, 45 percent expressed as available, 78 percent stated as pleasurable and 85 percent as a suitable language. Out of the total 142 respondents, 83 percent stated that Poster/Pamphlet for health insurance-related information was memorable, 87 percent of them expressed as appropriate, 85 percent said as attractive, 68 percent said as available, 85 percent stated pleasurable and 86 percent expressed as a suitable language [Table 23].

Table 23. *Respondents' Rating of Public Service Announcement*

	Messages	Memorable			Appropriate			Attractive			Available			Pleasurable			Suitable Language		
		Y	%	T	Y	%	T	Y	%	T	Y	%	T	Y	%	T	Y	%	T
Radio	Harek Din..	233	93	250	237	96	246	237	96	248	56	23	242	238	96	247	239	98	244
	Rog Bimar	58	89	65	61	92	66	62	95	65	15	23	66	63	96	66	62	93	67
	Namaskar Kaka	97	89	109	97	89	109	102	94	109	17	16	109	100	92	109	95	87	109
	HI Notice	39	85	46	44	96	46	42	91	46	2	4	45	41	91	45	43	96	45
Television	Rajesh Hamal	82	86	95	88	93	95	90	95	95	11	12	95	91	96	95	93	98	95
	Yamraj	48	86	56	46	82	56	54	96	56	7	13	54	55	98	56	52	93	56
	Suntali-Dhurmus	98	84	117	111	95	117	112	96	117	18	15	117	112	96	117	104	89	117
	Jigri-Pande	74	91	81	74	91	81	76	94	81	5	6	81	78	96	81	68	84	81
	Dr Koirala	36	92	39	39	100	39	38	97	39	6	16	38	38	97	39	39	100	39
	Aboard Call	128	96	134	128	96	134	131	98	134	11	8	134	130	97	134	131	98	134
	Song of Pashupati	11	85	13	13	100	13	12	92	13	5	39	13	12	92	13	12	92	13
	Couple Talking	11	92	12	12	100	12	12	100	12	2	17	12	12	100	12	11	92	12
Others	Hoarding Board	156	76	216	181	88	216	189	92	216	53	26	216	186	90	216	178	86	16
	Newspaper	77	76	106	89	87	106	93	91	106	46	45	106	79	78	106	87	85	106
	Poster/Pamphlet	105	83	142	109	87	142	107	85	142	85	68	142	107	85	142	108	86	142

Note: Y= Yes, % = Percent, T= Total

Access to IEC Related Information and Enrolment in HI

Out of the total respondents, 83.1 percent of the enrolled respondents expressed that they had health insurance-related books and guidelines at their homes (p<0.001). Nearly three fourth (72.5%) of the enrolled respondents stated that they participated in health insurance-related training, seminars and discussion programmes (p<0.01). Similarly, 73 percent of the respondents who enrolled in health insurance responded that they had discussed with their neighbours about health insurance (p<0.001) [Table 24].

Table 24. *Information, Education and Communication and Enrolment*

Variable	Category		Enrolled in HI				Chi-Square	P Value
			No		Yes			
			N	%	N	%		
Have HI related books		No	382	56.7	292	43.3	71.577	<0.001
		Yes	23	16.9	113	83.1		
Participated in HI related training, workshop	No		394	51.2	376	48.8	8.521	0.004
	Yes		11	27.5	29	72.5		
Discussed with neighbour about HI	No		335	60.8	216	39.2	80.376	<0.001
	Yes		70	27.0	189	73.0		
Known from social media	No		336	51.3	319	48.7	2.306	0.129
	Yes		69	44.5	86	55.5		
Requested to enrol by peers	No		245	82.8	51	17.2	200.370	<0.001
	Yes		160	31.1	354	68.9		
Type of media available at home^	Radio/FM		309	50.2	307	49.8	17.643	0.003
	Television		289	47.3	322	52.7		
	Print Media		8	30.8	18	69.2		
	Internet		50	43.5	65	56.5		
	Others		19	36.5	33	63.5		
Reliable media for HI^	Radio/FM		291	49.2	301	50.8	11.250	0.081
	Television		289	48.7	304	51.3		
	Print media		23	39.7	35	60.3		
	Internet/Social media		52	54.7	43	45.3		
	Unknown		12	60.0	8	40.0		
	Others		4	23.5	13	76.5		
Reliable information	Neighbour		149	55.2	121	44.8	39.537	<0.001
	Radio/FM		251	49.3	258	50.7		

Variable	Category	Enrolled in HI				Chi-Square	P Value
		No		Yes			
		N	%	N	%		
provider for HI^	Television	243	49.4	249	50.6		
	Family member	93	45.8	110	54.2		
	Health worker	98	43.9	125	56.1		
	Training/Workshop	35	47.9	38	52.1		
	Teacher	67	49.3	69	50.7		
	Enrolment assistant	149	40.6	218	59.4		
	Print media	14	51.9	13	48.1		
	FCHV	57	45.6	68	54.4		
	Unknown	9	52.9	8	47.1		
	Others	1	14.3	6	85.7		
Knowledge of free health services	No	223	63.0	131	37.0	42.471	<0.001
	Yes	182	39.9	274	60.1		
Name of services freely available^	General treatment/Medicine	115	42.3	157	57.7	23.362	0.003
	immunization	145	38.7	230	61.3		
	Maternal child health	45	29.6	107	70.4		
	Family planning	104	35.1	192	64.9		
	Malaria	38	37.3	64	62.7		
	TB/Leprosy	77	36.7	133	63.3		
	Health counselling	27	36.0	48	64.0		
	Others	6	42.9	8	57.1		

Note: ^ = multiple responses

More than half (55.5%) of the enrolled respondents stated that they knew health insurance from social media whereas 48.7 percent of enrolled respondents expressed that they did not know from social media. More than two-thirds (68.9%) of the respondents who enrolled in health insurance stated that they were requested to enrolled by others whereas only 17 expressed they were not requested to enrol by anyone (p<0.001). More than two-thirds (69.2%) of the respondents who had access to print media at home were enrolled (p<0.01). Similarly, 56.5, 52.7 and 49.8 percent of the respondents who had internet access, Television and Radio at home were enrolled in health insurance (p<0.01).

Sixth out of ten (60%) of the respondents, who expressed print media as the most reliable media, were enrolled, more than half of the respondents who enrolled in health insurance stated that Television and Radio were the most reliable media. Nearly six out of ten (59.4%) of the respondents who enrolled in health insurance expressed that enrolment assistants were that most reliable way to receive health insurance-related information followed by a health worker (56.1%), FCHV (54.4%), family member (54.2%)(p<0.001). More than 60 percent of the respondents who enrolled in health insurance knew about the health services at free of cost at government health institutions (p<0.001). More than two-thirds (70.4%) of the respondents who enrolled in health insurance stated that service related to maternal and child free of cost (p<0.01). Similarly, nearly two-thirds (65%) of the respondents expressed that family planning at free of cost, consequently 64 percent expressed health counselling, 63 percent said TB/Leprosy, 63 percent stated Malaria and 61 percent expressed immunization service.

Sources of Health Insurance-related Information and Enrolment in HI

Out of the total respondents, more than two-thirds (67.8%) knowing health insurance were enrolled (p<0.001) compared to those who did not (4.4%). Out of the total respondents, 81.8 percent of who got information from print media and others were enrolled. Similarly, 80.2 percent who got information from family members were enrolled, 79.2 percent enrolled who got information from enrolment assistant, 76.3 percent from FCHV, 75 percent from training or seminars, 74.2 percent from the teacher, 73.8 percent from health workers/Doctors, 68.5 percent from neighbours which is statistically significant (p<0.001).

More than half (52%) of the respondents who had ever faced financial trouble were enrolled in HI. Similarly, more than half (57.7 & 53.2%) of the respondents

were enrolled who managed the financial problem by sales of asset and Bank loan

respectively [Table 25]. More than 58 percent of the respondents, who expressed

quality services as benefits of enrolment, were enrolled compared to early treatment

(57.4%), reduce tension (54.6%), and reduce economic load (53.4%)(p<0.001).

Similarly, 54.8 percent of the respondents who said tension as a problem if not-

enrolled were enrolled in health insurance (p<0.001) followed by late treatment

(54.1%), economic load (53.5%) and inaccessibility to quality healthcare (50.3%).

Table 25. *Health Insurance-related Information and Enrolment*

Variable	Category	Enrolled in health insurance				Chi Square	P Value
		No		Yes			
		N	%	N	%		
Knowledge about health insurance	No	217	95.6	10	4.4	262.26	<0.001
	Yes	188	32.2	395	67.8		
Sources of information ^ [n=583]	Neighbour	74	31.5	161	68.5	102.328	<0.001
	Radio/FM	101	35.1	187	64.9		
	television	68	31.9	145	68.1		
	Family members	17	19.8	69	80.2		
	Health worker, Doctor	17	26.2	48	73.8		
	Teacher	17	25.8	49	74.2		
	FCHV	19	23.8	61	76.3		
	Training, seminar	6	25.0	18	75.0		
	Enrolment assistant	86	20.8	327	79.2		
	Print media/others	4	18.2	18	81.8		
Faced financial trouble due to health problem	No	241	51.5	227	48.5	0.992	0.319
	Yes	164	48.0	178	52.0		
Managed financial problem through	Bank loan	44	46.8	50	53.2	2.118	0.548
	Sales of assets	30	42.3	41	57.7		
	Borrowing	81	50.0	81	50.0		
	Others	9	60.0	6	40.0		
Benefits of enrolment^	Services from specialized hospitals	98	50.5	96	49.5	50.335	<0.001
	Reduce economic load	324	46.6	371	53.4		

Variable	Category	Enrolled in health insurance				Chi Square	P Value
		No		Yes			
		N	%	N	%		
	Reduce tension	201	45.4	242	54.6		
	Early treatment	104	42.6	140	57.4		
	Quality services	52	41.9	72	58.1		
	Others	30	71.4	12	28.6		
Problem if not-enrolled^	Economic load	314	46.5	361	53.5	40.913	<0.001
	Tension	206	45.2	250	54.8		
	Late treatment	124	45.9	146	54.1		
	Inaccessible to quality services	78	49.7	79	50.3		
	Others	31	72.1	12	27.9		
Willingness to pay for health insurance	Upto Rs. 500/-	142	67.3	69	32.7	35.436	<0.001
	Rs. 501 to 1500	180	45.6	215	54.4		
	More than Rs.1500/-	83	40.7	121	59.3		
Want to insure against^	Communicable diseases	83	43.9	106	56.1	17.969	0.012
	Non-communicable Diseases	92	42.2	126	57.8		
	Hospital admit	80	48.8	84	51.2		
	Accident/Injuries	161	48.2	173	51.8		
	Operation/Surgery	83	49.4	85	50.6		
	All health services	249	48.3	266	51.7		
	Others	19	70.4	8	29.6		
Type of people enrolled^	Poor	184	44.2	232	55.8	41.701	<0.001
	Rich	145	49.7	147	50.3		
	Educated	218	47.2	244	52.8		
	Uneducated	59	50.0	59	50.0		
	Urban people	82	49.7	83	50.3		
	Rural people	66	41.8	92	58.2		
	Having chronic diseases	159	43.8	204	56.2		
	Unknown	30	73.2	11	26.8		
	Others	15	38.5	24	61.5		
Type of people not-enrolled^	Poor	184	54.6	153	45.4	14.518	0.069
	Rich	124	47.7	136	52.3		
	Educated	48	44.9	59	55.1		
	Uneducated	227	48.7	239	51.3		
	Urban people	63	50.4	62	49.6		
	Rural people	79	49.4	81	50.6		
	Unknown	42	58.3	30	41.7		
	Others	13	33.3	26	66.7		
Knowledge of recommended hospital for health services	No	284	86.9	43	13.1	297.868	<0.001
	Yes	121	25.1	362	74.9		

Variable	Category	Enrolled in health insurance				Chi Square	P Value
		No		Yes			
		N	%	N	%		
Knowledge about CCA	No	238	85.6	40	14.4	214.713	<0.001
	Yes	167	31.4	365	68.6		
Said right CCA	No	4	57.1	3	42.9	2.184	0.139
	Yes	163	31.0	362	69.0		

Note: ^ = multiple responses

Of the total respondents, reported that more than three fourth could pay more than the existing contribution amount if all health services were available to them (p<0.001). Data shows that the higher the willingness to pay for health insurance higher the enrolment in health insurance. Nearly six out of ten (59.3%) of the respondents who wanted to pay more than NRs. 1500 were enrolled in health insurance. Similarly, 54.4 percent of the respondents wanted to pay NRs. 500 to 1500 were enrolled in health insurance. The mean amount willing to pay was NRs.1429±1736. The median, mode and range were NRs. 1000, 1000 and 24800 respectively. However, just one-third (32.7%) of the respondents who wanted to pay less than the existing contribution amount were enrolled in health insurance.

More than the half of the respondents who enrolled in health insurance expressed that they wanted to ensure against non-communicable diseases (57.8%), communicable diseases (56.1%), accident/injuries (51.8%), hospital admit (51.2%), all health services (51.7%), and operation/surgery (50.6%) (p<0.05). According to the respondents, rural people (58.2%), people having chronic diseases (56.2%), poor (55.8%), educated (52.8%) and people belong to rich and urban (50.3%) were enrolled in health insurance (p<0.001). Similarly, the respondents who enrolled in insurance expressed that 55 percent of the educated people, 52.3 percent of rich people, 51.3 percent of uneducated people, 50.6 percent of rural people were not enrolled. Nearly three fourth (74.9%) of the enrolled people knew the hospital for

health services (p<0.001). More than two-thirds (68.6%) of the respondents who enrolled in health insurance knew the contribution amount (p<0.001) however only 69 percent of the enrolled respondent expressed the right answer of the amount.

Public Service Announcement and Enrolment

Out of the total respondents, 62 percent of the respondents who listened to health insurance-related message from Radio/FM were enrolled (p<0.001) while only 39 percent of the respondents who did not listen were enrolled. Of the total respondents, 71 percent had listened to radio message 'save seven rupees every day...'[Harek Din Saat Rupaiya Jamma Gardai Janu…] [Appendix VIII: 1.1]. Of them, six out of ten (60.3%) were enrolled. Similarly, nearly two-thirds (64.6%) were enrolled who listened Radio message 'disease and illness never inform…'[Rog Bimar Apthero Aaudaina Sodhera….] [Appendix VIII: 1.2], and 63 percent of the respondents who listened the Radio message 'greetings uncle, are you okay?' [Namaskar Kaka Sanchai Hunhunchha…] [Appendix VIII: 1.3]. More than two-thirds (68.6%) of the respondents who liked the message 'disease and illness never inform…'[Rog Bimar Apthero Aaudhaina Sodhera….] [Appendix VIII: 1.2] were enrolled, 63 percent of the respondents who liked the message 'greetings uncle, are you okay?' [Namaskar Kaka Sanchai Hunuhunchha…] [Appendix VIII: 1.3] and 60 percent of the respondents enrolled who like the message 'save seven rupees every day...'[Harek Din Saat Rupaiya Jamma Gardai Janu….] [Appendix VIII: 1.1].

More than half (53.3%) of the respondents who preferred to listen to Radio/FM in the morning were enrolled (p<0.01). Nearly half (47.5, 44.8 and 42.8%) of the respondents who enrolled in health insurance stated that they liked to listen to Radio/FM in the evening, at night and in the afternoon respectively. Nearly two-thirds of the respondents (63%) who watched health insurance message from Television

were enrolled compared to 42 percent who did not watch (p<0.001). More than 73

percent of the respondents were enrolled who watched TV message of Jigri/Pande

[Appendix VIII: 2.2]. Similarly, 72 percent of the respondents who listened to the TV

message of Pashupati Sharma [Appendix VIII: 2.7] were enrolled likewise 70 percent

from the message of Yamraj [Appendix VIII: 2.2], 68 percent from the message of

Dr. Koirala [Appendix VIII: 2.5] and Suntali/Dhurmus [Appendix VIII: 2.3], 66

percent from aboard call/ mother-son talking, 65 percent from Rajesh Hamal were

enrolled.

Table 26. *Public Service Announcement and Enrolment*

Variable	Category	Enrolled in HI				Chi Square	P Value
		No		Yes			
		N	%	N	%		
Radio/FM information listened	No	259	61.1	165	38.9	43.731	<0.001
	Yes	146	37.8	240	62.2		
Radio message listened^	Harek Din 7 Rupees....	108	39.7	164	60.3	2.500	0.777
	Rog Bimar Apthero......	28	35.4	51	64.6		
	Namaskar Kaka	57	37.3	96	62.7		
	HI related Notice	32	40.0	48	60.0		
	Others	20	35.1	37	64.9		
Radio message liked^	Harek Din 7 Rupees....	96	39.7	146	60.3	6.717	0.243
	Rog Bimar Apthero......	16	31.4	35	68.6		
	Namaskar Kaka	42	37.2	71	62.8		
	HI related notice	22	40.7	32	59.3		
	Others	5	19.2	21	80.8		
Primetime to listen Radio^	Morning	233	46.7	266	53.3	16.660	0.005
	At noon	87	57.2	65	42.8		
	Evening	234	52.5	212	47.5		
	Night	117	55.2	95	44.8		
	Others	5	35.7	9	64.3		
Watched HI related information on TV	No	290	58.0	210	42.0	33.445	<0.001
	Yes	115	37.1	195	62.9		
TV message watched^	Rajesh Hamal	44	34.9	82	65.1	15.269	0.084
	Yamraj	19	29.7	45	70.3		
	Suntali/Dhurmus	49	32.2	103	67.8		

Variable	Category	Enrolled in HI				Chi Square	P Value
		No		Yes			
		N	%	N	%		
	Jigri/Pande	28	26.9	76	73.1		
	Dr Bhagwan Koirala	17	32.1	36	67.9		
	Mother/Son call from Aboard	53	33.8	104	66.2		
	Song of Pashupati Sharma	7	28.0	18	72.0		
	Husband Wife talks about HI	9	39.1	14	60.9		
	Others	3	33.3	6	66.7		
TV message liked^	Rajesh Hamal	28	34.6	53	65.4	2.235	0.973
	Yamraj	13	31.7	28	68.3		
	Suntali-Dhurmus	39	36.1	69	63.9		
	Jigri-Pande	21	31.3	46	68.7		
	Dr Koirala	13	34.2	25	65.8		
	Aboard call	44	35.8	79	64.2		
	Song of Pashupati	4	33.3	8	66.7		
	Others	6	42.9	8	57.1		
Primetime to watch TV^	Morning	180	50.6	176	49.4	7.812	0.167
	At noon	89	56.3	69	43.7		
	Evening	223	48.5	237	51.5		
	Night	179	51.6	168	48.4		
	Others	7	31.8	15	68.2		
Seen hoarding board	No	335	56.4	259	43.6	36.465	<0.001
	Yes	70	32.4	146	67.6		
Read newspaper	No	367	52.1	337	47.9	9.769	0.002
	Yes	38	35.8	68	64.2		
Seen brochure, poster, pamphlet	No	359	53.7	309	46.3	21.348	<0.001
	Yes	46	32.4	96	67.6		
Appropriate language for PSA	Nepali	272	46.7	311	53.3	11.804	0.003
	Local	124	57.4	92	42.6		
	Others	9	81.8	2	18.2		
Type of message liked^	Dramatic	329	50.7	320	49.3	7.560	0.182
	Funny	248	49.9	249	50.1		
	Symbolic	61	54.0	52	46.0		
	Musical	134	44.7	166	55.3		
	Others	20	45.5	24	54.5		
Preferred method to convey message^	Radio	315	48.8	331	51.2	8.605	0.282
	Television	294	48.6	311	51.4		
	Newspaper	83	48.8	87	51.2		
	Hoarding Board	92	49.5	94	50.5		
	Mobile message	85	44.5	106	55.5		

Variable	Category	Enrolled in HI				Chi Square	P Value
		No		Yes			
		N	%	N	%		
	Poster/Pamphlet, Brochure	61	47.3	68	52.7		
	Others	23	56.1	18	43.9		

Note: ^ = multiple responses

Out of the total respondents who watched health insurance-related messages from TV, 41 percent liked TV spot on aboard call where mother and son having communication. Sixty-nine percent of the respondents who watched TV message of Jigri/Pande were enrolled. Similarly, 68 percent from those who watched the message of Yamraj, 67 percent from the song of Pashupati Sharma, 66 percent from the message of Dr Koirala, 65 percent from the message of Rajensh Hamal and 64 percent from message of aboard call and the message of Suntali/Dhurmus were enrolled [Table 26].

More than half (52%) of the respondents who preferred to watch health insurance-related messages from the TV in the evening were enrolled whereas 49 percent preferred to watch in the morning, 48 percent preferred at night and 44 percent of respondents who enrolled in health insurance preferred to watch at noon. More than two-thirds (68%) of the respondents who enrolled in health insurance had seen Hoarding Board compared to 44 percent of the respondents who had not seen Hoarding Board were enrolled (p<0.001). Nearly two-thirds (64%) of the respondents who read health insurance-related news on the Newspaper were enrolled whereas less than half (48%) of the respondents who did not read that enrolled in HI (p<0.01). More than two-thirds (68%) of the respondents who had seen health insurance-related information from brochure, poster, or pamphlet were enrolled in health insurance compared to 46 percent who did not (p<0.001). More than half (53.3%) of the respondents who were enrolled in health insurance expressed the Nepali language as

the appropriate language to disseminate health insurance-related information compared to the local language (43%) and others (18%) (p<0.01).

More than half (55%) of the respondents enrolled in health insurance expressed that they liked message through song for insurance-related information whereas fifty percent of the respondents enrolled in health insurance expressed that they like a funny type of message, 49 percent liked dramatic/comedy type and 46 liked symbolic types of message. Fifty-six percent of the respondents enrolled in health insurance stated that messages from mobile would be an appropriate method to convey a message to the people. In the same way, 53 percent of the respondents enrolled in health insurance expressed that poster, pamphlet and brochure would be an appropriate way to convey health insurance-related message to the people whereas 51 percent expressed appropriate ways from Radio/FM, Television, Newspaper and Hoarding Board.

Logistic Regression on HI Related Information and Enrolment in HI

According to the data, the respondents who knew health insurance were 13.9 times more likely to enrol (aOR = 13.853, p<0.001) than the respondents who had not. In the same way, the respondents who had faced financial trouble due to health problems were more likely to enrol than those who had not faced financial problems due to health problems (aOR = 1.573, p<0.05). Data show that more willingness to pay tended to enrol more [Table 27].

Table 27. *Logistic Regression on HI Related Information and Enrolment*

Variables	Attributes	aOR	95% CI Lower	95% CI Upper
Knowledge about health insurance	No *(Ref.)*			
	Yes	13.853***	6.796	28.239
Faced financial trouble due to health problem	No *(Ref.)*			
	Yes	1.573*	1.058	2.337
Willingness to pay for	Upto Rs 500/- *(Ref.)*			

health insurance	Rs 501 to 1500	1.770*	1.102	2.844
	More than Rs.1500/-	2.217**	1.283	3.833
Knowledge about hospital for health services	No *(Ref.)*			
	Yes	8.299***	5.223	13.186
Knowledge about contribution amount	No *(Ref.)*			
	Yes	1.934*	1.158	3.231

Constant = 0.009, -2 Log likelihood = 668.313, Cox & Snell R Square = 0.429

Note: significant at * = p<0.05, ** = p<0.01, *** = p<0.001; aOR = Adjusted Odds Ratio

The respondents who wanted to pay NRs. 501 to 1500 seemed more likely to enrol in health insurance (aOR = 1.770, p<0.05) and who wanted to pay more than NRs. 1500 seemed more likely to pay (aOR = 2.217, p<0.01) than those who wanted to pay upto NRs. 500 for health insurance if all health services were available to them. Similarly, the respondents who knew the hospital for health services were more likely to enrol than those who had not (aOR = 8.299, p<0.001). Nearly the same result was seen in the respondents who knew the contribution amount for health insurance seemed more likely to enrol than those who had not adequate knowledge about the contribution amount to enrol in health insurance (aOR = 1.934, p<0.05).

Logistic Regression on IEC and Enrolment in HI

Two separate multivariate analyses: one is the crude odds ratio (cOR) and the other adjusted odds ratio (aOR) was performed. Data show that literate respondents seemed less likely to enrol compared to illiterate (cOR= 0.707, aOR=0.539 for literate; cOR= 0.882, aOR=0.554 for basic education; cOR= 0.810, aOR=0.595 for secondary education and cOR = 0.911, aOR = 0.411 for Bachelor or above).

Respondents who knew health insurance tended more likely to enrol compared to those who did not know health insurance (cOR= 45.593, aOR=25.820, p<0.001). The respondents who had health insurance-related books or guidelines were found more likely to enrol in health insurance than those who had not (cOR=6.427, aOR=4.663, p<0.001). Participation in health insurance-related training and workshop

seemed to be a positive predictor for enrolment in crude odds ratio (cOR=2.763, p<0.01) but not in adjusted odds ratio (aOR=0.554). Discussion with the neighbours or relative about health insurance appeared positive forecaster for enrolment (cOR= 4.187, p<0.001; aOR=1.488). Health insurance-related information got from social media seemed to be more likely to enrol if other variables are not controlled (cOR= 1.313; aOR=0.379, p<0.001). The respondents seemed more likely to enrol in health insurance who were requested by other than those who were not requested (cOR= 10.629, aOR=5.036, p<0.001).

Respondents who knew free health services were more likely to enrol in health insurance than those who did not know free health services (cOR= 2.563, p<0.001; aOR=1.589, p<0.05). The respondents who listened to Radio seemed more likely to enrol in health insurance than those who did not (cOR= 2.580, p<0.001; aOR=1.174). The respondents who watched health insurance-related information from Television seemed to more likely to enrol in health insurance (cOR= 2.342, p<0.001; aOR=1.352). Similarly, the respondents who had seen health insurance-related information from Hoarding Board tended more likely to be enrolled in health insurance (cOR= 2.698, p<0.001; aOR=1.448) compared to who did not see. In the same way, the respondents who read health insurance-related information Newspaper were more likely to be enrolled in health insurance (cOR= 1.949, p<0.01; aOR=1.025) compared to the respondents who did not read. Likewise, the respondents who saw health insurance-related information from the brochure, pamphlet or poster seemed more likely to be enrolled in health insurance if other variables are controlled (cOR= 2.425, p<0.001; aOR=0.683) [Table 28].

Table 28. *Multivariate Analysis of Information, Education, and Communication and Enrolment in HI*

Variables	Attributes	Total		cOR	95% CI		aOR	95% CI	
		N	%		Lower	Upper		Lower	Upper
Educational status	Illiterate *(Ref.)*	60	7.4						
	Literate	246	30.4	.707	.401	1.246	.539	.233	1.246
	Basic education	214	26.4	.882	.496	1.567	.554	.236	1.302
	Secondary education	197	24.3	.810	.453	1.447	.595	.249	1.424
	≥Bachelor	93	11.5	.911	.475	1.748	.411	.155	1.086
Knowledge about health insurance	No *(Ref.)*	227	28.0						
	Yes	583	72.0	45.593***	23.629	87.973	25.820***	12.238	54.477
Have HI related books	No *(Ref.)*	674	83.2						
	Yes	136	16.8	6.427***	4.003	10.320	4.663***	2.515	8.644
Participated in HI related training, workshop	No *(Ref.)*	770	95.1						
	Yes	40	4.9	2.763**	1.361	5.609	.554	.219	1.398
Discussed HI	No *(Ref.)*	551	68.0						
	Yes	259	32.0	4.187***	3.031	5.785	1.488	.947	2.338
Known from social media	No *(Ref.)*	655	80.9						
	Yes	155	19.1	1.313	.923	1.866	.379***	.221	.648
Requested to enrol by peers or neighbours	No *(Ref.)*	296	36.5						
	Yes	514	63.5	10.629***	7.454	15.155	5.036***	3.252	7.800
Knowledge of health services at free of cost	No *(Ref.)*	354	43.7						

Variables	Attributes	Total		cOR	95% CI		aOR	95% CI	
		N	%		Lower	Upper		Lower	Upper
	Yes	456	56.3	2.563***	1.926	3.411	1.589*	1.057	2.389
Listened HI related information from Radio/FM	No *(Ref.)*	424	52.3						
	Yes	386	47.7	2.580***	1.943	3.426	1.174	.768	1.796
Watched HI related information in TV	No *(Ref.)*	500	61.7						
	Yes	310	38.3	2.342***	1.751	3.132	1.352	.887	2.061
Seen hoarding board	No *(Ref.)*	594	73.3						
	Yes	216	26.7	2.698***	1.944	3.744	1.448	.870	2.410
Read newspaper	No *(Ref.)*	704	86.9						
	Yes	106	13.1	1.949**	1.276	2.977	1.025	.531	1.979
Seen brochure, poster, pamphlet	No *(Ref.)*	668	82.5						
	Yes	142	17.5	2.425***	1.653	3.556	.683	.370	1.262

Constant = 0.022, -2 Log likelihood = 680.308, Cox & Snell R Square = 0.421

Note: * = p<0.05, ** = p<0.01, *** = p<0.001; cOR = Crude Odds Ratio; aOR = Adjusted Odds Ratio

Summary of Results

According to the data, more than half of the population was female in the selected households. Nearly one-fourth of the household members were engaged in the agriculture sector for livelihood. Nine out of ten individuals from the selected household were literate and nearly nine percent of the population had a bachelor or higher level of education. More than one fourth were from the rural area. More than half of the respondents were female. Two-thirds of the respondents were household head. The majority of the respondents were from the age group of 21 to 40 years. Nearly half and one-third of the respondents were from Aadibasi/Janajatis and Brahman/Chhetry. Nine out of ten of the respondents were Hindu. More than half of the respondents spoke the Nepali language as a mother tongue. Agriculture, service and business were the major sources of income of the respondents. Nine out of ten of the respondents were literate and about one out of ten of them had a bachelor or higher level degree. More than one-third of the respondents belonged to the nuclear family. More than half of the selected households had up to five members in the family. Major titles of the expenditure of the respondents were education, clothes and utensils, healthcare and food respectively. More than half of the respondents were able to feed their families throughout the year. One-third of the respondents' households had a minimum one member with chronic diseases among them three out of 10 had heart-related diseases. More than half of the enrolled respondents had more than a year of enrolment experience. More than three-fourths of the enrolled respondents renewed their health insurance scheme.

Out of the total respondents, three out of ten were still unknown about health insurance. Enrolment assistant, Radio/Television and neighbours were the major sources of health insurance-related information. Most of the respondents were

motivated to enrol by enrolment assistants. More than one-third had ever faced financial trouble due to health problem in their family. Nearly half of them managed the problems by borrowing money from friends and neighbours. More than half of the respondents expressed that the lack of proper information regarding health insurance was the cause of non-enrolment. A vast majority of the respondents stated that enrolment in health insurance reduces the economic load. Three-fourths of the respondents could pay more than three times the current contribution amount for health insurance if all health services are available to them. Two-thirds of the respondents wanted to insure against all health problems whereas one-fourths of them stated that they wanted to enrol/insure against non-communicable diseases. The majority of the respondents had visited the private hospital before enrolment but three-fourths visited government hospitals after enrolment. Seven out of ten had received health services after enrolment and the majority of them expressed that the quality of services was improved than before. Six out of ten expressed that they had knowledge about the hospital for health services and two-thirds of the respondents had knowledge about the contribution amount. More than two-thirds of the enrolled respondents stated that they were satisfied with the health insurance programme and eight out of ten of them wanted to renew for next year. Of the non-enrolled respondents, the majority wanted to enrol in the coming days.

Out of the total respondents, nearly half stated that they were susceptible to diseases. One-third said that they had faced health problems in the last six months and one-third of them were admitted to the hospital in the last six months. Seven out of ten had access to health facilities within half an hour and most of the respondents used to go health facilities on foot followed by Bicycle. Most of the respondents managed their funding by borrowing from neighbours/relatives and three-fourths expressed that

economic load as the severity of the health problem. A good majority of the respondents stated that the economic status of the people was the main problem to enrol.

Nearly two-thirds of the respondents expressed that general treatment and medicine available after enrolment. Seven out of ten said that their family members were agreed to enrol in health insurance. Three out of ten of the respondents' family members were aboard at the time of interviewing. More than half of the respondents were motivated to enrol by neighbours/friends. Eighty-two percent of the respondents wanted to recommend to enrol to others. Eighty-five percent of the respondents said that no inquiry was made by any organization or authority about the programme and or problems.

The majority of the respondents agreed on the statements on 'anyone can enrol in HI or there is no difficulty to enrol, the current contribution amount is appropriate, the coverage amount is appropriate, my family is susceptible to diseases or health problems, proper dissemination of information, education and communication materials may help to enrol; and it is not easy to receive health services even after enrolment in health insurance'.

Data showed that only one-fifth of the respondents had health insurance-related guidelines or books while very few of the respondents participated in health insurance-related seminars, workshops or trainings and one-third discussed with neighbours or relatives about health insurance. One-fifth of the respondents knew the health insurance programme from the social media and two-thirds were requested to enrol in health insurance by others. More than two-thirds of the respondents had access to Radio/FM and Television and one in ten had internet access too. Three-fourths expressed that Radio/FM and Television were the reliable media but two-

thirds expressed that Radio/FM was the reliable media for health insurance-related information and the majority stated that Television was reliable for that type of information. More than half of the respondents stated that they knew about the health services at free of cost by the government. Most of the respondents stated that immunization and family planning services were free of cost.

Less than half of the respondents had listened to health insurance-related messages from Radio/FM and six out of ten expressed that morning time was suitable to listen Radio/FM. More than one-third of the respondents said that they watched health insurance-related messages from Television and the majority preferred to watch in the evening. One-fourths of the respondents said that they had seen health insurance-related messages in Hoarding Board, followed by Brochure, Poster, Pamphlet, and Newspaper. More than two-thirds of the respondents preferred the Nepali language for health insurance-related messages and a vast majority liked the dramatic type of messages, two-thirds and one-third liked funny and musical messages respectively. Eight out of ten expressed that Radio could be an appropriate method to convey health insurance-related messages but three-fourth stated Television as an appropriate way to convey health insurance-related information.

There was a significant difference was seen between demographic characteristics and enrolment such as household headship, age group, religion, sources of income, income or production covers to feed, presence of chronic diseases in the family. Similarly, there was a significant difference was found between health insurance-related information and enrolment in health insurance such as knowledge on HI, sources of information received, knowledge of benefits of enrolment, willingness to pay, wanted to insure against the diseases, type of people enrolled, knowledge about the hospitals for receiving services, knowledge about contribution

amount. Likewise, there was also a significant difference was observed between information, education and communication related to health insurance and enrolment such as having HI related books, guidelines, participated in the training, workshop, seminars, discussion with neighbours, media available at home, knowledge of health services at free of cost, information listened and watched from the radio/FM and television, seen a message from the hoarding board, HI related information read in the newspapers, seen brochures or posters and pamphlets. There was also a significant difference noticed between components of the Health Belief Model and enrolment in HI such as susceptible to health problems, felt health problem in the last six months, severity of health problems, problem to enrol, services available after enrolment, family member agreed to enrol, motivated by the neighbour to enrol.

Some variables were seen as a positive predictor for enrolment such as the presence of some type of chronic disease(s) within family member(s), knowledge on health insurance, having health insurance-related books or guidelines at home, a financial problem due to diseases, willingness to pay, knowledge about hospitals for health services, knowledge about the contribution amount, susceptible to health problems, motivated by neighbours to enrol, requested to enrol by others, knowledge about the health services at free of cost.

Information, Education, and Communication for Health Insurance

Information, education, and communication [IEC] are one of the components of health promotion. Communication is considered as a power, the power to change and IEC is an approach to change the desired behaviours with the means of different kinds of media, methods and interactions that aim to change knowledge, understanding, attitude, appreciation, skills, faith and ultimately positive behaviour. So it is considered as a package of interaction that may be formal or informal. People

used to interact with both formal and informal ways. In the sense of health insurance programme individuals generally got information through the following ways:

- Formal education/literacy classes

- Trainings/Workshop/Seminars/Discussion

- Interact with neighbours, peers and relatives

- Enrolment assistants

- Healthcare works/Doctors

- Social leaders: FCHVs, teachers

- Radio/FM

- Television

- Posters/Pamphlet/Leaflets

- Hoarding boards

- Newspapers

- Social media

Chapter Summary

According to data, two-thirds of the total sample were selected from Kailali as per population proportion. One-fourth were from rural areas, half respondents were female, two-thirds percent were HHH, the majority were between the age of 21 o 40 years. Ninety-one were Hindu, nine out of ten were literate, more than one-third were from the nuclear family, one-third HH had member having chronic disease(s). Socio-demographic, information about HI, perceived susceptibility and severity of diseases or illness, IEC means were associated with enrolment of HI. Almost all IEC approaches influenced enrolment. The respondents preferred financial benefits as the major causes of enrolment. The perceived susceptibility and severity of the diseases and health problems were associated with the enrolment in HI. Therefore, the study

supported the aspiration of HBM. Motivated by peers/neighbours and requested to

enrol by peers or neighbours were a significant predictor for enrolment.

CHAPTER VII

Findings and Discussion

This chapter deals with the willingness to pay [WTP] for health insurance; socio-economic status of the families and their enrolment in health insurance; access to information, education and communication, application of the Health Belief Model in health insurance; and perception and attitudes towards health insurance.

People's Familiarity and Willingness to Pay for HI

The study was conducted in 810 households of Baglung and Kailali districts using IS in 2018. More than two-thirds [72%] knew health insurance. Similarly, four out of ten [40%] did not know the place where the health services after enrolment. One third [34%] expressed that they know about the contribution amount but 65 percent of the respondents responded the exact [right] answer while interviewing.

The data show that the average WTP for HI was NRs. 1429 per individual per year which was nearly threefold higher than the contribution amount [NRs. 500] mentioned by the HIB [1US$ = NRs.119.55]. Some variables such as districts of respondents, gender, household headship, native language, wealth status, chronic diseases within family members, enrolment of HI, knowledge about HI, exposure to Radio/FM and TV, access to health facilities within 30 minutes were significantly associated with WTP for HI. So the first hypothesis: there is no significant difference between exposure to media and wealth status of people and WTP for HI, was rejected. Besides these, respondents' district, gender, age, caste/ethnicity, and enrolment in HI, and time is taken to reach health facilities were a significant predictor for WTP.

Promoting and protecting health is a quality of life, global peace and security as well (World Health Organization, 2010). WTP mostly depends upon the socio-demographic characteristics of the respondents (Acharya et al., 2018; Babatunde et

al., 2012; Bärnighausen, Liu, Zhang, & Sauerborn, 2007; Nosratnejad, Rashidian, & Dror, 2016; Shafie & Hassali, 2013). However, some studies show the controversial result that socio-demographic characters may or may not influence the WTP. It is mostly determined by individuals' knowledge and belief, ability to pay; and access and quality of health services available to them. Another study shows that ethnicity, educational level and income of the household influence the WTP (Shafie & Hassali, 2013) which supports the study.

People usually look for health services when symptoms of ill health or disease appear. Very few households care about their health before health problems appear or few people seek financial protection or prevention of diseases (Jain, Swetha, Johar, & Raghavan, 2014). A significant association has been noticed in sex, age, educational level, occupation and the income of respondents and willingness to pay for health insurance (Bawa & Das, 2011) that was a similar result with the study. Another study at Nigeria shows (Babatunde et al., 2012) various factors such as age, gender, educational attainment, size of the family, the experience of health expenditure, being household head were some affecting factors for WTP for HI whereas another study did not accept that the education level as the significant determinant for WTP (Bärnighausen et al., 2007). Ramadhan, Rahmadi and Djuhaeni (2015) claim that the ability to pay is higher than WTP, which means people are not willing to pay more even they can pay for HI.

Nigerian had 522.0 + 266.3 Naira per annum per household member (3.26 + 1.66 US Dollars) WTP for community health insurance (Babatunde et al., 2012). In Vietnam, the households were willing to pay about 921.9 thousand Vietnamese dongs per household per year (US$42) (Nga, Gerald, & Dunne, 2018). But according to Nguyen and Hoang (2017) the respondents would agree to participate in the SHI

scheme and are willing to pay an annual premium of 578,926 VND (27.1 USD); 473,222 VND (22.1 USD); and 401,266 VND (18.8 USD) at the co-payment levels of 0, 10, and 20%, respectively in Vietnam.

In Bangladesh, weekly average WTP was 22.8 BDT [Bangladeshi Taka] or 0.32 USD and varied significantly across occupational groups and locations, WTP was highest among rickshaw-pullers (28.2 BDT or 0.40 USD), followed by restaurant workers (20.4 BDT or 0.29 USD) and shop keepers (19.2 BDT or 0.27 USD) for community-based health insurance (Ahmed et al., 2016). In the same way, the average WTP for the HI is 20,237.16 SLL (3.6 USD) per adult but it ranges from about 14,000 SLL (2.5 USD) to about 35,000 SLL (6.2 USD) depending on region, occupation, household and respondent characteristics for HI in Sierra Leone (Jofre-Bonet & Kamara, 2018).

Studies indicated that WTP was found more than the contribution and or premium amount for HI (Nga et al., 2018). However, it was most affected by different socio-economic characteristics like marital status, income level, education, occupation (Ghosh, 2013). In Vietnam, there was a mandatory provision of insurance for formal-sectors workers and voluntary for other groups (Nguyen & Hoang, 2017) and also suggested that awareness programme on the benefits of social health insurance can cover more population but in the context of Nepal there was voluntary enrolment or participation. Another study in Bangladesh also suggests educational intervention, and wider participation (Khan & Ahmed, 2013). The concerned authority should win the trust of the population especially old-age people and having a low level of education (Lofgren, Thanh, Chuc, Emmelin, & Lindholm, 2008).

The study finding shows a positive association between higher income, higher education, larger family size, and a family member having chronic diseases and WTP.

Studies suggest that public information needs to be delivered to reduce the negative attitude towards health insurance (Lofgren et al., 2008). A systematic review shows that there is a correlation between WTP and family size, education level and income (Nosratnejad et al., 2016) but WTP decreases against an increase in age. The WTP was positively associated with a job, educational level, number of pregnant women in the family, having TV and having paid and last medical requirement (Jofre-Bonet & Kamara, 2018). Household income, number of uninsured members in family and sickness of the household head were the factors that significantly affect the WTP (Nga et al., 2018). The WTP was varied in various studies. A systematic review of WTP for HI in LMIC shows the following results (Nosratnejad et al., 2016): (i) marital status, having a child under five year, rural residence, employment status, distance to the health facility, an experience of past health expenditure had a neutral or equivocal effect on WTP; (ii) gender (being male), larger family size, high-income level, the experience of hospitalization, and perceived poor health status had higher WTP; but (iii) interestingly old age had lower WTP. These results show some similarities and contradictions with the study.

Perception and Attitudes Towards Health Insurance

Data from this study indicate that most of both positive and negative statements regarding health insurance were significantly associated with enrolment in HI. The study shows there was a significant association among the statements of attitudes and perceptions and enrolment of HI.

'Attitude is a small thing but it makes big difference' a proverb is commonly used in our society since attitude is not a minor issue but a major factor for behaviour change process (Ballon & Skinner, 2008). Our behavioural and social systems make traits in our knowledge system. There is no doubt that misconception and

misinformation obstruct the successes of the programme. Since the HI programme is new for Nepal. It is hardly understood and remains questionable, unclear and disbelieving about how it works. Positive attitude, positive perception and satisfaction from health services support the enrolment in HI and sustain the programme. Perception towards programme and quality health services could have a huge impact on the enrolment in HI programme (Amo-adjei, Anku, Amo, & Effah, 2016).

Enrolees' expectation on the programme is crucial for sustainability to ensure enrolment in HI. Regular monitoring, availability of medicine, appropriate IEC for sensitization, proper handling of complaints, and timely review of insurance policy could lead positive attitude and perception for mass participation (Adewale, Adeneye, Ezeugwu, Afocha, & Musa, 2016). The HIP needs public support, national solidarity and people's acceptance for mass participation as well as success. Without a positive attitude and perception as well as feelings of assuring quality service, it is not possible to implement the programme successfully. Various socio-demographic factors, such as age, healthcare cost, health status, dependent family member, personality traits, individual's perception towards health insurance programme are associated with enrolment in HI (Mathur, Paul, Prasad, & Das, 2015). So, the perception is one of the key predictors for enrolment in HI.

A study from Jordan shows that the parents of the persons having physical and health impairment were satisfied with health services as well as HI but service timing, delay in treatment and surgery. A long, boring, routine and delay procedure to obtain medication through health insurance making them annoy (Altarawneh, Etawi, Al-Wrikat, Al-Hrasees, & AlTarawneh, 2017). Another study from Kenya shows that there was a low level of perception and attitude regarding HI and there was also a moral hazard about HI and people asked for health service even they were not sick.

Such type of perception and attitude makes a programme as having low coverage (Maina, Kithuka, & Tororei, 2016). To monitor the accessibility of health services there should be a survey that is often used to determine the people's perception and attitude about HI. A web-based and telephone survey to assess the people's perception and attitude regarding National Health Insurance [NHI] in Taiwan shows that there was no significant difference in seeking health services between web-based and telephone survey based respondents but telephone survey based respondents had greater satisfaction about NHI (Yang & Tan, 2015).

Despite the favourable attitude about HI, many countries in Africa could not adopt the HI programme successfully. Nigeria has such experience that people had poor awareness about the National Health Insurance Scheme but the attitude about it was inspiring. People from there were willing to enrol if any opportunity is over there. It has been shown that there was a positive association between awareness and adequate knowledge about HI and uptake of HI (Adewole, Adebayo, Udeh, Shaahu, & Dairo, 2015). Black and Hispanic (13 to 16%) parents having a child with special healthcare needs were dissatisfied with the healthcare services provided to them and suggested to make understandable language to them to overcome the dissatisfaction rate about healthcare services (Ngui & Flores, 2006).

Susceptibility and Severity of Diseases or Illness and Enrolment in HI

The finding of this study suggests that perceived susceptibility and severity of the consequences of diseases or illness, experiences of illness, knowledge of health services available after enrolment and acceptance of HI by family members are significantly associated with the enrolment of HI. Therefore, the fourth hypothesis: there is no association between perceived susceptibility and severity of diseases and enrolment in HI was rejected. Besides that, the susceptibility of diseases or illness and

peers or neighbours' motivation to enrolment appear as a significant predictor for enrolment.

The study tested whether HBM is fully explanatory to WTP for HI in the study districts. The basic concept of HBM is why people change behaviour (Champion & Skinner, 2008). The use of HBM has frequently yielded remarkable results in the field of behaviour change or behaviour modification (Rosenstock et al., 1988). The main essence of the HBM is the perception of severity or risk of any problem that strikes the individual towards the action that minimizes the threats which depend upon the benefits and barriers of taking action. The HBM elaborates that individuals' feelings of four variables can predict their behaviours (Carpenter, 2010). First, the model argues that if they perceive that they are susceptible to health problems then they will be motivated to adopt the health behaviours or they will search for an alternative to overcome the perceived threat to them. Second, the vulnerability and severity concern the individuals' feeling of undesirable health consequences, the more they will be motivated to avoid undesirable health problems. Third, individuals' perceived benefits motivate them to engage in the desired behaviours for minimizing or controlling or avoiding negative health outcomes. And fourth, if the individuals' perceived behaviours are strong then they are less likely to adopt the targeted behaviours.

The meta-analysis shows that benefits and barriers seemed like a strong predictor for behaviours compared to the feeling of susceptibility and severity of diseases (Carpenter, 2010). HBM can be used as an educational programme tool for individuals as well as community (Baghianimoghadam et al., 2013). It seemed that decision was affected by perceived benefits, perceived severity and cue to action (Loke et al., 2015). According to HBM feeling and perception regarding risk motivate or stimulate to engage in healthy or intended behaviour (Ahadzadeh, Sharif, Ong, &

Khong, 2015). The study shows that susceptibility and severity of diseases or illness were significantly associated with the enrolment the supports the essence of the HBM.

HBM suggests that individuals will take action if they perceive themselves to be susceptible to the illness or condition (perceived susceptibility), that this illness will have serious consequences (perceived severity), a course of action will minimize consequences (perceived benefits), and the benefits of taking action will outweigh the costs or barriers (perceived barriers) The HBM suggests that before people change their behaviour, they go through a process in which they weigh information before they reach a decision (Korin, 2016, p. 3).

Various empirical studies show the association between HBM constructs and behaviour change. A study from Hong Kong shows that components of HBM: perceived susceptibility, perceived severity, perceived benefits, perceived barriers and cues to action were significantly correlated with the maternal preference or desired actions (Loke et al., 2015) and suggested to consider the factors during intervention planning. Another study shows the same result as the model was established. Nearly the same result is seen in Iran, HBM-based health education interventions affect the women's attitude, beliefs, and behaviours regarding the pap-smear test for prevention of cancer (Khademolhosseini, Noroozi, & Tahmasebi, 2017). Similarly, the behaviour of self-examination of the breast was raised in HBM based intervention group than the control group at Fasa city of Iran (Khiyali, Aliyan, Kashfi, Mansourian, & Jeihooni, 2017) and there was a significant association was seen between women's performance and knowledge and perceived risks; perceived benefits and barriers as well as self-efficacy and cues to action (Masoudiyekta et al., 2018).

Many interventions regarding HBM-based education were seen successful in changing in positive health behaviour, however 'the estimate of the effect of perceived susceptibility on behaviour was nearly homogeneous, but the estimate of the effect was also nearly zero' (Carpenter, 2010, p. 666). Meditation practices (in HBM-based constructs) affect students' mindfulness, quality sleep, mood disturbance, forgiveness and even their achievement in a positive way (Gryffin et al., 2014). Another study from Egypt shows that educational film regarding HBM and the practice of breast self-examination had a positive association or educational interventions affect the nursing students in terms of self-examination awareness and practice in a positive way which can early detect the abnormalities and could be empowered to assess themselves (Attia, Abdel, & Kamel, 1997; Nahidi et al., 2017). In the same way, the self-care practice of type-II diabetes was positively seen as a significant change after intervention concerning HBM constructs (Shabibi et al., 2017).

Rosenstock indicates that the combination of susceptibility and severity makes a synergy effect which creates energy or force to act (Janz & Becker, 1984). However, a systematic review accepts HBM as a behaviour change technique rather than a theoretical approach since there were some controversial finding between HBM constructs and its relationship with the behaviour change process (Jones, Smith, & Llewellyn, 2014) but another an empirical study from Taiwan shows that perceived susceptibility, severity and barriers have a jointly significant relationship with desirable behaviour or cues to action and considered as telehealth not only as an information system but an approach for behaviour change (Hsieh & Tsai, 2013).

It is claimed that perceived susceptibility and self-efficacy had positively associated with the modification of behaviour whereas perceived barriers have a

negative relationship in behaviour change moreover perceived susceptibility and perceived barriers and self-efficacy were a strong predictor for self-assessed behaviour (Dehghani-tafti et al., 2015). Another education-based intervention regarding HBM on dietary behaviour for pregnant women at Iran shows that there was a significantly different among mothers about knowledge, perceived severity and perceived benefits but there was no significant difference was seen in perceived benefits and perceived susceptibility (Khoramabadi et al., 2016). Before 1974 'perceived susceptibility' seemed like the most dominant construct of HBM. However, very few of the other studies measured 'perceived barriers' whereas after 1974 'perceived barriers' constantly yielded the top significance ratio (Janz & Becker, 1984). The HBM related intervention within a patient provides for increased understanding of how such perceptions can be influenced to improve patient engagement in promoting safer healthcare. Constructs from the HBM help to explain how patient perceptions of benefits, barriers, threat and self-efficacy influence their involvement in both factual and challenging patient safety practices (Bishop, Baker, Boyle, & Mackinnon, 2014, pp. 3019, 3031). Comparatively, HMB constructs are more powerful than in Reasoned Action in the intervention of water-saving behaviours (Morowatisharifabad, Momayyezi, & Ghaneian, 2012).

Education-based HBM can be used as a strategy for the prevention of diseases, it seemed as effective in promoting the health beliefs and health behaviour in women having UTI problems (Tehrani, Nikpour, Kazemi, Sanaie, & Panahi, 2014). Another study shows the similar result that after the intervention programme average score of perceived susceptibility, severity, barriers and benefits were significantly increased therefore it is concluded that educational programme based HBM could play positive effects on cancer-preventive behaviours of people by improving knowledge and

attitude and motivation as well (Zare et al., 2016). Applying HBM based educational programme increases tooth brushing and flossing habit of students for the prevention of oral health problems which was statistically significant (Solhi, Zadeh, Seraj, & Zadeh, 2010).

The ability and capacity to adopt the behaviours and motivation for health had a crucial role in decision making as well as behaviour change. Therefore, various studies recommend deploying education-based HBM with a special focus on self-efficacy and health motivation as well (Bay & Heshmati, 2016). The mother having health insurance and access to regular health workers were the significant predictor for Pap-smear test for cancer prevention compared to the women who had no health insurance scheme and 'laziness' was the main barrier of not performing the Pap-smear test (McFarland, 2013). Physical education programmes with references to HMB constructs was seen as a significant relationship with the physical activities of high school students at Urmia (Rezapour, Mostafavi, & Khalkhali, 2016). Similarly, the nutrition behaviour of the students at Tehran was predicted by their knowledge and perceived barrier whereas there was a significant relationship between physical activity behaviours and knowledge, perceived severity, perceived obstacles and self-efficacy (Rahmati-najarkolaei, Tavafian, Fesharaki, & Jafari, 2015). HBM constructs predict the risky behaviours, therefore, it can be concluded that physical activities of the individuals also depend upon their perceptions regarding susceptibility and severity of diseases or other health problems. Consequently, an intervention of instructional programmes based on HBM significantly affected the pregnant mothers' awareness, feelings and choice of delivery they want (Hassani, Aghamolaei, Ghanbarnejad, & Dadipoor, 2016). Shahnazi et al., (2012) claim that inadequate knowledge and attitudes concern with cancer pain management therefore, basic and

continuous intervention programmes might improve and support to improve knowledge on cancer pain management.

A cross-sectional study shows that there were significant differences shown in perceived severity, perceived benefits, self-efficacy and cues to action between smokers and non-smokers and results showed that HBM constructs predict the smoker and non-smoking behaviour in pre-college students in Iran (Reisi et al., 2014). Respondents' behaviours were correlated with HBM constructs which were statistically significant to adopt preventive behaviour. Perceived benefits, cues to the action seemed like a powerful predictor for protecting and preventive behaviour against rabies (Morowatisharifabad, Karimi, & Jannati, 2014). Educational interventions based on HBM components implemented in pregnant mothers showed that an increase in knowledge can change in women's beliefs and behaviours during pregnancy for anxiety (Shahnazi, Sabooteh, Sharifirad, Mirkarimi, & Hassanzadeh, 2015). Similar results were seen that educational based HBM constructs can increase physical activities by increasing pregnant mothers' attitudes and beliefs (Shafieian & Kazemi, 2017).

The HBM components do not work universally, a study conducted at Beijing, China shows that behaviour of low consumption of salt was affected by the HBM components especially by perceived barriers and demographic characteristics of respondents however some constructs of HBM seemed ineffective and needed to be developed another model for addressing such issues (Chen et al., 2013). Another study supports in some sort of the HBM constructs but not in the behaviours. An educational intervention caused a significant enhancement in the mean score of knowledge, perceived severity, benefits and barriers but not in the mean score of nutritional behaviours (Shojaei, Farhadloo, Aein, & Vahedian, 2016). Similarly, a

study in the USA shows that all components of the Expanded Health Belief Model (EHBM) were not associated with expected behaviours. Self-efficacy, readiness and interaction with screening with healthcare providers were significantly associated with colorectal cancer screening but knowledge and barriers were not associated with screening (Sohler, Jerant, & Franks, 2016).

The diverse nature of the study in the different setting shows the different findings. Perceived severity, as well as a perceived barrier, were linked to help-seeking behaviour. But Asian Americans were less likely to help-seeking than White Americans and perceived benefits were somewhat responsible for the differences between them (Kim & Zane, 2017). The HBM components may help to understand and facilitate use of the modern contraceptive behaviour and help to prevent unwanted pregnancy which promotes positive family planning results (Hall, 2013).

Orji, Vassileva, and Mandryk (2012) claimed that extended HBM seemed more likely to predict health behaviour than the old one which includes consideration of future consequences, self-identity, appearance concern and perceived importance. Another study states that perceived benefits and perceived barriers for eating healthy foods had to be a significant predictor for healthy eating behaviour (Kim, Ahn, & No, 2012).

A study shows that perceived susceptibility and perceived severity appeared as a predictor for using a facemask and personal discomfort and sense of embarrassment seemed as a perceived barrier. It is accepted that media blitz, health promotion activities can increase cues to action for using facemask (Sim, Seng, & Moey, 2014) which is a similar result of the study. Perceived susceptibility and perceived severity together create threats to disease or health problems or consequences. An individual may change his/her behaviour if perceived benefits are greater than perceived barriers.

And suggested that health-related information based on HBM concepts through the means of public service announcement by considering the cultural context may create awareness and that supports control the health problems (Lennon, 2005).

Socioeconomic Factors and Enrolment in Health Insurance

The study findings indicate that socio-demographic variables such as household headship, age group, religion, sources of income, food sufficiency to feed, family member(s) having chronic diseases are significantly associated with the enrolment in HI. So, the second hypothesis: there was no association between socio-demographic characteristics and enrolment in HI, was rejected. Besides that, age group; religion; wealth status, food sufficiency, household having a member(s) with chronic diseases were significant predictors for enrolment [Table 13].

There is no doubt that respondents' characteristics influence their perception and behaviour as well. Individuals' behaviours depend upon their socio-demographic and economic backgrounds. Abdel-Ghany and Wang (2001) state that educational level, age of the respondents and having a child less than six years were the variables positively associated with the enrolment in health insurance but the poverty level was associated with poor chances to have insurance. The utilization of health services was higher in insured households compared to those who did not insure (Gao, Kumar, Wisniewski, & Fabio, 2018; Nosratnejad & Shami, 2017).

Another study shows that quality of life was seen in the insured household (Gebru & Lentiro, 2018) therefore the government should expand the health insurance programme to the people to ensure the quality of life. Nelson, Chapko, Reiber and Boyko (2005) state that uninsured adults, especially from minority and having low income, use to receive fewer preventive health services than the individuals having health insurance. Refusal to receive treatment by the patients is seen in the uninsured

patient which reduces the survival rate (Huang, Kung, Chiu, Wang, & Tsai, 2014) so the study suggested for compulsory enrolment scheme for all. A systematic review shows that there is an association between enrolment in health insurance and the utilisation of health services (Fowler et al., 2010; Skinner et al., 2014). Personal factors (awareness and understanding on HI, trust on programme/scheme, perceived service quality, socio-demographic and economic status), interpersonal factors (household's dynamics, family member's enrolment, peer influence, social commitment or solidarity), community-level factors (culture and community involvement) and system-level factors (governance and financial delivery management, accountability of programme or management, strong policy maker-implementer relation) influence the enrolment in HI (Fadlallah et al., 2018).

Controversial findings were observed that the educational status of the individuals had limited influence in enrolment. A study from Kenya shows that marital status (married), education (higher), knowledge on insurance benefit (about HI) seemed associated with the uptake of health insurance (Maina et al., 2016). But Nigeria has unique experiences. Lack of trust about government health policies, religious faith, poor economic status were the factors that hindered the expansion of the National Health Insurance Scheme for informal sectors (Adewole et al., 2015). These are nearly similar results to the study.

Tilahun, Atnafu, Asrade, Minyihun, and Alemu (2018) state that enrolment in HI increases health service utilization. An association was noticed in educational level, presence of chronic diseases in the family, first service point for healthcare, wealth status, and enrolment with health service utilization, therefore, it can be recommended to consider income, educational level, having diseases in the family,

and choice of first treatment point as a target for increasing the healthcare utilization (Acharya et al., 2019) which ultimately support to enrol in HI.

Information, Education, and Communication for Health Insurance

Data of the study shows that knowledge on HI, sources of information about HI, having HI related booklets, participation in HI related training/workshops, discussion with peers/neighbours, peer or neighbours' request to enrol, media available at home, knowledge about free health services were significantly associated with enrolment. So, the third hypothesis: there is no statistical difference between exposure to IEC and enrolment in HI, which was rejected. Moreover, knowledge about HI, having HI related booklets, requested to enrol by peers/neighbours, knowledge about health services at free of cost, were significant predictors for enrolment.

The study shows that exposure to IEC leads to more enrolment. Similar findings are seen in various studies. A study conducted in Madhurai, India shows that IEC materials are a useful tool for promoting suitable eye awareness and serve as a powerful tool for social change (Abraham & Sheeladevi, n.d.). Another study from Indonesia shows that there was a significant relation between IEC and contraceptives use besides that visits with medical officers and family planning officers informing contraception to the clients is significantly affected on the uses of contraceptives (Winarni & Dawam, 2016). IEC can raise awareness and understanding which may achieve more positive and sustainable effects (Aggleton et al., 2005).

Experience from the Gambia shows that women who do not have adequate and correct/proper information regarding pregnancy and childbirth would be ill-equipped for making choices, therefore, delivering an adequate and appropriate message from mass media is an and feasible strategy that has proven successful

programme (Anya et al., 2008). Another study from South Africa indicates that community health workers were a significant provider of IEC and they were a bridge for making access to health services, health promotion and health maintenance (Zulliger et al., 2014) but the study shows that peers or neighbours were the significant providers for IEC. An experimental study from India shows that IEC interventions created awareness about the risk of hypertension associated with the consumption of high salt that could reduce the consumption of high salt and blood pressure (Borah et al., 2018).

There are various approaches and methods of IEC, community-based IEC activities could be a sustainable way for behaviour change, a study at Vietnam shows that the flip chart was the most effective IEC method for changing desirable health behaviour in term of food hygiene and food safety (Takanashi et al., 2013). Ghana's experience shows that interventions related to social and behaviour change communication significantly contribute to maternal knowledge and practice in terms of identification of danger signs, antenatal and post-natal check-up (Saaka et al., 2017). Teachers are considered as a social leader. They may be a promoter for behaviour change. Students believe in a teacher and they may able to disseminate information to their families as well as communities what they learnt from the teacher. Radio, posters, pamphlets, dramas, lectures and folk programmes could be considered as synergistic approaches but not as a replacement for each other (Arroz, 2017). An intervention of eight months long group and interpersonal communication for behaviour change communication activities showed significantly positive results and noticed better knowledge, understanding and attitude in India (Srinivasan et al., 2018). Similar results are seen in Bangladesh. The mothers who participated in behaviour change communication intervention programme had more knowledge than

those of non-participants and more likely to feed nutritious foods to their children (Hoddinott et al., 2017). Radio is one of the mass media. The radio spots can encourage people for changing in desired health behaviour. A study from Liberia shows that the women who listened to radio spots were encouraged to care for their child and visited health facilities if fever appeared to the child (Awantang et al., 2018).

Data shows that more than half [56%] respondents knew about health services at free of cost. A study from Ghana shows that nearly nine out of ten respondents knew the benefits package of HI both laboratory as well as OPD services. Most of the respondents got information from the radio (47.6%), health facility (22%), TV (18.5%) and health workers (14.7%). And more than half (52.4%) respondents had a positive impression about insurance packages compared to 18.5 percent negative (Agyei-baffour, Oppong, & Boateng, 2013). In the country, there was a positive relationship between wealth and likelihood in enrolment but the negative association was seen in wealth and perception of HI service provision (Dixon, Tenkorang, & Luginaah, 2013). Experiences from Kenya show that there was dissatisfaction with the public healthcare system despite the government's special efforts to collect the revenue for HI. There was a high level of knowledge about HI but low level of understanding about how it works (Mulupi, Kirigia, & Chuma, 2013). A vast majority (83%) of the respondents believed that the benefits of enrolment in NHIS but 11 percent disagreed about the benefits. Moreover, respondents' perceptions regarding the benefits of enrolment were significantly associated with their joining on HI (Boateng & Awunyor-vitor, 2013). A study from Bolgatanga and Builsa, Ghana shows that both insured and uninsured were satisfied with the health services they received. Since the utilization of health services increased simultaneously load

increased for service providers that influenced their behaviours toward the insured clients. Long waiting time, misbehave toward the clients, not making an immediate payment, not properly physical examine and delay reimbursement was noticed which affected the operation of health facilities that made clients dissatisfaction toward the programme. It is also noticed that the opportunistic behaviour of the healthcare providers was responsible for differences in services utilization which may lead to dissatisfaction and negative attitude towards the insurance programme (Dalinjong & Laar, 2012).

A study in Karachi, Pakistan shows less than half (46.8%) of the respondents were aware of the concept of the HI while more than half (50.5%) were able to tell the correct definition of HI. Seventy-five percent of the respondents were willing to join in HI scheme. More than one-third (38%) of the respondents expressed that lack of trust in the government programme and it was the main cause of choice whether join or not (Raza et al., 2017). Respondents socio-demographic characteristics influenced their perceptions and quality of healthcare. Health service providers and health service seekers had a good perception of the quality of healthcare. Therefore, HI programme should address negative perception and issues raised by the people and other factors which influence their attitude about quality healthcare (Nsiah-boateng, Asante, Spaan, & Velden, 2018).

Tanzania has operated different programmes for health insurance. The Community Health Fund [CHF] and the National Health Insurance Fund [NHIF] were among them. Voluntarily households were enrolled at their choice either involved in CHF or NHIF and even non-enrolled in both of them. A study from there shows that majority of respondents were positive and supportive for the redistribution policy of the insurance programme and willingness to contribute which was influenced by

perceived benefits, consideration for subsidy amount and trust to the programme

(Chomi, Mujinja, Hansen, Kiwara, & Enemark, 2015).

Data shows that almost all statements had positive perceptions and attitudse

towards the HIP. A similar observation was noticed in other studies. A cross-

sectional survey for perception in Ghana shows that generally insurance subscribers

had a positive perception about the quality of care but people from Ashanti were less

positive compared to the central region of Ghana. There was a significant difference

in subscribers' perception of the quality of care that was observed by occupation,

region, duration of membership and age. Data showed that the different factors were

significantly associated with the perception of good quality of healthcare. They were

region, age and duration of membership (Nsiah-boateng et al., 2018). But there was a

different experience in Ghana. Most of the males and females felt the quality of care

was worse. However, there was a significant difference in perception about healthcare

among males and females, level of education, wealth index, region, place of

residence, ethnicity etc. (Amo-adjei et al., 2016). A qualitative study from the USA

indicates some difficulties (unclear terminology, plan cost high, the complex

calculation for assessing the cost) were identified that made consumers frustrated and

anxious.

A study recommended developing a simple inclusive language for the diverse

population which can make positive perception and better participation as well

(Housten et al., 2016). Another cross-sectional study within insured and non-insured

patients at Ghana shows that there was no significant difference observed in terms of

the perception of the quality but a significant difference noted regarding financial

access to care between insured and non-insured patients. Insured patients seemed

more likely to go further investigation for treatment like a laboratory and other

diagnoses compared to non-insured. The major quality of care is concerned with inadequate resources, lack of doctors, drugs and other required materials and equipment to function with them. The study concluded that insured and non-insured patients were not treated unequally while the quality of care concerns with both insured and non-insured patients (Abuosi, Domfeh, Abor, & Nketiah-amponsah, 2016).

The Medical Expenditure Panel Survey [MEPS] shows that more than 12 percent of adults (>18 years of age) agreed with the statement 'I am healthy enough that I do not need health in Unites States insurance' in 2010 and 2011. Seven percent of them were neutral with that statement. Similarly, nearly one fourth (25% and 24.3%) of the adults accepted the statement 'Health insurance not worth the money it costs' respectively in 2010 and 2011 while 13 percent of them stated that they were undecided on that statement (Cohen, 2014). A study from India shows that patients' satisfaction depends upon perceived quality of supplies, resources and providers as well as financial and physical accessibility healthcare and enrolment in micro-health insurance. Awareness programme from the formal system could motivate people to enrol. Moreover, adequate quality drugs, access to quality health services, and patients friendly behaviour could support higher satisfaction that leads to higher enrolment in HI (Basri, 2018).

Enrolee or client's satisfaction is one of the important indicators of the HI programme. Their happiness not only predict the successfulness of the programme but also one of the indicators of the effectiveness of the programme. Higher happiness and higher satisfaction show the quality and further promote and stimulate to enrol in the programme. There is an association between quality care and patients' satisfaction. The quality of healthcare is not only a part of clients' satisfaction but also

a part of accountability (Hutchinson & Jackson, 2015). The study shows that there was no association between higher educational status and enrolment. But, a study from the United States shows that health insurance literacy was a major component of enrolment in HI. Higher the HI literacy higher the satisfaction in terms of healthcare cost. Similarly, low HI literacy seemed low enrolment as well as low satisfaction. Besides these, HI literacy was a significant predictor for the enrolment in HI (Norbeck, 2018). Likewise, another study from Bangladesh indicates that there was a favourable satisfaction with the health services under the insurance package however it could be a chance of more improvement (Sarker et al., 2018).

Reflection on Limitation and Study Implications

As per the experiences of this study the following reflection and are made:

1. The study was based on the perspective of behaviour change so the analysis and discussion followed it.

2. Different banking institutions and commercial insurance companies have offered attractive health care schemes that were excluded in this study. Further study can be done by including these sectors.

3. Insurance from formal sectors such as Police, Military, Civil servants, and other institutes of government-funded autonomous bodies would be another area of research since it covers thousands of employees and their dependents.

4. Another study could be done with a wide scope of geographical areas, contents, and methods for powerful evidence.

5. HI and IEC related content could be included in school as well as in university-level curriculum.

6. A comparative study can be done among commercial and non-commercial and government-funded HI programme.

Methodological reflection. Different research approaches can be used since I have had a limited approach which might limit the evidence that can be translated in different fields. An intervention of IEC approaches with a mixed-method approach could be done for effective study.

1. A multi-stage sampling can be done for the representativeness of the results.

2. Multiple tools for data collection can be used for data triangulation such as IDI, FGD, KII.

3. Initially, I prepared Likert's type five-point attitude scale but it was difficult to categorize by the respondents. Therefore, it was changed into a three-point scale. So, different types of tools can be used to find out the respondents' attitudes and perceptions.

4. Secondary data can be used for data analysis for effective policy formation.

5. The providers' perspective can be added in further study. Moreover, the stakeholders' perspective can be added.

6. The communication strategy can be changed since it is said to be less effective in some instances.

Chapter Summary

The study findings show that the respondents' average willingness to pay was nearly threefold higher than the currently prescribed contribution amount. The association was observed among socio-demographic variables; exposure to information, education, and communication about health insurance; perception and

attitudes towards health insurance; perceived susceptibility, the severity of the consequences of diseases or illness; and willingness to pay for health insurance. Similarly, socio-demographic characteristics were associated with the enrolment of health insurance; exposure to information, education, and communication were also associated with the enrolment in health insurance. In the same way, perceived susceptibility and severity of the diseases or illness, and attitudes and perception towards health insurance were also significantly associated with the enrolment of health insurance.

CHAPTER VIII

Conclusions and Implications

Conclusions

The results of the study and other empirical evidence show that gender: being male; household headship; mother tongue: Nepali speaker; wealth status: rich; chronic diseases within the family members, enrolled in HI; knowledge on HI; exposure to HI related information from Radio and TV; and access to health facilities within half an hour trigger willingness to pay for health insurance. Similarly, gender; age; caste or ethnicity; family type; enrolment in HI; access to health facilities tend to be the significant predictors for willingness to pay for health insurance. It can be concluded that the education and wealth status of individuals may influence willingness to pay for health insurance. So the hypothesis first: there is no significant difference between exposure to media and enrolment was rejected since a significant difference was observed between educational level and wealth status of respondents and family; and willingness to pay for health insurance.

Perception of susceptibility and severity of the diseases or health problems and enrolment of HI were significantly associated. Multivariate analysis also showed that susceptibility of the diseases was the significant predictor for enrolment. The study supports the constructs of health belief model and the hypothesis fourth: there is no association between perceived susceptibility and the severity of disease and enrolment was rejected since there was an association between susceptibility and severity of diseases and enrolment of HI.

Respondents agreed toward the statement; easy to enrol, contribution and the coverage amount is suitable, respondents' family were susceptible to diseases, financial trouble due to diseases, IEC for enrolment, inadequate information, not

supported by peers or neighbours, difficult to receive health services after enrolment services. Similarly, there was a neutral opinion observed on the statements: HI solves the health problems, services quality not improved whereas disagreed with the statement of queries are addressed timely, suitable service point. Therefore, it can be concluded that most of the people were positive towards the health insurance structure and arrangement.

A significant difference was observed between the socio-demographic characteristics of the respondents and family; and enrolment in HI. Socio-demographic characteristics such as household headship, age group, religion, sources of income, food availability, chronic diseases within family members were significantly associated with the enrolment of HI. Age group, religion, wealth status, food availability, chronic diseases within family members were the significant predictors for enrolment of HI. Therefore, hypothesis second: there is no association between socio-demographic characteristics and enrolment was rejected since there was an association observed between socio-demographic characteristics of the respondents and family and enrolment of HI.

There was a significant difference between exposure to HI related information and enrolment in HI. HI related information such as knowledge of HI, sources of information the respondent use, benefits of enrolment, consequences of non-enrolment, knowledge about the hospital for health services, knowledge about contribution amount were significantly associated with the enrolment of HI. Similarly, IEC related factors were significantly associated with the enrolment of HI. Knowledge about HI, having HI related books or guidelines, participation in HI related training or workshop or discussion, discussed with neighbour or peers, requested to enrol by others were significantly associated with the enrolment.

Knowledge about HI, having HI related books or guidelines, motivated or requested to enrol by others, knowledge about the services at free of cost were significant predictors for enrolment of HI. Therefore, hypothesis third: there are no statistical differences between exposure to IEC and enrolment was rejected since there was the statistical difference was observed between exposure to IEC and enrolment of HI.

It can be concluded that IEC was effective in increasing enrolment of HI. IEC with peers or neighbour is asignificant predictor for enrolment. Most people prefer economic benefits than others and the study supports the Health Belief Model especially perceived susceptibility and severity of diseases or illness. From the empirical evidence, I recommend to the concerned authorities and individuals that the message of economic benefits with relation to health insurance from peers or neighbours could lead a chance of higher participation in health insurance.

Research insight. Data show that motivation and enrolment in HI were associated with peers' or neighbour's support for enrolment. Peer and neighbour's information seemed a significant predictor for the enrolment in HI. People generally believe the peers and neighbours than the outsiders. Empirical evidence shows that neighbour or peer can play a vital role in decision making as well as behaviour change. Overall research insights of the study are:

1. Households have higher ability and willingness to pay for HI if quality services available to them, IEC leads to more WTP.

2. Higher exposure to IEC leads to higher enrolment in HI.

3. It would be better to consider HBM related components for HI communication campaign to the mass people.

4. Counselling and supported by peers or neighbours have a lasting effect on enrolment and might be the best way for HI communication.

5. Peers or neighbours can be utilized for formal or non-formal educational interventions and health literacy campaigns/programmes.

The majority of the respondents were motivated to enrol by peers or neighbours. Information from the peer is more interactive and two ways in terms of sharing communication which is more reliable, understandable and believable. The data reveals that the significant differences were observed between information received from peer or neighbours and enrolment in HI. In the same way, more than two-thirds were enrolled in HI who discussed with peers or neighbours which was statistically significant. Multivariate analysis showed that the respondents who were motivated by neighbours or peers were more likely to enrol than those who did not. Similarly, the respondents who were requested by enrol by peers were more likely to enrol than those who did not request to enrol. Therefore, it can be concluded that peers or neighbour's information, advise, motivation is the most powerful means to change since peers and neighbour are considered as 'change agent'.

After analyzing the variables in different analyses in different ways, peer's motivation, suggestion and counselling remain worthy of making a decision. It can be used by peers or neighbours for a change process that may be sustainable too. Generally, people get information from peers or neighbours in informal ways. They become informed and they interact with them for conformation that ultimately leads to change as the neighbours have already done. At that time, they may feel comfortable to change. With the evidence of the study, how people bring changes themselves after getting information, ensure conformation and then decision making. Various empirical evidence shows that information from the peer makes remarkable changes in behaviour modification. Not only the good behaviours, but health destructive behaviours are also influenced by peers (Vries, Candel, Engels, &

Mercken, 2006). Peer coaching enhances the relationship, mutual understanding and development to achieve definite tasks (Parker, Wasserman, Kram, & Hall, 2015). Peer assessment improves student's learning, achievement and positive attitudes (Friedman, Cox, & Maher, 2008). The peering approach seems also successful in peer to peer financial planning and education programme (Goetz, Durband, Halley, & Davis, 2011).

The peer teaching method helps to develop in-depth understanding, cooperative as well as a collaborative learning environment and expertise in the particular issues to the students. It also ensures monitoring of progress including self-assessment (Ramaswamy, Harris, & Tschirner, 2001). Many students especially adolescents are peer-oriented and from high-risk background. Peer teaching connects them with positive towards peer-to-peer relationships and they should be treated or guided in helping one-another in promoting healthy behaviour (Eggert, Nicholas, & Owen, 1995).

The peering approach has been recognized as an effective and valuable approach for learning that can be incorporated into different courses using a variety of methods and approaches (Evans & Cuffe, 2009). It is also considered as the fastest, cheapest, effective, efficient and beneficial approach. Coenen (2002) states that peer tutorial programme has positive effects on the social and cognitive field of the students. It leads to positive social interaction, cooperation, responsive and positive attitudes towards the social relationship. A similar observation was seen that peer approach significantly improved students' learning interests and attitudes (Hwang & Chang, 2016) and a similar finding was seen that peer-supported learning groups had positive and encouraging in students' achievement and participation rate (Mahdi, 2006). A systematic review shows that a peer-led approach in sexuality and

adolescent health education had improved in knowledge, attitudes and intentions (Kim & Free, 2008).

An individual having learning disabilities have limited networks, contacts and even friends. Peer mediated approach (PMA) makes positive changes in social behaviour within the person having learning disabilities. PMA also facilitates friendship and creates opportunities for social skill development (Moore & Carey, 2005). Another study shows that individual from the same age group was somewhat similar in interest, hope and well-being as well that was further significantly associated with psycho-social well-being (Parker et al., 2015).

Communication and interaction with neighbours, friends and peers are an imperative influence for shaping attitude, idea, perception, feeling, and ultimately general characteristics and behaviours of adolescents and teenagers as well. The peer education approach can be applied to increase knowledge, attitudes and behaviours in individual, group and community levels. Many problems can be treated from peer education and counselling. An experimental study shows that peer education significantly increased the knowledge and practice of mental health within the adolescent girls (Taghdist, Noori, Merghati, Hoseini, & Asgharnejad, 2012). Peer supports in three ways: social (folk), informational (facts) and personal (feelings) that are interconnected with interpersonal skills. From the biomedical point of view, breastfeeding is a physical activity, a chance to failure and required supervision by a specialist or professional. In case of breastfeeding, peer to peer (P2P) approach is women-centred, related to their own experiences, considering women as an agent from their own life experiences and able to cope cultural constraints hence recommended to support it from P2P approach (Smale, 2005).

The result of the study and empirical evidence from other studies show that the P2P teaching or neighbour counselling approach more convenient and effective in many ways so it can be used in the teaching and learning process: educational pedagogy in terms of contents, method and evaluation.

Implications

Based on the findings and empirical evidences following recommendations and implications can be made for policy makers, researchers scholars, stakeholders, and other academicians.

Pedagogical implication. Firstly, some life skill-based contents can be added in the school and university level curriculum which can be used or practiced by peers [students] at their day-to-day works. Besides these, educational and health-related communication interventions can use by peers or neighbours for motivation especially in behaviour change issues. It might make participants' self-confidence to solve their problems faced in their daily lives. Second, the P2P approach 'peer as a teacher' might be implemented at their classroom to make students more confident, prepared for the future, and more responsible. Third, the evaluation pattern might be changed and can be added as a peer evaluation scheme. Some marks (5 to 10 % of the total) might be allocated for peer evaluation for the formal education system. It can make the students more social, cooperative, adaptable, having team spirit and result-oriented which ultimately makes the education transformative, dynamic and sustainable as well.

Policy implication. The study shows that households are willing to pay more than the contribution amount if quality health services are available to them. It needs to reforms the structure of the health service delivery. Since a large number of people are still unknown about the health insurance scheme, a massive IEC programme is

necessary to convince the people for enrolment as well as renewal of HI scheme. Local-level authorities may recruit employees as peer's approach for HI related awareness campaigns at the household level. Federal and Provincial Governments should more focus on quality health services for enrolled households based on felt and observed needs. Massive awareness programme could lead the higher participation in HI scheme so such kind of programme should be implemented. HI related curriculum should be designed at school level and university level curriculum and implemented as well.

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Appendix I

Interview Schedule

Namaste! My name is Devaraj Acharya. I am PhD student of Tribhuvan University. My research title is **Information, Education and Communication for Enrolment in Health Insurance in Nepal**. The main objective of this study is to assess the effects of information, education and communication on the enrolment of health insurance in selected districts of Nepal. Since your information is very valuable for me, I would like to ask you some questions. The questions usually take about 20 to 30 minutes. All of the answers you give will be confidential and will not be disclosed anywhere except my thesis indicating you as respondent. If you don't like to provide the answer to any question you will have to right to quit any time or let me to know for the next question.

May I start the interview now?

If yes: start the interview, if no: close

Signature/thumb print of respondent:

Address:

Date:

Time of starting interview: HH/MM

Code No. ☐☐☐

1. Household Members' Profile

SN	Gender	Age	Occupation	Educational Status	Remark
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Note: Apply only if 10 years and above for Educational status and 16 years and above for Occupation. Occupation includes service, business, labourer, foreign job, agriculture, study, domestic works, social service, without job etc. Add extra sheet for additional member if any.

2. Family and Demography Related Questions

S N	Questions	Response code	skip/remarks
201	District	1. Baglung 2. Kailali	
202	Residence	1. Municipality 2. Rural municipality	
203	Gender of Respondent	1. Male 2. Female 3. Other	
204	Are you head a household?	0. No 1. Yes	
205	How old are you?		Complete years of age
206	What is your caste?	1. Dalit 2. Aadibasi/Janajatis 3. Madhesi 4. Muslim 5. Brahmin/Chhetry 6. Others/Dasnami/Sanyasi	Caste code according to the Ministry of Health, Nepal
207	What is your religion?	1. Hindu 2. Buddhist	

		3. Islam 4. Christianity 99. Others Specify........	
208	What is your mother tongue?	1. Nepali 2. Tharu 3. Doteli 4. Ashami 99. Other specify........	
209	What are the sources of income in your family? Multiple Response	1. Service 2. Business 3. Labourer 4. Remittance 5. Agriculture 6. Pension 99. Others specify............	
210	Can you read and write?	0. No → 2. Yes	skip to 212
211	If literate what is your level of education?	1. No formal schooling 2. Basic education (upto 8) 3. School level education (upto 12) 4. Bachelor or above	Completed level of education
212	What is your family type?	1. Nuclear 2. Joint	
213	How many members are in your family?		
214	Wealth quintiles score*	....	
215	Wealth quintiles rank*	1. Richest 2. Rich 3. Middle 4. Poor 5. Poorest	* calculate from excel sheet
216	What are the main titles of expenditure? Multiple response	1. Food 2. Clothes 3. Education 4. Healthcare 5. Communication 6. Transportation 99. Others specify............	
217	How many months can you feed from your own production or income?	1. Throughout the year 2. 9 to 12 months 3. 6 to 9 months 4. 3 to 6 months 5 Less than 3 months	
218	Do you have any family member with chronic	0. No → 1. Yes	skip to 220

	diseases who needs to take regular medicine?		
219	If yes which disease related? Multiple Response	1. Cancer 2. Heart related problem 3. Asthma or Respiratory problem 4. Joint or Arthritis 5. Gastritis 6. Diabetes 7. Kidney related 8. Uric Acid 9. Mental related 10. Thyroid related 99. Others specify……	
220	Do you enrol in Health Insurance from HI Board, Nepal?	0. Not-enrolled 1. Enrolled →	skip to 223
221	Do you involved in health insurance from other organization than HIB, Nepal?	0. Not-involved → 1. Involved	skip to 301
222	If yes from which organization?	1. Indian pension scheme 2. Private Insurance company from Nepal 99. Others specify…….	
223	How many months did you spend after enrolment?		in months [Only for ensured]
224	Did you renew your health insurance plan?	0. No 1. Yes	Only for insured

3. Health Insurance-related Questions

301		Do you know about health insurance?	0. No → 1. Yes	skip to 303
302		If yes, who informed you? Multiple Response	1. Neighbour 2. Radio/FM 3. Television 4. Family member 5. Health Worker/Doctor 6. Teacher 7. FCHV 8. Training/Seminar 9. Enrolment assistant 10. Print Media 99. Others specify………..	

303		Who motivated you to enrol in health insurance?			Only for insured
304		Which message motivate you to enrol?			Only for insured
305		Have you ever faced financial problem for healthcare expenditure?	0. No → 1. Yes		skip to 307
306		If yes, how did you manage?	1. Loan from Bank 2. Sale of asset 3. Borrowed from Neighbour of Friends 4. Collection from Donation 5. Remittance 99. Others specify…..		
307		Why did you not enrol in HI? Only for non-enrolled Multiple Response	1. Economic Causes 2. Poor Quality Services 3. Not Informed 4. Not Necessary 5. Services are not available 6. Health Facility in Distance 7. Not Available EA 99 Others specify….		
308		What are the benefits of enrolment in HI? Multiple Response	1. Health services from specialized Hospital 2. Reduce economic Burden 3. Reduce Tension 4. Early Treatment 5. Quality services 99. Others specify….		
309		What will happen if not enrolled? Multiple response	1. Economic Burden 2. Tension 3. Delay Treatment 4. Lack of Quality Services 99. Others specify….		
310		How much do you want to pay if all healthcare cost covered by Health Insurance?			Per year per person
311		Which diseases or health problems do you want to cover by health insurance? Multiple Response	1. Communicable Diseases 2. Non-communicable Diseases 3. Hospital Admit 4. Accident/Injuries 5. Operation/Surgery 6. Against all Health Problems		

			99. Others specify…	
312		Where did you go before enrolment? Only for Enrolled Multiple Response	1. Health Post 2. PHC 3. Government Hospital 4. Private Pharmacy 5. Private Hospital 6. Community Hospital 7. Private Medical College 99. Others specify…..	
313		Where do you go for treatment after enrolment? Only for Enrolled Multiple Response	1. Health Post 2. PHC 3. Government Hospital 4. Private Pharmacy 5. Private Hospital 6. Community Hospital 7. Private Medical College 99. Others specify…..	
314		Do you or your family member receive health services after enrolment? Only for Enrolled	0. No → 1. Yes	skip to 316
315		If yes, what is the quality of health services? Only for Enrolled	1. Not improved than before 2. Improved than before 3. Worse than before 98. Unknown	
316		What type of people are enrolled in HI? Multiple Response	1. Poor 2. Rich 3. Educated 4. Uneducated 5. People from Urban Area 6. People from Rural Area 7. People having Chronic Diseases 98. Unknown 99. Others specify……	
317		What type of people are not enrolled in HI? Multiple Response	1. Poor 2. Rich 3. Educated 4. Uneducated 5. People from Urban Area 6. People from Rural Area	

			7. People having Chronic Diseases 98. Unknown 99. Others specify……	
318		Do you know the health facilities where the services are available after enrolment?	0. No 1. Yes	
319		Do you know the contribution amount that should be paid for HI?	0. No → 1. Yes	skip to 321
320		How much a family needs to pay?	0. Unknown 1. Known [said right answers: NRs 2500.00]	
321		Are you satisfied with HI Programme?	0. No 1. Yes	Only for Enrolled
322		Do you want to continue in the coming days?	0. No 1. Yes	Only for Enrolled
323		Do you want to enrol in the coming days?	0. No 1. Yes	Only for Not-enrolled

4. IEC Related Questions

401	Do you have any book or guideline related to health insurance?	0. No 1. Yes	
402	Have you ever participated in HI related training or seminar?	0. No 1. Yes	
403	Have you ever discussed about HI with your relatives or neighbours?	0. No 1. Yes	
404	Do you know about HI from social media?		0. No 1. Yes
405	Did/do any body request you to enrol in HI?	0. No 1. Yes	
406	What are the communication media available at your home? Multiple response	1. Radio/FM 2. Television 3. Print Media 4. Internet 99. Others specify…	
407	Which media are most reliable in your opinion? Multiple response	1. Radio/FM 2. Television 3. Print Media 4. Social media 98. Unknown 99. Others specify…	
408	Which media are more reliable to get HI related information in your opinion? Multiple response	1. Neighbour 2. Radio/FM 3. Television 4. Family	

		5. Health Worker/Doctor 6. Training/Workshop 7. Teacher 8. Enrolment Assistant 9. Print Media 10. FCHV 98. Unknown 99. Others specify…	
409	Do you know about the health services that are free of cost?	0. No → 1. Yes	skip to 501
410	If yes, what are the free services? Multiple response	1. General Treatment/Medicine 2. Immunization 3. Maternal Child Health 4. Family Planning 5. Malaria 6. Leprosy/Tuberculosis 7. Health Counselling 99. Others specify….	

5. PSA Related Questions

501	Do you listen HI related information form Radio/FM?	0. No → 1. Yes	skip to 505
502	If yes, which message have you listened? Multiple Response	1. Harek din 7 rupees…… 2. Rog Bimar Apthero……. 3. Namaste kaka, nikkai hatar….. 4. Informative Notice… 99. Others specify…. →	 skip to 505
503	Which of these message do you like? Multiple Response	1. Harek din 7 rupees………. 2. Rog Bimar Apthero…….. 3. Namaste kaka, nikkai hatar….. 4. Informative Notice 99. Others specify…. →	 skip to 505

504	Evaluate the message.	Message ↓	Memorable		Appropriate		Attractive		Available		Pleasurable		Suitable Language	
		Harekdin	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
		Rogbimar	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
		Namaskar	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
		Inform…	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
		Others	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

505	Which is the prime time to listen radio? Multiple Response	1. Morning 2. Day 3. Evening 4. Night 99. Others specify…	
506	Do you watch HI related information on the television?	0. No→ 1. Yes	skip to 510
507	Which of these messages have you watched? Multiple Response	1. Rajesh Hamal….. 2. Yamraj……… 3. Suntali/Dhurmus……..	

		4. Jigri Bro……. 5. Dr Bhagwan…… 6. Call from aboard…. 7. Pashupati's song…. 8. Husband/wife interaction… 99. Others specify ………… →											skip to 510

508	Which of these messages did you like? Multiple Response	1. Rajesh Hamal….. 2. Yamraj……… 3. Suntali/Dhurmus…….. 4. Jigri Bro……. 5. Dr Bhagwan…… 6. Call from aboard…. 7. Pashupati's song…. 8. Husband/wife interaction… 99. Others specify……. →	skip to 510

509 — Evaluate the TV message.

Message ↓	Memorable		Appropriate		Attractive		Available		Pleasurable		Suitable Language	
Rajesh	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Yamraj	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Suntali	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Jigri..	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Dr Koirala	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Call..	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Pashupati	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Husband and wife	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Others	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

510	Which is the prime time to watch TV? Multiple Response	1. Morning 2. Day 3. Evening 4. Night 99. Others specify…

511	Have you seen Hoarding Board with HI related advertisement?	0. No→ skip to 513 1. Yes

512 — Evaluate the HB message.

Message	Memorable		Appropriate		Attractive		Available		Pleasurable		Suitable Language	
Hoarding board	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

513	Do you read Newspaper with HI related advertisement?	0. No→ skip to 515 1. Yes

514 — Evaluate the Newspaper's message.

Message	Memorable		Appropriate		Attractive		Available		Pleasurable		Suitable Language	
News paper	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

515	Do you read Poster, Pamphlet, Brochure with HI related information?	0. No→ skip to 517 1. Yes

516 — Evaluate the message.

Message	Memorable		Appropriate		Attractive		Available		Pleasurable		Suitable Language	
Poster…	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

517	Which language would be the better for HI related information?	1. Nepali 2. Local 99. Others specify…..

518	What types of message are more effective?	1. Dramatic 2. Funny

	Multiple Response	3. Symbolic 4. Musical 99. Others specify…..	
519	Which media would be more appropriate to disseminate HI related message? Multiple Response	1. Radio/FM 2. Television 3. Newspaper 4. Hoarding Board 5. Mobile Message 6. Brochure/Poster/Pamphlet 99. Others specify…	

6. HBM Component Related Questions

601		Are you or your family member susceptible to any disease or health problem?	0. No→ 1. Yes	skip to 603
602		If yes, what types of health problem occurs? Multiple response	1. Communicable diseases 2. Non-communicable diseases 3. Accident/Injuries 4. Operation related cases 99. Others specify…	
603		Did you or your family member have any health problem in last 6 months?	0. No → 1. Yes	skip to 606
604		If yes, how many members were affected?	1. 1 Member 2. 2 Members 3. 3 Members 4. 4 or More Members	
605		Did you or your family member admit in any hospital since last 6 months?	0. No 1. Yes	
606		How much time do you need to reach nearest health facility?		in minutes
607		What is the mode of transportation you use to take/receive health services? Multiple Response	1. On Foot 2. Bicycle 3. Motor Cycle 4. Ambulance 5. Bus 6. Taxi 7. Jeep 8. Auto/E-Rickshaw	

			99. Others specify….	
608		How do you manage financial loss due to health problem? **Multiple Response**	1. Deposit in Bank 2. Collection Money in Home 3. Borrow from Friends 4. Loan from Bank 5. Remittance 6. Sales of Asset 99. Others specify….	
609		What are the consequences you may face if any of your family member get sick? **Multiple Response**	1. Economic Load 2. Family Problem 3. Tension 4. Leading to Poverty 99. Others specify…..	
610		What are the problems to enrol in HI? **Multiple Response**	1. Financial Problem 2. Problem to receive Services 3. Health Facility in Distance 4. Non-cooperation by Health Workers 5. Lack of Trust in Government Services 99. Others specify…..	
611		What are the services available (benefit package) after enrolment in HI? **Multiple Response**	1. General Treatment/Medicine 2. Doctor's Consultation 3. Operation/Surgery 4. Bed Charge 5. Laboratory Services 6. Radiology Services 7. Specialized Treatment 98. Unknown 99. Others specify…..	
612		Did/do your family members agree to enrol in HI?	0. No 1. Yes	
613		Have any of your family member are in foreign employment?	0. No → skip to 615 1. Yes	
614		If yes, who is in aboard?		relation to household head
615		Did any of your neighbour request you to enrol in HI?	0. No 1. Yes	

616		Do you want to recommend your neighbour to enrol in HI?	0. No 1. Yes	Only for enrolled
617		Did anybody from any organization meet you to discuss about HI ?	0. No 1. Yes	Only for enrolled
618		What policy should be adopted to enrol more and more people in HI?	…………	

7. Insurance-related Feelings, Opinions and Perceptions

Please rate your feeling.

701	Anyone can easily enrol in HI or there is no difficulty to enrol.	1. Disagree 2. Neutral 3. Agree	
702	Primary service point is suitable for me.	1. Disagree 2. Neutral 3. Agree	
703	Contribution amount for HI is appropriate.	1. Disagree 2. Neutral 3. Agree	
704	Coverage amount of HI is appropriate.	1. Disagree 2. Neutral 3. Agree	
705	My family is susceptible to diseases or health problem.	1. Disagree 2. Neutral 3. Agree	
706	There may be financial loss and other/problems if any of my family member becomes sick.	1. Disagree 2. Neutral 3. Agree	
707	Enrolment in HI may solve afore mentioned problems.	1. Disagree 2. Neutral 3. Agree	
708	Proper dissemination of IEC materials may help to enrol in HI.	1. Disagree 2. Neutral 3. Agree	
709	Health Service [at free of cost] quality provided by the GoN is not satisfactory.	1. Agree 2. Neutral 3. Disagree	
710	Health Service quality provided by the GoN has not been improved after HI programme launched.	1. Agree 2. Neutral 3. Disagree	

711	Existing IEC materials for HI are not appropriate and sufficient.	1. Agree 2. Neutral 3. Disagree	
712	HI related queries are addressed in time.	1. Disagree 2. Neutral 3. Agree	
713	HI related complaints are not addressed in time.	1. Agree 2. Neutral 3. Disagree	
714	It is not easy to take Health services even after enrolment in HI	1. Agree 2. Neutral 3. Disagree	
715	Relatives or Friends do/did not request me to enrol.	1. Agree 2. Neutral 3. Disagree	
716	Health Insurance-related information is not adequate form communication media.	1. Agree 2. Neutral 3. Disagree	

8. Wealth Quintile related questions.

1. In your household is/are there?	**Yes**	**No**
Electricity		
One or more radios		
One or more televisions		
One or more bicycles		
One or more motorcycles, scooters		
One or more telephones		
One or more Amirah (wardrobes)		
One or more tables		
One or more chairs, benches		
One or more watches, clocks		
One or more cots, beds		
One or more sewing machines		
2. Does your household own land?		
3. Does your household have a domestic worker not related to head?		
4. What is the principal source of drinking water for your household?	**Yes**	**No**
Piped water in residence		
Piped water to tap in yard, plot		
Well		
Tube well		
Shallow tube well		
Deep tube well		
Surface water		
5. What is the principal type of fuel for cooking used by your household?	**Yes**	**No**

	Yes	No
Gas		
Kerosene		
Wood		
Dung		
Crop residue		
6. What is the principal type of toilet facility used by your household?	**Yes**	**No**
Flush toilet		
Closed pit latrine		
Open latrine		
Slab latrine		
Hanging latrine		
Bush, field as latrine		
7. What is the principal material used for the floors in your household?	**Yes**	**No**
Natural materials		
Cement (includes vinyl and other floor types)		
Wood		
8. What is the principal material used for the walls of your household?	**Yes**	**No**
Wood		
Concrete, brick, stone		
Tin		
Bamboo, other natural materials		
9. What is the principal material used for the roof of your household?	**Yes**	**No**
Natural materials		
Tin		
Cement, concrete, tile		

Do you want to say any more?

…………………………

Thank you!

Name of Interviewer:

Date and Time:

Appendix II

Ethical Approval from NHRC

Government of Nepal

Nepal Health Research Council (NHRC)

Ref. No.: 1807

15 February 2018

Mr. Devaraj Acharya
Principal Investigator
Tribhuvan University
Kritipur, Kathmandu

Ref: **Approval of Thesis Proposal** entitled **Effects of information, education and communication on the enrollment of health insurance in the selected district of Nepal**

Dear Mr. Acharya,

It is my pleasure to inform you that the above-mentioned proposal submitted on **21 November 2017** (**Reg. no. 473/2017**) please use this Reg. No. during further correspondence) has been approved by Nepal Health Research Council (NHRC) Ethical Review Board on **14 February 2018**.

As per NHRC rules and regulations, the investigator has to strictly follow the protocol stipulated in the proposal. Any change in objective(s), problem statement, research question or hypothesis, methodology, implementation procedure, data management and budget that may be necessary in course of the implementation of the research proposal can only be made so and implemented after prior approval from this council. Thus, it is compulsory to submit the detail of such changes intended or desired with justification prior to actual change in the protocol. Expiration date of this proposal is **January 2021**.
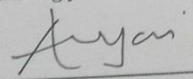
If the researcher requires transfer of the bio samples to other countries, the investigator should apply to the NHRC for the permission. The researchers will not be allowed to ship any raw/crude human biomaterial outside the country; only extracted and amplified samples can be taken to labs outside of Nepal for further study, as per the protocol submitted and approved by the NHRC. The remaining samples of the lab should be destroyed as per standard operating procedure, the process documented, and the NHRC informed.

Further, the researchers are directed to strictly abide by the National Ethical Guidelines published by NHRC during the implementation of their project proposal and **submit progress report in between and full or summary report upon completion.**

As per your project proposal, the total research amount is **NRs. 8,25,000.00** and accordingly the processing fee amounts to **NRs. 10,000.00** It is acknowledged that the above-mentioned processing fee has been received at NHRC.

If you have any questions, please contact the Ethical Review M & E Section at NHRC.

Thanking you,

Prof. Dr. Anjani Kumar Jha
Executive Chairperson

Tel: +977 1 4254220, Fax: +977 1 4262469, Ramshah Path, PO Box: 7626, Kathmandu, Nepal
Website: http://www.nhrc.org.np, E-mail: nhrc@nhrc.org.np

Appendix III

Letter to HIB, Teku

त्रिभुवन विश्वविद्यालय

शिक्षाशास्त्र संकाय

डीनको कार्यालय

कीर्तिपुर, काठमाडौ, नेपाल

पत्र नं. च.नं.६८/०७४।०७५

मिति:-२०७४।११।३

श्रीमान् कार्यकारी निर्देशकज्यू

स्वास्थ्य विमा बोर्ड

टेकु, काठमाण्डौ ।

विषय: सहयोग गरिदिने बारे ।

महोदय,

प्रस्तुत विषयमा यस संकाय अन्तर्गत विद्यावारिधि तहमा अध्ययरत श्री देवराज आचार्यले प्रा.डा. भिमसेन देवकोटाको निर्देशनमा Effects of Information, Education and Communication on the Enrollment of Health Insurance in the Selected Districts of Nepal शिर्षकमा अध्ययन गर्न लागेकाले त्यस बोर्ड तथा त्यसका निकायहरुबाट आवश्यक पर्ने सूचना, तथ्याङ्क एवं अन्य आवश्यक कागजातहरु उपलब्ध गराई सहयोग गरिदिनु हुन अनुरोध छ ।

प्रा.डा. कृष्ण प्रसाद गौतम

डीन

Appendix IV

Letter from HIB

पत्र संख्या: ०७४/०७५
च.नं. ८१५.

मिति : २०७४।११।१०

श्री स्वास्थ्य बीमा बोर्ड
शाखा कार्यालय बाग्लुङ/कैलाली ।

बिषय : आवश्यक सहयोग गरिदिने सम्बन्धमा ।

उपरोक्त सम्बन्धमा मिति २०७४।११।०३,च.नं.६८५ को त्रिभुवन विश्व-विद्यालय कीर्तिपुरको प्राप्त पत्र बमोजिम शिक्षा शास्त्र संकाय अन्तर्गत विद्यावारिधि तहमा अध्ययनरत श्री देवराज आचार्यलाई " *Effects of Information ,Education and Communication on the Enrollement of Health Insurance in the Sclected Districts of Nepal* " शिर्षकमा बाग्लुङ र कैलाली जिल्लामा स्वास्थ्य बीमा सम्बन्धी अध्ययन गर्नको आवश्यक सूचना, तथ्याङ्क एवं सहयोग गरिदिनुहुन अनुरोध गरिन्छ ।

....
(डा. गुणराज लोहनी)
कार्यकारी निर्देशक

Appendix V

Letter from HIB, Kailali

पत्र संख्या: ०७४/०७५
च.न २९९

नेपाल सरकार
स्वास्थ्य बीमा बोर्ड
कैलाली

फोन नं ०९१-५२२१४३

मिति: २०७४।१२।०६

श्री...ज्यू ।
(दर्ता सहयोगी)
....न.पा./गा.पा., वार्ड न........, कैलाली

बिषय : आवस्यक सहयोग गरी दिने सम्बन्धमा ।

उपरोक्त सम्बन्धमा मिति २०७४।११।१० च.न. ९१५ स्वास्थ्य बीमा बोर्ड , टेकु काठमाण्डौं को प्राप्त पत्र अनुसार त्रिभुवन विश्व विद्यालय शिक्षा शास्त्र संकाय अन्तरगत विद्यावारिधि तहमा अध्यनरत श्री देव राज आचार्य लाई "Effects of Information, Education and Communication on the Enrollment of Health Insurance in Selected Districts of Nepal " शिर्षकमा कैलाली र बाग्लुङ जिल्लामा स्वास्थ्य बीमा सम्बन्धी अध्यन गर्नको लागी आवस्यक सुचना, तथ्यांक उपलब्ध गराई सहयोग गरी दिन हुन अनुरोध छ ।

नरेश कुमार चौधरी
जिल्ला प्रबन्धक

Appendix VI

Letter from HIB, Baglung

नेपाल सरकार

स्वास्थ्य बीमा बोर्ड

पत्र संख्या:- २०७४/०७५

च.न- ३३

☎ ०६८-५२३०९३

मिति :२०७५/०१/०३

श्री दर्ता सहायक (सवै)

स्वास्थ्य बीमा बोर्ड, बागलुङ

विषय : सहयोग गरिदिने बारे ।

प्रस्तुत विषयमा स्वास्थ्य बीमा बोर्ड, टेकु काठमाण्डौ को मिति २०७४।११।१० को पत्रानुसार त्रिभुवन विश्वविद्यालयवाट विद्यावारिधि तहमा अध्ययनरत विद्यार्थी श्री देवराज आचार्य Effects of Information, Education and Communication on the Enrollment of Health Insurance in the Selected Districts of Nepal शिर्षकमा अध्ययन गर्न यस बागलुङ जिल्लामा आउनु भएकाले आवश्यक सहयोग गरिदिनु हुन अनुरोध छ ।

दर्ता अधिकारी

जमुना देवी सापकोटा

Appendix VII

Online Ethical Course completion certificate

FHI 360

certifies that

DEVARAJ ACHARYA

has completed the

RESEARCH ETHICS TRAINING CURRICULUM

February 21, 2018

Appendix VIII

Public Service Announcement

1. Radio Jingle/Spot

1.1 Save seven rupees every day.…[Harekdin Saat Rupaiya]

Saving 7 rupees a day

Health Insurance covers for a 5-member family is a way

Let's do Health insurance for being assure upto one year, then why do become worry that limits 50 thousand.

Let's enrol in Health insurance and stay assured. Let's enrol in Health insurance and stay assured.

Stay assured you and your families, reduce health treatment cost by enroling health insurance implemented by Government of Nepal, Social Health Insurance Development Committee.

For more information, contact our toll free number 16600111224. Produced and broadcasted for the public awareness by Government of Nepal, Social Health Security Development Committee and Korea International Cooperation Agency [KOICA].

Your health is our concern!

1.2 Disease and illness never inform….[Rog Bimar Upathero]

Disease and illness never inform before happening.

No one left even child, adult, any age

Mountain, Hill, Terai! Let's assure all by enroling health insurance.

After saving 7 rupees everyday it will be enough for a 5-member family for a year. Health insurance bears the treatment cost upto 50,000.

For more information, contact toll free number 16600111224 at free of cost.

Stay assured you and your family, reduce health treatment cost by enroling health insurance implemented by Government of Nepal, Social Health Security Development Committee.

Produced, broadcasted for public awareness by Government of Nepal, Social Health Security Development Committee and Korea International Cooperation Agency [KOICA].

Your health is our concern!

1.3 Greetings Uncle…. [Namaskar Kaka]

Namaskar Uncle! You are in so-hurry! What happened?

Namaskar niece! Daughter became sick, suddenly and we have no money to go hospital. I am moving to beg debt.

Oh! How much you need? I have 2/3 thousand.

That's sufficient. Niece!

Uncle! Is this obtainable way to beg debt?

What can I do, niece? Being poor economically?

Uncle! After enroling in health insurance launched by Nepal Government, no need to move for begging debt for treatment.

I could not understand you, niece?

After enroling in health insurance by paying 2500 rupees, it covers upto 50,000 rupees' treatment cost for you and your family in yearly basis. Enrolment assistants visit door to door for it.

Oh, niece! Then, our family will become a member of health insurance shortly.

Let's participate in health insurance. Let's be assured you and your family for treatment.

Produced and broadcasted for the public awareness by Government of Nepal, Social Health Security Development Committee and Korea International Cooperation Agency [KOICA].

2. Television Message

2.1 Message of Rajesh Hamal…..
[https://www.youtube.com/watch?v=S7iZnO7bftI]

No one shall be deprived to health treatment due to financial scarcity because Government of Nepal has introduced health insurance programme to make access to health services to all.

A family can receive health services equal to 50,000 rupees from health insurance programme. It is mandatory to enrol to receive the health services. Enrolment assistants visit door to door. A 5-member family has to pay 2500 rupees to receive health services and additional member should collect 425 rupees each. Government has made special provision for deprived families. Health insurance programme was initiated from Kailali and will expand in other districts shortly. Reduce your economic load for health treatment by enroling in health insurance timely. Government of Nepal, Social Health Security Development Committee.

2.2 Message of Yamraj…..
[https://www.youtube.com/watch?v=AxwJ605S-bE]

Chitra Gupta, what is happening, you are empty alone even today?

What's not happening king, the Nepal land has been implementing the health insurance scheme thus, our entire account converted in to super chaos.

What is health insurance?

King have a look of this pictorial. You know as like mirroring right now.

In order to easy access to health for all citizens, the health insurance programs is launched. In this scheme, a family with 5 members have to do annual NRs. 2500, then this family would get upto NRs. 50,000 for treatment.

Oh, that is the process of it? Thus, health insurance is nice program for Nepalese. Haaaa......done.

Let's enrol in the health insurance, reduce the cost for health care.

2.3 Message of Suntali Dhurmus…..
[https://www.youtube.com/watch?v=gN4yWo_jxYg]

I have only 10 of them.

The meal was delicious but the curry was salty. Tell your daughter-in-law.

You gobbler. I would have given you money to eat something. Don't you know my name is *Daanbir* [meaning a generous one: donor] and that I do charity

work? Aren't you ashamed entering somebody else's kitchen and eat his food? You have no shame, you greedy pig!

You shameless! How dare you, you plucked my fruits and ate it without even asking? You thought nobody saw you, didn't you? Don't you know? I am Netra Prasad meaning a person with strong eye sight and I can see things from anywhere?

What can somebody say to such a small hearted person? I ate it because I know this ripe fruits will end up to rotting. Okay, the decision is made. From today, there will be blocked in this boundary.

Namaskar!

Namaskar!

My son got sick and he was admitted to hospital, sir. I am asking around to get support for his treatment.

How much did that gobbler give? Only 20 Rupees. Is that all? What can you expect from the people unaware of charity? What is that for – a cup of tea or for your son's treatment? Actually, they themselves are in the situation for begging. I have heard that his father has been admitted to hospital for many days. He might be shocked when he receives hospital bills. I think my neighbour is going to be a broken man. If that's the case then you can ask for money without any hesitation. Daanbir is always there for you. Okay, take this hundred rupee note.

Your reports are good. How are you feeling now?

I feel completely fine Doctor. I wish o go home.

Alright! Then we will discharge you by tomorrow.

Okay Doctor! Son, seems like we can go home tomorrow – yes.

Only wishing to ride a scooter is not enough. You also need to be careful while riding it. Okay?

Sure Daddy, Don't worry!

Okay! let me see! My daughter is learning how to ride a scooter.

Okay! Few days ago, I wanted to talk to you about something.

Oh! I really understand what you are saying. But nobody in my house who is diseased or sick. Therefore, I don't want to get enrolled in the health insurance. You can go to Netra's house as they get sick often.

They have already done it a month ago. After that I came to see you again but I couldn't find you.

I know how it works. If I ensure my whole family and nobody gets sick within one year. You won't refund my 2500 rupees. It is not logical to get sick to avoid the waste of that money. Let's not to do it. I would rather spend my money in charity and religious purpose as I am the man who strongly believes in God and charity. Please have your tea. Daughter-in-law, bring that chair.

Look, health can deteriorate at any time. It is important to be alert and get insured before you are sick. And the other thing: Even though you and your family members might not get sick within a year, someone else from the village might. At that time your money will be used to treat others. So, if we see it this way, it's a kind of charity itself, isn't it? So health insurance is the collaborative programme to ensure health services for all. Plus, it also minimizes the burden of treatment costs for you as well as others.

Okay, I understood your point but let's not get insurance just to wish someone might get sick. I will think about it later on.

It's okay. You can call me whenever you feel the need. I have written my phone number here. You can call me on this number. Okay, I'll leave.

Okay!

Hello!

Dad sister had an accident and is hospitalized. Please come soon.

What are you saying?

Yes, Dad

It's painful. Don't worry. Slowly Doctor. Don't worry, sir. There will be a pain for a while.

Is it only sprained or is the bone broken from inside?

It is only a sprain.

I felt sad to hear about the accident. It could have been avoided if the apprentice was not allowed to ride on the main road.

Your total cost is 6,300 rupees only. And yours is 275 rupees only.

Only that much for the one who was admitted in hospital for so many days.

It is because his family is enrolled in the health insurance. All of the treatment costs are covered by the health insurance. And this one includes only 15 percent of medicine bills. That's all one has to pay when insured. In the health insurance programme, a family of five can receive health services and treatment upto 50,000 rupees per year.

Hello, we are 1000 rupee short on paying hospital bill. Please come with the money soon.

I have the money. You can return it later. What is the point of being neighbours if we can't help each other? Since we are going the same way let's share the transportation. Why paying twice for it?

You had enrolled in such a profitable scheme of health insurance. Why didn't you inform me earlier?

You were not at home that time. Also, do you ever listen to us? You are the person to be respected, why should some elite listen to us?

Don't mock me saying elite. Disease never tells either someone is rich or poor. Didn't you see that?

It's still not late if you wish to go insured.

If I had enrolled in the health insurance, the health expenses would have been reduced as in Netra's case. I wasn't mindful of it on time.

It's time to pay right? Please take it.

This one is for you.

Oh! the name is mentioned on the top. 'Daanbir Basnet'

Namaskar

Namaskar

Do you need more money? Didn't your son recover?

He is well sir. Actually, if I had been insured on the time then I wouldn't have to wander asking for money? After all it is only 7 rupees per day for a family of 5 members. I heard that the enrolment assistant is here. So, I came here to get enrolled in the health insurance programme.

Your mind set is right. Health insurance is actually amazing! All of us need to get insured on time. See, how amazing this card is! Amazing card, Amazing health insurance. Stop grinning and be cautious or you might loss the card.

2.4 Message of Jigri-Pande……
[https://www.youtube.com/watch?v=5wmARgqcH54]

Hey, Pandey friend, looking you so happy!

Yes, dear.

What did you do for such happiness?

Today, I have done health insurance. Do you do this?

Yaa, I heard about it but I do not do yet.

Really? Don't you do the health insurance for own family?

Where and how can I do?

Listen, Nepal government launched the health insurance program. If you do the insurance for NRs 2500 you are eligible to treat about NRs 50,000.

What will happen if I were not sick?

If you would not sick, other sick people would get it.

Our family will do membership for health insurance right today.

Government of Nepal, Social Health Security Committee, Teku, Kathmandu.

2.5 Message of Dr Koirala….

[https://www.youtube.com/watch?v=TrI8bMY9nrY]

Namaskar, I am Dr Bhagawan Koirala. We may have any unpredictable health problem at any time. It's difficult for all of us to manage money, if we suffer from any kind of complicated diseases. Further, there are some people who are living with disease due to lack of money. Some of them even lost their life.

Yes, Nepal government has brought insurance program. A family has to pay premium of Rs 2,500 annually to get the services worth up to Rs 50,000. So, to secure our health in future, lets participate in health insurance program from today. Doing health insurance means securing health of you and your family.

Nepal government, Social health security committee, Teku, Kathmandu.

2.6 Mother-Son Talking from aboard….

[https://www.youtube.com/watch?v=Hxqoqt-xj5U]

Hello, Mom. Greeting!

God bless you, my son.

How are you?

I am fine.

How is daughter?

I burrowed some money and did her treatment. Now she is ok.

Don't worry mom' I will send money from here and you pay back to them. But save rupee 2500.

Why?

I have heard that Nepal government has started insurance programme.

Yes, in village as well people are talking about health insurance, what is that?

That is very good, mother.

Son, if we don't get sick 2500 hundred will be wasted.

It's not like that, we can't say when we get sick, if we get sick, we get treatment from that health insurance policy. After than you will be relax there and your son will be relaxed here.

If so, I will do health insurance today. Take care my son. God bless to all of us.

Nepal Government, Social health security development committee, Teku, Kathmandu.

2.6 Message of Pashupati's song ….

[https://www.youtube.com/watch?v=zywZI3bh-kU]

The only way that prosper us i.e. health insurance has been introduced. Everyone! let's have a look health insurance has come.

Guru jee! what does health insurance mean?

Listen brother! The Government of Nepal has brought this programme which is written in constitution and was felt important for the health condition of the citizens. It is for those ones who are searching for the health loans. It is a way to manage trouble during treatment of illness.

Let's rise up to be insured. Rise up for your health.

Guru jee ! How could we enrol in health insurance?

Listen dear, for the registration of the name of family members; the enrolment assistants will visit your home. Five of the members should pay Rs.2500 per annum. One should submit photo and receive the health card. Whenever family members visit hospital in case of illness, they should show their health card and get free treatment instead.

See! how beneficial is it for mankind. Come on rise up for health insurance. Let's raise our voice up!! Let's enrol in health insurance.

Unlucky travels unknowingly come with us and neither does it inform us. At instant cases you might be sick and side away you could also lack money, isn't it? Sometime we couldn't manage money, even could not sell asset, for the time being only the option would be suffering. Rather suffering heal, it up and the only medium i.e. health insurance. It is also preparedness for catastrophic health care cost.

We could suffer at any time so hurry up do insurance.

Gurujee, what could be done if there are more than 5 family members?

Listen pal, for five members you need to pay Rs 2500 but you need to pay Rs 425 each additional members. Five family members will get Rs 50000 each year and a single member will get equivalent to Rs 10000. As per the size of the family, anyone could get up to Rs 100000.

Let's unite together for health insurance ! Look at health insurance !!

Sir, Rs. 2500 seems too high, isn't it?

Think gently! That's neither more. Ok think in a way, how much does a cup of tea cost?

Just Rs.15!

Yes! Just keep them, stop drinking tea save it also save Rs. 7 per day thinking for God sake. You will collect enough for insuring your family. You will feel up when somebody gets ill in your family. So, pal get up and go for your future, health insurance has come up.

Let's raise our hand and voice for health insurance and our future.

You may have disease, may receive treatment. So, let's enrol in health insurance, let's enrol in health insurance,

Health insurance is only the foundation of citizen's health improvement!

For improvement in citizen's health status, health insurance is only a fundamental way.

Government of Nepal, Social Health Security Development Committee, Kathmandu.

2.8 Message of couple/husband-wife talking…..
[https://www.youtube.com/watch?v=OPR9y8PIDqQ]

Hey my dear, the radio announces very exciting news?

What sorts of excitement?

Let's listen, the days of holding your sickness are already over.

Ohh.., how can?

We need to become a membership of Nepal's government's Social Health Insurance program.

What would look like this health insurance program?

Up to the five-member family, the government take care of treatment equivalent to NRs 50000 once we get membership with NRs 2500.

So, are the days already over for bankrupt due to treatment for sickness?

Yes, let do get the membership without delay.

But, where should we go for getting membership?

No need to go anywhere? The representatives of health insurance office would come at our doorstep.

How amazing scheme? It's only NRs. 7 per day then we can pay NRs. 2500 per year

Listen, we need to spread this news to entire friends in neighbourhood.

Government of Nepal, Social Health Security Development Committee.

Published Articles

Acharya, D., Devkota, B., & Adhikari, R. (2018). Willingness to pay for family health

   insurance: Evidence from Baglung and Kailali districts of Nepal. *Global*

   Journal of Health Science, 10(12), 144–155. DOI: 10.5539/gjhs.v10n12p144.

   http://www.ccsenet.org/journal/index.php/gjhs/article/view/0/37641

Acharya, D., Devkota, B., & Wagle, B. P. (2019). Factors associated to the enrollment

   in health insurance: An experience from selected districts of Nepal. *Asian*

   Social Science, 15(2), 90–99. DOI: 10.5539/ass.v15n2p90.

   http://www.ccsenet.org/journal/index.php/ass/article/view/0/38405

Articles in Press/Review Process

S.N.	Article title	Name of journal	Publisher
1.	Association of information, education, and communication; and enrolment in health insurance: A case of Nepal.	Archives of Public Health	BioMed Central
2.	Do people's perception and attitude associate with the enrolment in health insurance?	South Asian Survey	Sage Publication
3.	Association of media exposure and enrolment in health insurance in Nepal.	World Medical and Health Policy	Wiley-Blackwell
4.	Does Perceived Susceptibility and Severity of Health Problems Serve as Drivers for Household Enrollment in Health Insurance? A Case Study from Nepal	International Journal of Health Planning and Management	Wiley

Willingness to Pay for Family Health Insurance: Evidence from Baglung and Kailali Districts of Nepal

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Abstract

Introduction: The Government of Nepal introduced a health insurance programme in three districts in 2016. However, it seems that there has not been systematic evidence on whether the current contribution amount (CCA) needed for enrolling in health insurance (HI), is acceptable for those who are willing to enroll. This article aims to assess the respondents' willingness to pay (WTP) for HI.

Methods: A cross-sectional study was conducted with 810 randomly selected households in Baglung and Kailali districts and the data was collected using a validated schedule. The socio-demographic characteristics were considered as independent and the WTP as dependent variables respectively. Univariate, bivariate and multivariate analysis were performed.

Results: Of the total respondents, 74 percent expressed that they could pay nearly three times as much as the CCA. Mean differences in WTP for HI were observed in terms of districts ($p<0.001$), sex of the respondents ($p<0.01$), household headship ($p<0.05$), mother tongue ($p<0.001$), wealth status ($p<0.001$), presence of chronic diseases in the family($p<0.05$), enrollment in HI($p<0.01$), exposure to the radio/FM($p<0.05$) and TV($p<0.01$), and access to health facilities ($p<0.01$). The lieklyhood of WTP for HI were lower in Kailali than in Baglung ($\beta= -0.178$, $p<0.001$); with females than with males($\beta= -0.076$, $p<0.05$); and with the age group ≤ 37 years than > 37 years($\beta= -0.090$, $p<0.05$).

Conclusion: The WTP for HI was nearly three times as high as the CCA for all health services if available to them. More than one fourth of the respondents did not know about HI. Therefore, appropriate interventions are needed for awareness raising which may support the WTP as well as enrollment in HI.

Keywords: Health insurance, Nepal, willingness to pay

Abbreviations

CCA: Current Contribution Amount

HH: Household

HI: Health Insurance

HIB: Health Insurance Board

WTP: Willingness to Pay

1. Introduction

The protection and promotion of health is essential for people not only for welfare but also for a sustainable socio-economic development (World Health Organization, 2010). Inequality caused by health financing in lower-middle income countries (LMIC) depends on out-of-pocket expenditure during receiving health services (Lofgren, Thanh, Chuc, Emmelin, & Lindholm, 2008). An economic survey of Nepal shows that at the end of the fiscal year 2015/16, 21.6 percent of the total population accounting for more than six million live below the poverty line (Ministry of Finance, n.d.) and struggle for subsistence. Most of the LMICs have budget less than two percent of the total gross domestic products. So, the government should not depend only on premium collection or the contribution amount from the people (Nosratnejad, Rashidian, & Dror, 2016). According to

Maslow, people fulfill their basic needs first. When their basic needs are fulfilled, they strive for other needs (Stoyanov, 2017). In this context, people do not search for additional needs until their basic needs, such as food, shelter, and clothes are fulfilled. This means that people can hardly think about additional necessities if they do not meet their basic needs.

HI is a new phenomenon for Nepalese people. Nepalese people only recently have had some experience in health insurance (HI). The Government of Nepal (GoN) initiated HI as a Social Health Security programme in three districts, namely, Kailali, Baglung and Ilam in 2016 and further expanded recently to 30 more districts (Health Insurance Board, n.d.). The United Mission to Nepal initiated the HI programme at Ashrang in 1976, which was known as Lalitpur Medical Insurance. Later, in 2000, B.P. Koirala Institute of Health Sciences had also offered hospital-based micro-social health insurance schemes for rural and urban households. However, those schemes could not be continued (KOICA - Nepal Health Insurance Support Project [NHISP], 2014).

The GoN initiated a free health care policy for the ultra-poor, senior citizens, people wih disabilities and female community health volunteers at Primary Health Centres (PHC) and district hospitals since December, 2006. As per the provision of the Interim Constitution of Nepal 2007, the GoN initiated a free-of-cost basic health service from sub-health posts (SHPs) and health posts (HPs) since 15th January, 2008. Similarly, essential health services were provided free of cost at PHCs since November, 2008. Some 40 types of essential drugs and emergency services were made available at free of cost in the hospitals having fewer than 25 beds since January, 2009 (Prasai, 2013). Apart from these, the GoN has also offered the reverse paying system (an incentive as travel cost for those who utilize the services) for natal care, uterine prolapse treatment, and some other services for special target groups. There are also provisions of subsidies for some heavily cost-needing cases, such as heart related diseases, cancer, kidney related diseases, spinal and head injuries, Alzheimer's disease, sickle cell anaemia as well as Parkinson's disease. Moreover, senior citizens above 75 years and children below 15 years can receive some subsidies including 70 kinds of medicines at free of cost as per the guidelines (Health Insurance Board, n.d.). More recently, the Constitution of Nepal 2015 has provision that basic health service as a fundamental right of the citizens (Nepal Law Commission, n.d.). As a result, the GoN has offered basic health services that includes some 70 types of drugs and medicines from the government health facilities free of cost (Health Insurance Board, n.d.).

A study in Nepal found that only one third (33.6%) of the households have an access to public hospitals or primary health centers within 30 minutes, while 61.8 percent households to SHP/HP and more than half (53.4%) households to private clinics/hospitals had an access within 30 minutes (Central Bureau of Statistics, 2011). A recent study conducted in Kailali shows that 76 percent of households have an access to health facilities within half an hour. The study further shows that just over a quarter (28%) of households were satisfied with the services they received from the government health facilities whereas 56 percent of them were satisfied with the health services received from the private sector (KOICA-NHISP, 2014).

One study shows that, only four percent of the total households have participated in the HI scheme and only 11 percent households had knowledge about HI (Health Research and Social Development Forum [HERD], 2016). It seems to be a big challenge for the implementation of the health insurance programme (HIP) since only 5.2 and 3.5 percent HHs have utilized health services from PHCs and government hospitals respectively even though they are provided free of cost. Similarly, the utilization of regular health services also appears weak. The rates of tetanus vaccination, 4th ante-natal checkup and institutional delivery are 40, 59 and 50 percents respectively (Department of Health Services, 2018). The Health Insurance Board (HIB) is still unanswered whether the people can pay for the contribution amount of Nepalese Rupees (NRs.) 2500/- per year for up to 5-member family that covers up to NRs. 50,000/- per year (Health Insurance Board, n.d.). This article aims to assess the respondents' willingness to pay (WTP) for health insurance (HI) in two pilot districts of Nepal.

2. Methods

A cross-sectional survey design was used in Kailali and Baglung from March to May in 2018. An interview schedule (IS) was used for data collection. The interview schedule was administrated face to face with the respondents during home visits. The sample size was calculated by using the formula below (Kothari, 2006) assuming fifty-fifty probability with a non-response rate of five percent.

$$n = (z^2 \times p \times q)/e^2$$

By adjusting the non-response rate, the sample size of 405 was taken from the enrolled families and the same number of sample was taken from the non-enrolled family. Thus, the total sample 810, the sample was distributed proportionately; 566 (283+283) from Kailali and 244 (122+122) from Baglung as per Census data

2011 (Central Bureau of Statistics, 2014). This study included the households (HHs) enrolled in HIB, formerly known as Social Health Security Development Committee (SHSDC), before January 15th 2018 as enrolled families whereas those insured from other than the HIB were excluded. The list of the enrolled households was obtained from HIB District Office Kailali and Baglung. The sample was selected randomly from the list of enrolled families and the nearest non-enrolled families was selected as non-enrolled households. In the case of the rejection to participate, the nearest households was selected. For the response, the household head or senior member of the family was interviewed and in the case of the absence or rejection to by him/her, another senior member available at the time of home visit was interviewed.

An ethical approval of the study was obtained from Nepal Health Research Council. Informed consent was taken from each respondent before the interview. The data were entered into the Statistical Package for Social Science [SPSS] version 20 and were cross-checked for reducing inconsistency or errors during the entry. For the analysis of the data, three kinds of analysis were conducted: univariate, bivariate; and multivariate. The independent continuous variables were converted into categorical and dichotomous characters for the t-test and the multivariate analysis.

3. Results

In this section, the results of the study are organized under four headings, namely, socio-demographic characteristics of households and respondents; WTP for HI; characteristics of households and respondents and WTP for HI; and coefficient of socio-demographic variables on WTP for HI.

3.1 Socio-Demographic Characteristics of the Households and the Respondents

A total of 810 household heads were interviewed. In the case of their absence or rejection to participate, another senior member of the household was interviewed. In the sample, Kailali consisted of approximately 70 percent and Baglung covered 30 percent of the total respondents. Of them 74 percent were from urban areas (municipalities) and about 26 percent were from rural areas (rural municipalities). Of these respondents, 51 percent were female. Similarly, 65 percent of them were household heads. About 60 percent respondents ranged in age from 20 to 40 years. The mean and SD and median and mode of the ages of the respondents were 39±13, 37, 35 years respectively. Of the respondents, about 44, 36, 10 and five percent were from the *Aadibasi*/*Janajati*s, *Brahman*s/*Chhetri*s, *Dalit*s and *Others*/*Dasnami*s/*Thakuri*s respectively. More than 91 percent of the respondents were Hindus. As regards language, more than 58 percent of the respondents stated that their mother tongue was Nepali whereas 30 and eight percent of the respondents were Tharu and Doteli respectively. Agriculture, followed by service and business, was the main source of their income. Out of the total respondents about 93 percent were literate, with 29, 26 and 12 percent of them having completed basic education, school level education and higher education respectively. Fifty-nine percent of the respondents were from joint families. The average, median and mode of the family size were 5.6±1.9, five and five respectively, in which about 56, 42 and two percent households had up to five members, six to 10 members and more than 10 members respectively. According to the data, the households' highest expenditure was in education followed by clothes/utensils, health care, food and communication. More than half (51.2%) of the households were economically able for feeding their families. About 35 percent households had some kinds of chronic diseases in family members. Of them, more than one third (33.9%) had heart related problems followed by gastritis (25.7%), joints or bone related problems (22.1%), respiratory diseases (20.4%) and diabetes (17.9%).

The average duration of the HI enrollment was 14±6 months, and it was more than a year since more than half (51.6%) of the them had enrolled in HI. About half (47.7 %) of the respondents were informed about HI from the radio/FM whereas only 38.3 percent of the respondents had received HI related information from television. More than three fourth (76 and 75.4 %) of the respondents had the radio/FM and television respectively at their homes and 14.2 percent of them had the internet access. Nearly half (48%) of the respondents expressed that they were susceptible to health problems. The mean and median for time to reach health facilities for them were 30±22 and 30 minutes respectively whereas 72.2 percent of the respondents reported that they could visit health facilities within half an hour. More than 30 percent of the respondents expressed that a minimum of one of their family members was aboard at the time of the interview. The demographic characteristics of the respondents and households are presented in Table 1.

Table 1. Socio-demographic character of respondents and households

Measures	Attributes	Number	Percent
District	Baglung	244	30.1
	Kailali	566	69.9
Address	Urban	600	74.1
	Rural	210	25.9
Sex of respondents	Male	397	49.0
	Female	413	51.0
Household head	No	276	34.1
	Yes	534	65.9
Age group	Up to 20 years	23	2.8
	21 to 40 years	482	59.5
	41 to 60 years	233	28.8
	More than 60 years	72	8.9
Caste/Ethnicity	Dalit	88	10.9
	Aadibasi/Janajatis	352	43.5
	Madhesi	14	1.7
	Muslim	19	2.3
	Brahman/Chhetri	293	36.2
	Others/Dasnami/Thakuri	44	5.4
Religion	Hindu	739	91.2
	Buddhist	26	3.2
	Islam	19	2.3
	Christian	25	3.1
	Others	1	.1
Mother tongue	Nepali	472	58.3
	Tharu	241	29.8
	Doteli	66	8.1
	Aachhami	3	.4
	Others	28	3.5
Literacy status	Illiterate	60	7.4
	Literate	750	92.6
Educational level (n=750)	Literate only	246	32.8
	Basic Education	214	28.5
	School Level education	197	26.3
	Bachelor or Above	93	12.4
Type of family	Nuclear	332	41.0
	Joint	478	59.0
Size of family	Up to 5 members	457	56.4
	6 to 10 members	340	42.0
	More than 10 members	13	1.6

Wealth status	Poorest	162	20.0
	Poor	162	20.0
	Middle	162	20.0
	Rich	162	20.0
	Richest	162	20.0
Income/production covers feeding	Throughout the year	415	51.2
	9 to 12 months	61	7.5
	6 to 9 months	90	11.1
	3 to 6 months	114	14.1
	Less than 3 months	130	16.0
Family member having chronic diseases	No	530	65.4
	Yes	280	34.6
Enrolled in health insurance	No	405	50.0
	Yes	405	50.0
Knowledge about health insurance	No	227	28.0
	Yes	583	72.0
Willingness to pay for health insurance	Up to Rs 500/-	211	26.0
	Rs 501 to 1500	395	48.8
	More than Rs.1500/-	204	25.2
Listened HI related information from Radio/FM	No	424	52.3
	Yes	386	47.7
Watched HI related information in TV	No	500	61.7
	Yes	310	38.3
Susceptible to health problem	No	424	52.3
	Yes	386	47.7
Time to reach health facilities	Up to 30 minutes	585	72.2
	31 to 60 minutes	190	23.5
	More than 60 minutes	35	4.3
Family member is in aboard	No	566	69.9
	Yes	244	30.1
Total		**810**	**100.0**

3.2 Willingness to Pay for Health Insurance

It can be assumed that the respondents' WTP depends upon their socio-demographic characteristics and satisfaction from the services made available to them (Thi Thuy Nga, FitzGerald, & Dunne, 2018). In this study, the respondents were asked how much they wanted to pay a year per person if the HIP covers all the health services available in the country. In response, more than one fourth (26%) of the respondents reported that they could pay up to 500/- Nepalese Rupees (NRs.) for HI which was less or equivalent to the current contribution amount (CCA) for enrollment. Yet, nearly half of the respondents (49%) expressed that they could pay up to NRs. 1500 for HI which was more than the CCA but less or equivalent to the average amount of the respondents' willingness. One fourth (25.2%) of them replied that they could pay more than NRs. 1500, which was nearly three times as much as the CCA.

Table 2. Willingness to pay for health insurance

Amount (Nepalese Rupees) *	No.	Percent	Mean	Median	Mode	SD	Range	Minimum	Maximum
Up to Rs. 500/-	211	26.0							
Rs. 501 to 1500	395	48.8	1429	1000	1000	1736	24800	200	25000
More than Rs.1500/-	204	25.2							

Note. * per person per year.

As per the current provision of HIB, a family up to 5 members has to pay NRs. 2500 per year that covers up to NRs. 50,000 of the health care cost. For an additional member of a family they should pay an extra NRs. 425 ~~that~~ covering an additional NRs. 10,000 per person and the programme covers a maximum NRs. 100,000 per year (Health Insurance Board, n.d.). District Assessment for HI in Kailali District shows that a total of NRs. 6,023.5 was paid on the average as a treatment cost during the latest health facility visit seeking health care while the highest expenditure (27.8%) was in pharmacy (KOICA-NHISP, 2014). The data show that 74 percent of the households wanted to pay more than the CCA offered by HIB, and the respondents wanted to pay nearly three times more on the average than the CCA if all health services were available to them (Table 2).

3.3 Characteristics of the Respondents/Households and Willingness to Pay for Health Insurance

It is found that different socio-demographic characteristics bring differences in the WTP for HI. More than four fifth (84.4%) of the respondents from Baglung wanted to pay more than the CCA compared to Kailali (69%) and the respondents from Baglung had higher WTP compared to Kailali, that is NRs.1977.6 and 1191.8 respectively (p<0.001). Similarly, the households from rural areas had more WTP than those from the urban areas, which accounts for 79.5 and 72 percent respectively. In the same way, the male respondents who were household heads had higher WTP compared to the female. WTP for HI was higher in the male respondents (NRs. 1610) than that of the female (NRs. 1255) (p<0.01). Interestingly, the higher the age the higher WTP for HI had been found. Respondents aged more than 60 years had higher WTP for HI. Similarly, households from the *Other* castes had more WTP for HI compared to *Aadibasis/Janajati*s whereas households belonging to *Brahman*s/*Chhetris* had more WTP than the other castes. In the case of religion, non-Hindu households had a higher chance to pay for HI. The data shows that the Nepali native speakers had chances to pay a greater amount~~s~~ (NRs.1617) compared to other language speakers (NRs.1166) (p<0.001). Literate families had higher chances to pay high amounts than the illiterate ones. The respondents having a higher educational status seemed to have higher amounts (NRs. 1798) of WTP for HI compared to those with a lower educational status (p<0.05). Similarly, WTP seemed higher in nuclear families than joint families. The rich households wanted to pay more (NRs 1638 vs. NRs. 1221) in comparison to poor families (p<0.001). The households that economically sustained for feeding had more willingness for HI than households that were unable to feed themselves throughout the year. The households having chronic diseases had higher chances to pay higher amounts for HI (p<0.05).

Table 3. Characteristics of respondents/households and willingness to pay for health insurance

Variables	Attributes	No.	Mean	SD
District***	Baglung	244	1977.64	1992.87
	Kailali	566	1191.83	1555.98
Place of residence	Urban	600	1396.80	1776.97
	Rural	210	1519.25	1614.13
Sex**	Male	397	1609.59	1872.41
	Female	413	1254.51	1576.84
Age	≥37 years	414	1396.39	1898.23
	>37 years	396	1462.16	1550.21
Household head*	No	276	1251.06	1318.62
	Yes	534	1520.28	1911.22

Caste	Others	458	1447.75	1646.31
	Aadibasi/Janajatis	352	1403.55	1848.44
Religion	Others	71	1467.27	1396.59
	Hindu	739	1424.82	1765.99
Mother tongue***	Others	338	1165.69	1408.16
	Nepali	472	1616.78	1916.49
Literary	Illiterate	60	1273.13	982.99
	Literate	750	1440.98	1782.46
Type of family	Nuclear	332	1507.67	2066.55
	Joint	478	1373.59	1463.16
Size of family	> 5 members	353	1374.47	1464.82
	≤5 members	457	1470.32	1920.09
Wealth status***	Poor	407	1221.25	1267.82
	Rich	403	1637.90	2086.76
Cover to feed by income	<a year	395	1485.65	1629.15
	≥a year	415	1374.19	1832.36
Chronic diseases in family*	No	530	1325.98	1584.90
	Yes	280	1622.69	1979.60
Enrolled in HI***	No	405	1230.08	1458.02
	Yes	405	1627.01	1957.18
Knowledge on HI**	No	227	1141.14	1550.12
	Yes	583	1540.45	1792.10
Listened HI information from Radio/FM**	No	424	1299.76	1770.50
	Yes	386	1570.00	1688.43
Watched HI related information in TV**	No	500	1287.65	1860.71
	Yes	310	1655.79	1488.56
Susceptible to health problem	No	424	1405.93	1544.63
	Yes	386	1453.39	1926.30
Access to health facility**	>30 minutes	225	1217.13	1098.81
	≤30 minutes	585	1509.86	1920.46
Family member aboard	No	566	1361.45	1852.27
	Yes	244	1584.18	1422.00
Total		810	1429	1736

Note. Significant at *p<0.05, **p<0.01, ***p<0.001

Similarly, households having more than 12 to 18 months' experience of the enrollment had higher chances of WTP than those having experience less than one year and more than 18 months of the enrollment (p<0.01). People who were enrolled in HIP had higher chances to pay than the non-enrolled (p<0.001). Households that renewed the enrollment of HI reported a greater amount of WTP for HI (p<0.05). The respondents having knowledge about HI seemed to have more WTP compared to those who were unknown about HI (p<0.01). Those who listened to the Radio/FM had more WTP (NRs 1570 vs NRs 1300) than the non-listeners (p<0.05). The respondents who watched television and knew about HI information had higher WTP (1656 vs 1288) than those who did not (p<0.01). Families who considered susceptible (self-reported) to diseases had higher WTP than the

non-susceptible. The households having an access to health facilities within 30 minutes had more WTP (1510 vs 1217) than those having an access to health facilities accessible in more than 30 minutes (p<0.01). The data also shows households having family members aboard had more WTP (1584) than those who did not (1361). Moreover, the data show that different characteristics of households as well as personal attributes influenced the WTP for HI. In short, the WTP for HI depends on different socio-demographic characteristics and education of the respondents and households (Table 3).

3.4 Coefficient of Socio-Demographic Variables on Willingness to Pay for Health Insurance

Socio-demographic factors are strong predictors for WTP for HI (Thi Thuy Nga et al., 2018). The multivariate analysis found that geography (district), sex of the respondents, age group of the respondents, household headship, caste/ethnicity, enrollment in HI and an access to health facilities were significant predictors for WTP for HI. The households form Kailali had lower chances (negative) of WTP for HI than those from Baglung (β= –0.178, p<0.001). Rural households tended to have higher chances to pay for HI but not statistically significant ((β= 0.067) whereas female respondents had significantly low WTP for HI (β= –0.076, p<0.05). The data showed significant but negative effects on age group of less than 37 years compared to equal or more than 37 years (β= –0.090, p<0.05). Household headship was another significant forecaster for WTP. A chance of a positive effect on WTP for HI (β= 0.078, p<0.05) was observed if the respondent him/herself was the household head. The *Aadibasi*/*Janajati*s appeared more positive on WTP for HI (β= 0.108, p<0.05) in comparison to other castes. The households enrolled in HI appeared to be a positive and significant predictor for WTP. The data show that the enrolled households had more WTP than the non-enrolled households (β= 0.110, p<0.01).

Table 4. Coefficient of socio-demographic variables on willingness to pay for health insurance

		β	t
District	Baglung (ref.)		
	Kailali***	-.178	-4.116
Place of residence	Urban (ref.)		
	Rural	.067	1.840
Sex	Male (ref.)		
	Female*	-.076	-2.007
Age	≤37 years (ref.)		
	>37 years*	-.090	-2.240
Household head	No (ref.)		
	Yes*	.078	1.961
Caste	Others (ref.)		
	Aadibasi/Janajatis*	.108	2.116
Religion	Others (ref.)		
	Hindu	-.039	-1.094
Mother tongue	Others (ref.)		
	Nepali	.026	.513
Literary	Illiterate (ref.)		
	Literate	-.002	-.042
Type of family	Nuclear (ref.)		
	Joint	-.060	-1.395
Size of family	> 5 members (ref.)		
	≤5 members	-.006	-.131

Wealth status	Poor (ref.)		
	Rich	.070	1.817
Cover to feed by income	<a year (ref.)		
	≥a year	-.001	-.019
Chronic diseases in family	No (ref.)		
	Yes	.068	1.851
Enrolled in HI	No (ref.)		
	Yes*	.110	2.591
Knowledge on HI	No (ref.)		
	Yes	-.007	-.160
Listened HI information from Radio/FM	No (ref.)		
	Yes	.028	.723
Watched HI related information in TV	No (ref.)		
	Yes	.016	.397
Susceptible to health problem	No (ref.)		
	Yes	-.039	-1.063
Access to health facility	>30 minutes (ref.)		
	≤30 minutes*	.091	2.516
Family member aboard	No (ref.)		
	Yes	.039	1.069
Constant		2.776**	2.776
Adjusted R Square		0.073	

Note. Significant at *p<0.05, **p<0.01, ***p<0.001.

Similarly, the households having an access to health facilities within half an hour were likely to pay more WTP than those having that more than half an hour (β= 0.091, p<0.05). Variables such as religion, mother tongue, listening to/watching HI related information form Radio/FM and television, susceptibility to health problems, and having family members aboard stand out as the positive predictors for WTP, not statistically significant. Interestingly literacy, family type, family size, income covering to food, knowledge on HI; and susceptibility to health problems were likely to yield lower WTP for HI. Table 4 reveals the result of the coefficient of socio-demographic characteristics of the respondents and households and WTP for HI.

4. Discussion

Nepal's health care system needs ~~to~~ reforms in efficiency of health facilities, motivation of health workers, and availability of drugs. Likewise, timely and prompt care of patients lead to quality of service and ultimately that leads to family enrollment in HI (Mishra, Khanal, Karki, Kallestrup, & Enemark, 2015). WTP for HI mainly depends upon three factors: households' ability to pay, access to health facilities and quality of health services available to them (Ramadhan, Rahmadi, & Djuhaeni, 2015). Health services require a sufficient budget for its quality maintenance. Many countries have allocated limited budgets for health (Shimamura, Matsushima, Yamada, & Nguyen, 2018). LMICs cannot allocate a sufficient budget for the health sector and fail to meet the demands of people for health services. Some studies suggest that government's efforts alone may not be sufficient to overcome health problems. So, the informal sectors should be operated for HI (Bärnighausen, Liu, Zhang, & Sauerborn, 2007). In Nepal, the current provision for the enrollment in HI is about NRs. 500 per person (2500 for up to a 5-member family) per year. It is found that the respondents have nearly three times higher affordability than the CCA on the average. The greater coverage of health services leads to more willingness to pay (Lang & Lai, 2008).

The data in this study suggests that WTP for HI is influenced by the respondents' place of residence in terms of

geography (districts), sex, household headship, native language, wealth status, presence of chronic diseases in the family, enrollment in HIP, knowledge regarding HI, exposure to the media: the Radio/FM or TV and an easy access to health facilities (within half an hour). Another study from Malaysia shows a similar result that the WTP for HI was influenced by caste, level of education, household's wealth status and presence of chronic diseases in the family (Shafie & Hassali, 2013). Similarly, a study in Nigeria reveals that the WTP was influenced by the stakeholders' age, sex, education, family size, income and past experience related to health expenditure (Babatunde et al., 2012). On the other hand, there were mean differences but not significant for WTP for HI among the participants in terms of residence, living in rural or urban areas, age, religion, type of family, family size, feeling of being susceptible to the health problems and family members working aboard. However, a study in Bangladesh shows that households from urban area had more WTP in comparison to the rural area (Ahmed et al., 2016).

In this study, more than a quarter (28%) respondents expressed that they were unaware about HI. Similarly, more than half (52%) of the respondents informed that they were not susceptible to health problems. A study in Taiwan claims that women and senior citizen were less likely to pay for health protection (Lang & Lai, 2008). A study in Punjab (India) shows that the low level of awareness seems barriers to the subscription of HI policy, and age, sex, occupation and income played significant differences in the subscription of HI and WTP as well (Bawa & Ruchita, 2011). However, a study in Indonesia shows that more than half (57.6%) of the participants were able to pay the required amount whereas only 17.4 percent of the respondents showed their willingness to pay for the required amount. So, it does not mean that more or less of WTP only depend on the ability of the stakeholders to pay for HI (Ramadhan et al., 2015). A systematic review of WTP for HI in LMICs shows that there was a neutral effect of marital status and families having children under five years on WTP, whereas the male and a large family size had a positive relationship with WTP but older age people were less likely to pay more for HI. Similarly, the income level and the level of education, employment status and the rural residence had a positive relationship with WTP. The distance to health facilities had a negative relationship. The past hospitalization experiences and the experiences of enrolling in HI were likely to yield higher WTP for HI (Nosratnejad et al., 2016). Nguyen and Hoang (2017) found that the knowledge on HI and chronic diseases in the family had a positive relationship to pay. The study suggested conducting awareness on HI that contributes to high WTP for HI. Similar suggestions were proposed by Ghosh (2013), Lofgren et al. (2008) and Bawa and Ruchita (2011).

5. Conclusion

HI is a recently lunched government service for the Nepalese people. The findings indicate that the number of people who know about HI is increasing although nearly one-third of the household heads or senior members of the families still do not know about it. It indicates that appropriate interventions are necessary for raising awareness about HI. The study shows that WTP for HI is determined by socio-demographic variables. There were nearly similar results in both bivariate and multivariate analyses. Some variables, such as district, sex, household headship, enrollment in HI; and access to health facility were the key influencing factors for WTP, which were statistically significant in both bivariate and multivariate analyses, whereas native language, wealth status, households having chronic diseases, access to the Radio/FM and television had significant influence on WTP resulted from the bivariate analysis. Some other variables made differences in willingness to pay for financial protection for health, but were not statistically significant. Therefore, appropriate interventions are needed for raising individuals' and households' awareness about HI as well as in quality of health services that may increase the WTP for health insurance.

Authors' Contribution

DA conducted data collection, editing, entry and cleaning and prepared the draft of this paper. BD supervised syudy design, data collection and review the draft. RA analyzed the data. All of them agreed to submit the article for publication.

Competing Interests Statement

The authors declare that they have no conflict of interest with this work.

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Factors Associated to the Enrollment in Health Insurance: An Experience from Selected Districts of Nepal

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Abstract

The enrollment in Health Insurance (HI) is considered as a sustainable way of financing for health and preparedness for catastrophic health care cost during receiving health services. Various socio-demographic factors are still unanswered regarding their influence. A study aiming to assess the factors associated with the enrollment of HI was conducted in 2018 in two districts of Nepal namely Kailali and Baglung. The study was cross-sectional covering 810 (405 enrolled and 405 not-enrolled) randomly selected households (HH). Socio-demographic variables were considered as independent variables and enrollment in HI as dependent variable. An interview schedule was used as a tool for data collection. Univariate, bivariate and multivariate analyses were performed to analyze the data. The data show that various socio-demographic characteristics are associated with the enrollment of HI. A significant statistical difference is seen between enrollment to HI and-HH headship, age group of respondents, ability to feed the family, presence of chronic diseases in family, knowledge on HI, willingness to pay (WTP) for HI, having HI guidelines or books, participation in HI related training, interactions with neighbours, access to communication media: the radio/FM and TV, hoarding boards (HB), newspapers, posters/pamphlets/brochures; and access to health facilities. The results further show that female heads appear more likely to enroll (aOR = 1.47) in HI than the male. HH headship of the respondents also seem more likely to enroll. Higher age respondents are less likely to enroll. Interestingly, literate respondents and joint families are less likely to enroll than illiterate and nuclear families respectively. However, respondents having knowledge in HI seem more likely to enroll (aOR = 28.97, p<0.001) than those who are unaware about HI. Those with higher WTP for HI are more likely to enroll (aOR = >1.673, p<0.05) than low WTP. Respondents having guidelines or books, interactions with neighbours or relatives, exposure to the radio/FM, TV and HB seem significantly more likely to enroll. Respondents who feel susceptible to diseases are more likely to enroll (aOR = 1.484, p<0.05) compared to those who do not. Knowledge on HI, WTP, having HI related books or guidelines, exposure to the media (the radio/FM, TV, HB), interactions with neighbours appear to be the positive predictors for enrollment. Appropriate interventions should be implemented considering the factors for increased participation in HI.

Keywords: health insurance, enrollment, Nepal, socio-demographic variables

1. Introduction

Though the Constitution of Nepal, 2015 (Article 35) has offered the basic health service as a fundamental right of the citizen (Nepal Law Commission, n. d.), the Government of Nepal (GoN) had allocated less than four (3.86) percent of the total budget (Department of Health Services, 2018) in the fiscal year 2016/17 for the health sector which accounts for less than two percent of gross domestic products. The investment seems insufficient for public health service delivery as per the constitutional provision and international and national commitments. Therefore, an alternative approach was searched for health financing. Besides these, the GoN declared commitment to meet the targets of Sustainable Development Goals (SDG) including Universal Health Coverage (UHC), health insurance (HI) is one and the strategies to meet the health related targets of SDG and the sentiment of UHC. Following these provisions, the GoN has implemented health insurance programme (HIP) as Social Health Security at the initial phase in three districts namely Kailali, Baglung and Illam since 2016. Now

the programme has been expanded in other districts too (Health Insurance Board, 2017).

Many low and middle income countries' health care expenditure is mostly covered by out-of-pocket (OOP) while receiving health services. The high OOP leads to increasing financial risks and inequity in access to quality health care (Adebayo, 2014). It is claimed that a high level of OOP is one of the causes of poverty. Therefore, strengthening the financial security is one of the main strategies to reduce poverty. Available data shows that 60.4 percent of current health expenditure was paid by OOP (World Health Organization, 2016) which is a barrier of UHC. It means that if the people or patients have money during illness, they can afford or receive treatment. An appropriate mechanism is needed for pre-financing approaches to reduce the uncertainty of health illness or catastrophic cost for health (Adebayo et al., 2015; Panda et al., 2016). Since the health status of the citizen is one of the major indicators of the human development index, community based health is also considered as a means of poverty reduction (Tesfay, 2014). The GoN started HIP to ensure the access to quality health services without financial hardship by means of the HI (Health Insurance Board, n.d.) and to reduce the gap of health service utilization by the poor and the rich. HI is considered as social protection that aims to reduce poverty and vulnerability as well (Koehler & Hoffmann, 2014). World Health Organization (WHO) claims that two percent poverty increases every year due to high out-of-pocket expenditure while receiving the health services especially from the private sectors. It is also assumed that HI can make the health services accessible to all (Koehler & Hoffmann, 2014). HI is regarded as 'a ticket' for good health care (Abdel-Ghany & Wang, 2001). It is claimed that patients who do not have HI, receive fewer services and less care have lower chance of experiences of positive clinical outcomes (Fowler et al., 2010). It is anticipated that healthy citizens can contribute to economic and social development of the country significantly. However, the HIP may be suffered to run smoothly due to inadequate homework to address the factors that are associated with the enrollment as experienced from United Mission to Nepal in 1976 and B P Koirala Institute of Health Sciences in 2000 respectively (KOICA-Nepal Health Insurance Support Project, 2014). It is believed that HI can enhance the access to health services for those who live in low and middle income countries (Adebayo et al., 2015).

In Nepal, the enrollment rate in HI seems very low in many districts though the causes of poor enrollment is still unanswered (Health Insurance Board, 2017). Even in the United States of America, one third of the Americans aged under 65 years did not have HI in 2010 (Fowler et al., 2010). Only the lunching of the programme is not enough but participation of the people is equally important. Therefore it is crucial to identify the factors that influence in the enrollment. Many studies show that socio-demographic characters are the major predictors for enrollment in HI (Adebayo et al., 2015; Panda et al., 2016). The study aimed to assess the factors that are linked to the enrollment of health insurance in selected districts of Nepal.

2. Methods

A descriptive study was conducted in Baglung and Kailali Districts of Nepal. The Government of Nepal (GoN) initiated the Health Insurance (HI) programme as Social Health Security (SHS) in Kailali, Baglung and Illam Districts in the initial phase in 2016. The study chose Baglung from the Hill and Kailali from the Terai. All the enrolled households (HH) were the population of the study for enrolled HH sample. The data were collected by using an interview schedule at respondents' home or where they were available and convenient to them. Generally, responses were collected from household heads. In his/her absence or him/her refusing to respond, another senior member of the HH was requested to respond. Only the HHs who had enrolled before January 15[th], 2018 were included in the sample. Enrolled or participated by insurance companies other than Health Insurance Board (HIB) were excluded in the study. Various socio-demographic characteristics, access to information sources, and knowledge about health and HI were considered as independent variable and enrollment in health insurance (EHI) as a dependent variable. The sample size was calculated by using Daniel's formula (Naing, Winn, & Rusli, 2006):

$$n = (z^2 \rho(1 - \rho))/d^2$$

where n = sample size,

z = level of confidence,

ρ = expected prevalence (assuming 50/50 probability or 50%) (50%, ρ = 0.5), and

d = accepted margin of error (5%, d = 0.05).

So the sample size = 384.16.

By adjusting the non-response rate of five percent experienced in latest survey (Ministry of Health; New ERA; and ICF, 2017) which accounts for 405 for enrolled HH and same size of sample was allocated for non-enrolled HH. Altogether a total of 810 samples were selected for the study. The sample was distributed as per the

population proportion to size following the latest national census (Central Bureau of Statistics, 2014). As a result, 566 households (283 enrolled and 283 non-enrolled HH) for Kailali and 244 (122 enrolled and 122 non-enrolled HH) for Baglung. The list/number of the enrolled HHs was obtained from HIB district offices respectively from Kailali and Baglung and the sample was selected by using random number generator; a software available at Google for enrolled HH. For the non-enrolled sample, the nearest HH of the selected enrolled HH was selected. The interview schedule was used to collect the data. Data were collected for three months since March, 2018 in Kailali and Baglung. An ethical approval was taken from Nepal Health Research Council and permission was obtained from the concerned districts and local authorities as required. Consent was taken from respondents before interviewing. Data was entered into the SPSS version 20 software and the sample was cross checked for consistency. Some attributes of variables were merged due to the poor responses. Univariate, bivariate then multivariate analyses were performed for statistical output.

3. Results

3.1 Socio-demographic Background of Respondents/Households

Of the total respondents, more than half (51%) were females and two third (66%) were household heads. Nearly 60 percent respondents were from 21 to 40 age group while the mean age of the respondents was 37 years. More than 92 percent of the respondents were literate. Forty-one percent of the respondents were from the nuclear family. The average size of the family was 5.6 whereas 56 percent of the HHs had upto five members. Just over the half (51.2%) of the HHs had enough food throughout the year. More than one third (34.6%) of the respondents expressed that presence of some kinds of diseases in their families, of them one third had heart related problems. Of the respondents, 28 percent were unnoticed by the HI. More than 42 percent of respondents said that they had felt financial trouble due to health problems. An average of willingness to pay for HI was 1429 Nepalese Rupees whereas 74 percent of the participants expressed that willingness to pay for HI was almost three times of the current contribution amount NRs. 500 mentioned by HIB. Only 17 percent of the respondents had read HI related guidelines or books or information flyers and five percent of the participants participated in HI related training or meetings. Nearly one third (32%) of the respondents had discussed about HI with their neighbours or relatives whereas just 19 percent of respondents had gained knowledge about HI from the social media. Nearly 48 percent of the respondents had listened to HI related information from the radio/FM and 38 percent from television. Nearly 27% of the respondents had seen HI related messages from the hoarding boards but just 13% of the respondents read HI related information from newspapers. Similarly, 18% of the respondents had seen HI related brochures, leaflets, pamphlets or posters. Less than half (48%) of the respondents felt that they were susceptible to health problems. More than 72% of the HHs had access to health institutions within half an hour and the mean time to visit health facilities was nearly the same - 30 (SD 22) minutes. Nearly one third of the respondents informed that their family members were aboard during data collection.

Table 1. Background Characteristics of Households and Respondents

Variables	Category	N	%
Gender	Male	397	49.0
	Female	413	51.0
Household headship	No	276	34.1
	Yes	534	65.9
Respondents' age	Up to 20 years	23	2.8
	21 to 40 years	482	59.5
	41 to 60 years	233	28.8
	More than 60 years	72	8.9
Educational status	Illiterate	60	7.4
	Literate	246	30.4
	Basic education	214	26.4
	Secondary education	197	24.3
	Bachelor or higher	93	11.5
Family type	Nuclear	332	41.0
	Joint	478	59.0
Family size	Up to 5 members	457	56.4
	6 to 10 members	340	42.0
	More than 10 members	13	1.6

Wealth status	Poorest	162	20.0
	Poor	162	20.0
	Middle	162	20.0
	Rich	162	20.0
	Richest	162	20.0
Food availability	Throughout the year	415	51.2
	9 to 12 months	61	7.5
	6 to 9 months	90	11.1
	3 to 6 months	114	14.1
	Less than 3 months	130	16.0
Presence of chronic diseases in family	No	530	65.4
	Yes	280	34.6
HI knowledge	No	227	28.0
	Yes	583	72.0
Faced financial trouble due to health problem	No	468	57.8
	Yes	342	42.2
Willingness to pay for health insurance	Up to NRs. 500/-	211	26.0
	NRs. 501 to 1500	395	48.8
	More than NRs.1500/-	204	25.2
Have HI related books	No	674	83.2
	Yes	136	16.8
Participated in training/workshop	No	770	95.1
	Yes	40	4.9
Discussed with neighbours	No	551	68.0
	Yes	259	32.0
Known from social media	No	655	80.9
	Yes	155	19.1
Access to information by radio/FM	No	424	52.3
	Yes	386	47.7
Watched HI related information in TV	No	500	61.7
	Yes	310	38.3
Seen hoarding board	No	594	73.3
	Yes	216	26.7
Read newspaper	No	704	86.9
	Yes	106	13.1
Seen brochure or poster/pamphlet	No	668	82.5
	Yes	142	17.5
Susceptible to health problem***	No	424	52.3
	Yes	386	47.7
Access to health facility	Up to 30 minutes	585	72.2
	31 to 60 minutes	190	23.5
	More than 60 minutes	35	4.3
Family member aboard	No	566	69.9
	Yes	244	30.1
Total		810	100

3.2 Socio-demographic Characteristics of the Respondents/Households and Enrollment in Health Insurance

The data shows some interesting results that more than 53 percent of the male respondents were enrolled in HI compared to 47 percent of the females. The male household head had higher enrollment (53%) compared to female HHH (45%) (p<0.05). The enrollment was higher in age group, 41 to 60 years which accounts for 59 percent (p<0.001). Remarkably, 55 percent of the respondents who could not read and write were enrolled in HI.

More than half (51%) of the HHs from joint families were enrolled compared to 49 percent of nuclear families. Data shows that the higher the family size the lower the enrollment rate. Only 39 percent of the HHs having more than 10 members were enrolled in HI. In the case of wealth, the percent of enrollment in HI were 58, 52, 51, 46 and 43 percent respectively from the richest, rich, poorest, poor and middle income. Nearly half (49.9%) of the HHs having enough food were enrolled and 64 percent who had enough food for just three to six months were enrolled in HI (p<0.01).

Table 2. Background Characteristics of Households/Respondents and the Enrollment in Health Insurance

| Variables | Category | Enrolled in health insurance | | | | Total | |
| | | No | | Yes | | N | Phi Value |
		N	%	N	%		
Gender	Male	186	46.9	211	53.1	397	
	Female	219	53.0	194	47.0	413	
Household headship*	No	153	55.4	123	44.6	276	0.078
	Yes	252	47.2	282	52.8	534	
Respondents' age***	Up to 20 years	17	73.9	6	26.1	23	0.191
	21 to 40 years	270	56.0	212	44.0	482	
	41 to 60 years	95	40.8	138	59.2	233	
	More than 60 years	23	31.9	49	68.1	72	
Educational status	Illiterate	27	45.0	33	55.0	60	
	Literate	132	53.7	114	46.3	246	
	Basic education	103	48.1	111	51.9	214	
	Secondary education	99	50.3	98	49.7	197	
	Bachelor or higher	44	47.3	49	52.7	93	
Family type	Nuclear	169	50.9	163	49.1	332	
	Joint	236	49.4	242	50.6	478	
Family size	Up to 5 members	231	50.5	226	49.5	457	
	6 to 10 members	166	48.8	174	51.2	340	
	More than 10 members	8	61.5	5	38.5	13	
Wealth status	Poorest	80	49.4	82	50.6	162	
	Poor	87	53.7	75	46.3	162	
	Middle	92	56.8	70	43.2	162	
	Rich	78	48.1	84	51.9	162	
	Richest	68	42.0	94	58.0	162	
Food availability **	Throughout the year	208	50.1	207	49.9	415	0.142
	9 to 12 months	28	45.9	33	54.1	61	
	6 to 9 months	56	62.2	34	37.8	90	
	3 to 6 months	41	36.0	73	64.0	114	
	Less than 3 months	72	55.4	58	44.6	130	
Presence of chronic diseases***	No	292	55.1	238	44.9	530	0.140
	Yes	113	40.4	167	59.6	280	
Health insurance knowledge***	No	217	95.6	10	4.4	227	0.569
	Yes	188	32.2	395	67.8	583	
Past experiences of financial crisis	No	241	51.5	227	48.5	468	
	Yes	164	48.0	178	52.0	342	
Willingness to pay for health insurance ***	Up to NRs. 500/-	142	67.3	69	32.7	211	0.209
	NRs. 501 to 1500	180	45.6	215	54.4	395	
	More than NRs.1500/-	83	40.7	121	59.3	204	
HI related books***	No	382	56.7	292	43.3	674	0.279
	Yes	23	16.9	113	83.1	136	
Participated in HI related training/workshop**	No	394	51.2	376	48.8	770	0.103
	Yes	11	27.5	29	72.5	40	

Discussed with neighbour or relatives about HI***	No	335	60.8	216	39.2	551	0.315
	Yes	70	27.0	189	73.0	259	
Known from social media	No	336	51.3	319	48.7	655	
	Yes	69	44.5	86	55.5	155	
Listened HI related information from radio/FM***	No	259	61.1	165	38.9	424	0.232
	Yes	146	37.8	240	62.2	386	
Watched HI related information in TV***	No	290	58.0	210	42.0	500	0.203
	Yes	115	37.1	195	62.9	310	
Seen hoarding board***	No	335	56.4	259	43.6	594	0.212
	Yes	70	32.4	146	67.6	216	
Read newspaper**	No	367	52.1	337	47.9	704	0.110
	Yes	38	35.8	68	64.2	106	
Seen brochure or poster/pamphlet***	No	359	53.7	309	46.3	668	0.162
	Yes	46	32.4	96	67.6	142	
Susceptible to health problem***	No	246	58.0	178	42.0	424	0.168
	Yes	159	41.2	227	58.8	386	
Access to health facilities	Up to 30 minutes	286	48.9	299	51.1	585	
	31 to 60 minutes	100	52.6	90	47.4	190	
	More than 60 minutes	19	54.3	16	45.7	35	
Family member aboard	No	283	50.0	283	50.0	566	
	Yes	122	50.0	122	50.0	244	

Note: significant at *p<0.05, **p<0.01, ***p<0.001

Nearly 60 percent of the HHs having ailments were enrolled in HI (p<0.001). More than two third (68%) of the respondents having knowledge about HI were enrolled and less than half (42%) of the respondents faced financial problems during health care and 52 percent of them were enrolled. Nearly six out of ten (59%) of the respondents who were enrolled were found willing to pay for HI that was more than 1500 Nepalese Rupees (p<0.001). More than 83 percent of the respondents who had HI related books or guidelines were enrolled (p<0.001) to the HI. Nearly three fourths (73%) of the respondents who participated in training or workshops were enrolled (p<0.01). Similarly, 73 percent of the respondents enrolled in HI expressed that they discussed with neighbour and relatives about HI related matters (p<0.001). More than half (56%) of the respondents who knew from social media were enrolled. Consequently, 62 and 63 percent of the respondents were enrolled in HI who listened HI related information from radio/FM and watched Television respectively (p<0.001). More than two thirds (68%) of the respondents who noticed the message from the hoarding board were enrolled in HI (p<0.001). Likewise, 64 percent of the respondents were enrolled who read HI related information from newspapers (p<0.01). Another similar result showed that 68 percent of the respondents were enrolled who read or seen HI related leaflet, brochure, posters and pamphlet (p<0.001). Of the respondents, about 59 percent were enrolled in HI who felt that they were susceptible to health problems (p<0.001). More than half (51%) of the enrolled respondents expressed that they had access to health facilities within 30 minutes. The data show that HHs having family members aboard had equal chance to enroll in HI or not.

3.3 Multivariate Logistic Regression on the Factors Associated with the Enrollment of Health Insurance

Findings form logistic regression indicate that female respondents were more likely to enroll (aOR = 1.047) in HI than males. Similarly, the respondents who were household head were less likely to enroll in HI (aOR = 0.934). Nearly the same result was seen in age groups, the respondents age 21 to 40 years were less likely (aOR = 0.177, p<0.001) to enroll while those age 41 to 60 years (aOR = 0.282, p<0.05) and more than 60 years (aOR = 0.324) compared to age less than 20 years. Interestingly, literate respondents were also less likely to enroll in HI compared to the illiterate. The respondents, who could simply read and write, basic education, secondary education and higher education were less likely to enroll in HI (aOR = 0.224, 0.233, 0.227, and 0.179 p<0.001) respectively. Joint families also seemed less likely (aOR = 0. 921) to enroll in HI than nuclear families. HHs having more than 10 members were more likely (aOR = 1.194) to enroll compared to small family having less than five members. Moreover, poor, middle income and the richest HHs were less likely to enroll than the poorest HHs. HHs having food enough for 9 to 12 months and three to 6 months were more likely to enroll compared to HHs that had enough food throughout the year. However, the respondents having knowledge about

HI were more likely to enroll in HI (aOR = 28.970, p<0.001) compared to those who were unaware about HI. Families with financial crisis due to health problems were less likely (aOR = 0.812) to enroll in HI compared to those who had not. Willingness to pay seemed a positive predictor for enrollment in HI. Respondents who wanted to pay NRs. 501 to 1500 and more than 1500 were more likely to enroll in HI (aOR = 1.673 & 1.793, p<0.05) than those who wanted to pay equal or less than 500 per year per person. Respondents having HI related books or guidelines at home were more likely (aOR = 4.379, p<0.001) to enroll compared to those who had not whereas, respondents' who had participated in training and workshop were less (aOR = 0.503) likely to enroll in HI than those who did not participate.

Table 3. Adjusted Odds Ratio from Logistic Regression Model at 95 % Confidence Interval by Background Characteristics of Households/Respondents and Enrollment in Health Insurance

Variables	Category	N	aOR	95% CI Lower	95% CI Upper
Gender	Male (ref.)	397			
	Female	413	1.047	.680	1.613
Household headship	No (ref.)	276			
	Yes	534	.934	.580	1.505
Respondents' age	Up to 20 years (ref.)	23			
	21 to 40 years	482	.177***	.066	.472
	41 to 60 years	233	.282*	.101	.785
	More than 60 years	72	.324	.099	1.062
Educational status	Illiterate (ref.)	60			
	Literate	246	.224***	.100	.502
	Basic education	214	.233***	.102	.534
	Secondary education	197	.227***	.096	.535
	Bachelor or higher	93	.179***	.066	.488
Family type	Nuclear (ref.)	332			
	Joint	478	.929	.570	1.516
Family size	Up to 5 members (ref.)	457			
	6 to 10 members	340	.921	.572	1.483
	More than 10 members	13	1.194	.228	6.257
Wealth status	Poorest (ref.)	162			
	Poor	162	.618	.338	1.132
	Middle	162	.472*	.253	.880
	Rich	162	.559	.288	1.085
	Richest	162	.594	.303	1.165
Food availability	Throughout the year (ref.)	415			
	9 to 12 months	61	1.235	.584	2.611
	6 to 9 months	90	.610	.332	1.121
	3 to 6 months	114	1.022	.573	1.824
	Less than 3 months	130	.799	.464	1.373
Presence of chronic diseases	No (ref.)	530			
	Yes	280	1.090	.719	1.650
HI knowledge	No (ref.)	227			
	Yes	583	28.970***	14.903	56.318
Past experiences of financial crisis	No (ref.)	468			
	Yes	342	.812	.550	1.199
Willingness to pay for health insurance	Up to NRs 500/- (ref.)	211			
	NRs 501 to 1500/-	395	1.673*	1.043	2.681
	More than NRs.1500/-	204	1.793*	1.037	3.102
HI related books or guidelines	No (ref.)	674			
	Yes	136	4.379***	2.356	8.140

Participated in HI related training/workshop	No (ref.)	770			
	Yes	40	.503	.200	1.269
Discussed with neighbour/relatives about HI	No (ref.)	551			
	Yes	259	1.851**	1.183	2.896
Known from social media	No (ref.)	655			
	Yes	155	.539*	.314	.928
Listened HI related information from radio/FM	No (ref.)	424			
	Yes	386	1.115	.735	1.692
Watched HI related information in TV	No (ref.)	500			
	Yes	310	1.346	.863	2.099
Seen hoarding board	No (ref.)	594			
	Yes	216	1.492	.892	2.497
Read newspaper	No (ref.)	704			
	Yes	106	.741	.391	1.402
Seen brochure/poster/pamphlet	No (ref.)	668			
	Yes	142	.855	.466	1.569
Susceptible to health problem	No (ref.)	424			
	Yes	386	1.484*	1.010	2.181
Access to health facility	Up to 30 minutes (ref.)	585			
	31 to 60 minutes	190	1.076	.673	1.719
	More than 60 minutes	35	.452	.184	1.113
Family member aboard	No (ref.)	566			
	Yes	244	.751	.497	1.135
2 Log Likelihood			**730.085**		
Cox & Snell R Square			**.384**		

Note: significant at *p<0.05, **p<0.01, ***p<0.001

The respondents who had some discussion with neighbours were more likely to enroll (aOR = 1.851, p<0.01) compared to those who did not discuss with neighbours about HI but exposure to social media about HI was not a strong driver to enroll (aOR = 0.539, p<0.05) in HI. HHs that received HI related information from radio/FM and television seemed more likely to enroll (aOR = 1.115 & 1,346). Similarly, respondents who got HI related messages from hoarding boards were more likely to enroll (aOR = 1.492) than those who did not have exposure. Likewise, respondents who got information form brochure, leaflet, poster and pamphlet seemed to have lower chances to enroll in HI. Respondents who felt susceptible to diseases were more likely to enroll (aOR = 1.484, p<0.05) compared to those who did not. HHs that had access to health facilities within 30 to 60 minutes were more likely to enroll (aOR = 1.076) than those who had access within half an hour. HHs having family member aboard were less likely to enroll in HI (aOR = 0.751) compared to HHs that did not have.

4. Discussion

The data show that different factors were associated with the enrollment in HI. Some factors that were significantly associated include household headship, age group of respondents, ability to feed the family, presence of chronic diseases, knowledge on HI, experiences of financial trouble due to diseases, willingness to pay, exposure to HI related books or guidelines, participation in HI related training and workshops, interaction with neighbours, information received from the radio/FM, TV, hoarding boards, newspapers, poster or pamphlet, and feeling susceptible to health problems. Results from different studies show that educational level, age as well as self-employment are positively associated with the enrollment of HI (Abdel-Ghany & Wang, 2001).

Some studies have found that the enrollment in HI seemed high in some ethnic groups, others claim that age group and education level of respondents are the predictors for enrollment. Household size and enrollment in HI have positive association but other studies did not support it. A systematic review shows that educational level (high), sex (male), age (younger), and HH size (larger) have positive association with willingness to pay and enrollment in HI (Adebayo et al., 2015). The review also claims that lack of funds, lack of trust and poor quality of health care are major causes of low enrollment in HI. Another study from Ethiopia shows that presence of diseases in HH, income, educational status and first point of treatment were some influencing factors for

enrollment in HI and utilization of services as well (Tilahun, Atnafu, Asrade, Minyihun & Alemu, 2018). However, another study indicates that presence of HI is associated with the prompt utilization of health services (Skinner, Foster, Mitchell, & Haynes, 2014). Illiteracy or low level of education, poor social support and homelessness are considered as determinants for non-enrollment in HI (Fowler et al., 2010). Interestingly, nearly the same results are shown in a systematic review that income of HH, educational level of HHH, female headed HH, age of HHH, size of HH and presence of chronic diseases in a family member were positively associated with the enrollment of HI (Panda et al., 2016). In this study, HHs having high wealth status seemed less likely to enroll in HI. However, a study in Nigeria shows a contrasting result that HHs from lowest wealth quintiles had higher risk of catastrophic health expenditure (Ilesanmi, Adebiyi, & Fatiregun, 2014).

5. Conclusion

Different socio-demographic characteristics appear as the influencing factors for the enrollment in HI. Age group of the respondents, knowledge regarding HI, willingness to pay for HI, interaction with neighbours, feeling of susceptibility to diseases or health problems, and HI related information from the radio/FM, television and hoarding boards were the major predictors for enrollment in HI. Since the interactions with neighbours had a positive association with the enrollment in HI, appropriate interaction should be made with neighbours and the public. Besides these, the influencing factors should be considered at the time of planning of the intervention.

Conflict of interest

The authors declare that there is no conflict of interest with this research.

Author contributions

DA conducted survey, edited and entered the data, analyzed the data and prepared the manuscript. BD supervised all the processes including study design and edited the manuscript. BPW edited the manuscript, participated in revision. All the authors did agree to submit this paper for publication.

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