NEWBORN CARE PRACTICE AMONG KHAS, JANAJATIS AND DALITS IN SHANISHCHARE PRIMARY HEALTH CARE CENTER AREA OF JHAPA DISTRICT

BY

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A THESIS SUBMITTED TO
THE CENTRAL DEPARTMENT OF POPULATION STUDIES (CDPS), FACULTY OF HUMANITIES AND SOCIAL SCIENCES, TRIBHUVAN UNIVERSITY (TU), IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN POPULATION STUDIES

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RECOMMENDATION

This is to certify that the thesis submitted by Mr. Ramesh Kumar Dahal entitled "*Newborn Care Practice among Khas, Janajatis and Dalits in Shanishchare Primary Health Care Center (PHC) Area of Jhapa District* " is Recommended for External Examination.

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Date: July 2011

VIVA-VOCE SHEET

We have conducted the viva-voce examination of the thesis submitted by Mr. Ramesh Kumar Dahal Entitled "Newborn Care Practice among Khas, Janajatis and Dalits in Shanishchare Primary Health Care Center (PHC) Area of Jhapa District" and find that the thesis to be an independent work of the student written according to the prescribed format. We accept the thesis as the partial fulfillment of the requirements for Master of Arts in Population Studies.

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DECLARATION

Except where otherwise acknowledged in the text, the analysis in this thesis represents my own original research.

Ramesh Kumar Dahal

July 2011

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ABSTRACT

With the aim of providing insights into the newborn care practice along with to identify the association between social, demographic, economic and modernization variables and newborn care practice in the Shanishchare PHC area, rural community of Jhapa District, a total 252 mothers were interviewed in household survey in companion with three case studies; 18 in-depth interviews with Mother-in-Law, TBA, AHW, ANM and MCHW; and four FGD with mothers having less than twelve month of baby in VDC immunization days.

The entered data was exported from the Epidata to SPSS for the analysis. Three types of indexes, i.e. general index, newborn care index and development indexes was prepared for the analysis of newborn care practice. The newborn care index incorporates 25 studied variables. The newborn care practice was divided into three categories such as standard, moderate and poor index based on the achieved index value 0.74+, 0.40 to 0.74 and up to 0.39 respectively. Four types of development indexes such as demographic development index, social development index, economic development index and modernization development index was developed to test the hypothesis and for the cross tabulation with newborn care index. The score one to six was provided based on the cross table analysis and correlation coefficient between independent variables relating to economic, social, demographic and modernization variables and newborn care practice for making development indexes.

The moderate newborn care practice was more common followed by standard and poor respectively. The newborn care practice was also studied in accordance with ethnicity i.e. Khas, Dalit and Indigenous nationalities (Janajati). Khas mothers were found better newborn care practice while Dalit in middle position and Janajati in least position. On the basis of the correlation coefficient between the development indexes and newborn care index, the study concluded that having higher social and demographic status of mothers have better newborn care practice in rural community. Likewise, better economic and modernization variables also contribute positively to enhance the newborn care practice.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

AHW:	Assistance Health Worker
ANM:	Auxiliary Nurse Midwife
BEOC:	Basic Emergency Obstetric Care
BPP:	Birth preparedness Package
CEOC:	Comprehensive Emergency Obstetric Care
DOHS:	Department of Health Service
FCHV:	Female Community Health Volunteer
FGD:	Focus Group Discussion
FHD:	Family Health Division
HIV:	Human Immune Deficiency Virus
ICPD:	International Conference on Population- and Development
MCHW:	Maternal and Child Health Worker
MDG:	Millennium Development Goals
MOHP:	Ministry of Health and Population
NNHS:	National Neonatal Health Strategy
PHC:	Primary Health Care Centre
SBA:	Skill Birth Attendant
TBA:	Traditional Birth Attendant
VDC:	Village Development Community
WHO:	World Health Organization
UN:	United Nation
UNFPA:	United Nation Population Fund
UNICEF:	United Nation International Children Fund
VHW:	Village Health Worker

NEWBORN CARE PRACTICE AMONG KHAS, DALIT AND JANAJATI IN SHANISHCHARE PHC AREA OF JHAPA DISTRICT

CHAPTER I

INTRODUCTION

1.1: General Background

The child loss experience, by and large, depends upon the new-born care practices. New born are vulnerable; therefore, they need to be cared, good attention by parents as well as health personnel. The first week of life is the most crucial period in the life of neonates because the newborn has to adopt the extra-uterine environment rapidly and successfully. This is the dependent period of life. Thus, every member of the family should take special attention to care for the baby.

Newborn care is very important for the proper development and healthy life of a baby. However, newborn care practice received less-than optimum attention until 2004. Nepal government formulated the 'National Neonatal Health Strategy 2004'. Main goal of the National Neonatal Health Strategy is to improve the health and survival of newborn babies and the strategic objectives focused on increase in adoption of healthy newborn care practices, as well as reduce prevailing harmful practices and strengthen neonatal health services [DOHS, 2004:3]. Nepal government developed the National Essential Maternal and Neonatal Health Care Package (MNH) in 2006, which consists of basic sets of health care interventions that should be available at different levels of the health care delivery system, to all women and their newborns to prevent and manage common obstetric and neonatal complications. The MNH package defined all those activities, which should be performed at family level to District level health care delivery system for ensuring that every pregnancy results in the best possible outcome for mother and newborn [DOHS, 2006).

However, still 81 percent of newborns are delivered without health facilities and nearly 50 percent deliveries are conducted by untrained relatives and friends (MOHP, New ERA and Macro International, 2007:141-142). The NDHS 2006 shows that there is little knowledge in rural Nepal of the need to keep

newborns warm. Still 90 percent of babies in Nepal who were born in non-institutional settings are bathed in the 24 hours after birth and 73 percent in the first hour (MOHP, New ERA and Macro International, 2007:151).

World Health Organization has identified the essential new born care practice which is most important for improving the health status of new born and the mother. Essential newborn care is simple, requiring no expensive high technology equipment, the principle based on: resuscitation, warmth to avoid hypothermia, early breastfeeding, hygiene, support for the mother-infant relationship, and early treatment for low birth weight or sick infants (WHO, 1996: 6-9).

1.2: Statement of the Problem

Globally, an estimated 4 million babies die during their first 4 weeks, of which 3 million die in the first week of birth (WHO, 2008:589 a). Neonatal deaths account for about 38 percent of the annual 10.6 million child deaths recorded worldwide. Out of this 98 percent occur in developing countries, where the most newborns die at home while they cared by mothers, relatives, and traditional birth attendants (WHO, 2008:796 b).

It is estimated that in Nepal nearly 50,000 children under one year of age die every months. Two third of them die within 28 days of age, resulting in over 30,000 neonatal death per year. Among those dying within the neonatal period 20,000(two third) die in the first week of life. Nearly the same numbers of babies are still born. More than 16,000 of those dying within the first week of life die within 24 hours. This means that three to four newborns are dying every hour in Nepal (DOHS 2004:1). The problem is more acute in rural areas where expert obstetric care is scarce, and home environmental conditions in which the baby is born in India (Park, 2000:355). The situations of Nepalese children are also not exception from this reality where NDHS 2006 shows the number of 117 early neonatal deaths in rural areas in comparison to the number of 12 early neonatal deaths in urban areas (MOHP, New ERA and Macro International, 2007:129).

Department of health service/Nepal have implicated Safe Motherhood and newborn care programs in rural communities. NDHS 2006 have evaluated such programs. The result of NDHS shows still 28 percent of women do not take any ANC services in rural communities and 67 percent do not receive

any Postnatal Care (PNC) service. Only 17 percent of births use the safe delivery kit among the 81percent home delivery. Users of sickle and old blade for cutting umbilical curd have 17 percent. About a quarter (25%) of the newborns uses some material on curd stump (usually oil, ash and ointment).The majority (90%) of newborns bath within 24 hours and 74 percent within the first hour. Nearly 50 percent of deliveries are conducted without professional assistance (MOHP, New ERA and Macro International, 2007). Thus, the majority of newborns do not have access to any neonatal care other than what immediate members can provide.

Nepal is also committed to achieve the Millennium Development Goals (MDGs) one of which is reduction of the under-five mortality by two-thirds. Several efforts have been made to reduce the child mortality by the government of Nepal which focusing on maternal and neonatal health are; establishment of Basic Emergency Obstetric Care (BEOC), Comprehensive Emergency Obstetric Care(CEOC), Birth preparedness Package (BPP), Community Based Maternal and Neonatal Care(CB-MNC) and cost sharing scheme. Likewise Saving Newborn Lives (SNL) is also implemented in Nepal. However, the neonatal mortality rate 33 accounts two-thirds of infant deaths (48 per 1000 live births) in Nepal (MOHP, New ERA and Macro International, 2007:125).

Hence, for achieving the MDGs target, reduction of neonatal mortality is necessary in the country especially in the rural areas. Research and studies in the area of newborn care practices, especially at peripheral area, are gaining poor attention in Nepal. Till now, nobody studied the newborn care practice by ethnic groups in Shanishchare PHC area of Jhapa. Therefore, the present study fulfils the information gap of newborn care practice in Shanishchare PHC area of the district.

1.3: Objectives of the Study

The general objective of this study is to provide insights into the newborn care practice among Dalit, Janajati and Khas mothers of the rural community. However, following are the specific objectives

- to identify the association between social variables and newborn care practice;

- to identify the association between economic variables and newborn care practice;
- to identify the association between modernization variables and newborn care practice;
- to identify the association between demographic variables and newborn care practice;

1.4 Significance of the Study

Newborn care practice largely determining the neonatal mortality and the health status of newborn. So, the study focuses more on the most vulnerable children: the newborns. This small scale study gives the insights of the new born care practices among mothers of Khas, Dalit and Janajati which can contribute for government line agencies and non-governmental organizations to make district level community based intervention program, which may decrease the perinatal mortality rate (PMR) & neonatal mortality rate (NMR), focusing on which groups of mothers are practicing harmful neonatal care.

The information on the comparative study between different caste of mothers on new born care practice and affecting factors behind that is really helpful for reducing the gap between the service provided and outcomes. Moreover, nobody studied the newborn care practice by correlating among the demographic, social, economic and modernization variables. So, the information obtained after this study is more useful as a feedback for the policy maker of the concerned authority to improve the health status of newborns by minimizing and eliminating the factors making gap.

1.5 Limitation of the Study

- This study may have information bias. Since this study was included only those mothers who delivered live baby within 12 month in order to avoid recall bias over a longer period of time. However, some amount of recall and reporting bias cannot be ruled out.
- The study was conducted in the Jhapa district that lies on the Terai region of eastern Nepal. Hence the findings may not be generalized in other hills and mountainous districts.
- The study findings can not define in national level because of its small sample size and small area of study.

1.6: Organization

This study is organized into seven chapters. The first chapter is introduction of the study which consists of others five sub chapters: (I) background- the background covers the introduction of newborn, existing situation of newborn care, efforts of good newborn care practices and the essential newborn care practices including the policy (II) problem statement-the gap of the area of research, (III) objectives-it includes two types of objectives; i.e. the overall-identification of the overall newborn care practice, and the specific-identification of the association between demographic, social, economic and modernization variables with newborn care practice (IV) significance – study has given the feedback for policy makers and the concerned authorities about the gap of the service provided and the outcomes of newborn care practice and it also provides the newborn care practice among the Khas, Dalit and Indigeneous Nationalities (V) limitations of the study (VI) Organization- how the chapters is arranged within the report.

The second chapter presents the literature review of newborn care practice. It also categorised in five sub chapters: (I) the theoretical literature review- it has covered two aspect of the literature. First, the concerned theoretical framework of the newborn care practice- intergenerational wealth flow theory and mortality framework of Mosley and Chen. Second, the international conference on reproductive health and safe motherhood i.e. the Alma-Ata Declaration 1978, Safe motherhood conference 1987 and the safe mother hood in Nepalese context- norms of antenatal care, delivery care, post natal care and newborn care-Cord care, Breast feeding and Thermal care; ICPD 1994; millennium development goals (MDGs), government policy of free health service and maternity care scheme (II) the empirical literature review- it presents the evidence of government activities, NDHS 2006 and the community based studies to the newborn care practice (III) identification of study variables- the independent variables such as socio-economic, demographic, participatory, service related and knowledge related variables; and the dependent variable the newborn care (IV) conceptual framework (V) formulation of hypothesis.

Third chapter presents the methodology used in the study. Methodology covers other ten sub chapters i.e. introduction to study area, sample design, respondent selection method, questionnaire design, guidelines and field

operation, methods of data collection and processing, measurement of data quality, methods of data analysis, consideration of ethical issues and the validity and reliability of the research.

Chapter four is the general introduction of the study population. Introduction of Study population is presented for household population and the sample mothers separately. All of the studied variables are cross tabulated with the caste/ethnicity.

Chapter five describes analysis of newborn care practice by selected study variables. The newborn care practice is analysed in companion with social, economic, demographic and modernization variables by ethnicity separately.

Chapter six deals with the statistical analysis, the correlation coefficient between individual variables of social, economic, demographic and modernization data and newborn care practice, along with data presentation of development indexes with newborn care index and its statistical analysis by using the correlation coefficient for reaching the conclusion of the study.

Chapter seven illustrates the analysis of qualitative information. The qualitative analysis covers other five sub topics i.e. case studies, thematic areas of qualitative information, results of in-depth interview, results of FGD and findings of overall qualitative results.

The final chapter includes the summary, conclusion and recommendation of the study.

CHAPTER II

LITERATURE REVIEW

2.1: Theoretical Literature

After the Universal Declaration of Human Rights (1948), member states of United Nations (UN) have adopted the wide range of instruments elaborating on the principles of universality, indivisibility, interdependence, equality and non-discrimination. These instruments are joined by consensus documents such as the International Conference on Population and Development (ICPD) Program of Action (1994) and the Beijing Platform for Action of the Fourth World Conference on Women (1995). ICPD 1994 defines reproductive health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and process" (ICPD 1994: 43). Since these conferences, the issues of reproductive health and rights came into existence.

Reproductive rights are central to human rights, especially the human rights of women. They derive from the recognition of the basic right of all individuals and couples to make decisions about reproduction free from discrimination, coercion or violence. They include the right to the highest standard of health and the right to determine the number, timing and spacing of children. They comprise the right to safe childbearing, and the right of all individuals to protect themselves from HIV and other sexually transmitted infections (UNFPA 2005: 3). The reproductive process, however, remains a serious health hazard for women in Nepal. The key to reproductive health much safer via access to family planning to reduce unintended pregnancies and to space intended pregnancies, skilled care for pregnancies and birth, timely obstetric care for complications during childbirth, and skilled care for women and babies after delivery (UNFPA 2008: 6).

Nepal is a multicultural and pre-dominantly Hindu country. Most of the people believe that son opens the door of heaven for his parents and children are the supporters of old age. The total responsibility of the process of socialization, education, health and psychological development of children are performed by the parents. Parents invest to the education development, health development, and other relating matters of children. Realizing these

facts, there are number of fertility and child mortality related concepts and theories developed in socio-economic aspect.

2.1.1: The Theory of Intergenerational Wealth Flow

J.C. Caldwell, propounder of the theory, shows fertility decline in modern societies due to the transition of flow of economy from children to parents to the parents to children. According to him, the high fertility is rational in primitive/traditional society because the intergenerational flow of wealth has been shifting from the younger person to the older person i.e. younger generation to the older generation. In other words, children in such societies are economic assets to their parents and naturally more children mean more wealth leading to high fertility. The theory presents six different advantages to the parents from the more children in traditional society.

- The head of the household can control more resources, in term of goods and services, if the family is extended and have the large number of children, daughter-in-law and grandchildren. In traditional society, it is considered as the large number of household size the greater the power of the head.
- Children works not only in household, farm and produce goods but also do small jobs such as bringing fuel, carrying goods and massages, sweeping, looking after younger siblings, carrying animals etc.
- Adult children assist their parents by working in the farms as labourers.
- Adult children are of great help in family ceremonies, such as marriages, funerals and ceremonies connected with births in the households. They also contribute to the festivals.
- The grown up children take care of the aged parents.
- Parents can invest in the training and education of children, so as to increase the ability of children to make returns.

The theory presents that when the intergenerational flow of wealth is from younger to the older generation the maximum level of fertility will ever be achieved. This is because of the psychological, physiological and social factors. Every one can easily predict that the impact of the intergenerational flow of wealth is from younger to the older generation in traditional society; there may be high chance of poor health status of the women due to the high rate of fertility and heavy work load. The more children and heavy workload means the less time consume for maternal health and it also represents to

the less time and resources for the newborn baby. The implicit impact of this should be the poor health status of newborn in traditional society.

But the less number of Children are economically useful to parents in modern nucleated family because the net flow wealth changes from parents to children. The direction of this flow will not change unless the family is largely nucleated both emotionally and economically. A good deal of emotional nucleation is required for economic nucleation and a large amount of both are necessary for parents to incur a large expenditure for their children. The emotional tie between parents and children is stronger. Parents spend on their children they demand and expect vary little in return from them. According to Cladwell, the emotional and economic nucleation can be brought about by importing a different type of culture-westernization implying the European concept of family relationship and obligations with strong ties between husband and wife and concentration of concern and expenditure on one's own children. In many developing countries, this import has already started and the two aspects of modernization, namely mass education and mass communication can give impetus to this ongoing process. Cladwell points out that family nucleation and reversal of intergenerational wealth flow are likely to occur in the developing world in a big way during the next half century and these processes will bring down the birth rates and also slow down population growth.

The theory directly does not analyse the newborn care but based on the emotional and economic nucleation it has obvious that parents may, to the larger extent, be more concerned with the health of baby. The worse health condition of baby hurts to the parents. Better health of baby is possible if they cared from pregnancy to delivery and to the neonatal period. Above all, parents are more concerned with quality and bright future of children and their own future. The quality of children not only depends upon education but it also depends upon the better health status of mother. Based on these facts, mothers from the modern society may possibly more visit to the health institution for their pregnancy to postnatal period for uplifting the health status of both mother and newborn baby than mothers from traditional society. On the other hands, the mothers of modern society may be exposed in modern media and modern education system which certainly contributes to make the better health status of newborn baby.

2.1.2: Mosley and Chen Framework for Mortality Analysis

By considering the high mortality of children in most of the developing countries, Mosley and Chen (1984) developed the framework for mortality analysis by combining social and biological variables. In particular, they noted a disparity between social science research which focused largely on the roles of socio-economic and cultural factors in child deaths and medical research. This focused on specific disease processes and used morbidity as the most common outcome variable. The approach of Mosley and Chen is based on social and economic determinant of child mortality which is guided by the common set of biological mechanism. The main aim of this framework was to integrate the social and biological variable in research methods, employed by both social and medical scientists, for analysing the childhood mortality in developing countries.

Assumption of Mosley and Chen Approach

- With good care and nourishment, more than 97 percent of newborn infants can survive through the first five years
- Socio-economic, environmental and biological factors contribute to the decrease in survival probability
- Socio-economic determinants operates the biological determinants which is responsible for the death or survival
- The cumulative consequences of multiple disease processes in children are growth faltering and ultimately mortality

Mosley and Chen's analytical framework is conceptually identical to that of Davis and Blake. Background social, economic, cultural, and health system variables influence a parsimonious but exhaustive set of proximate determinants which in turn directly influence the single outcome variable just described. The authors argue that the five categories of a total 14 proximate determinants affect child survival.

- Maternal factors: Age, Parity, and Birth Interval
- Environmental Contamination: Air, Food/Water/Fingers, Skin/Soil/Inanimate Object, Insects or Vectors
- Nutrient Deficiency: Calories, Protein, Micronutrients (Vitamins and Minerals)
- Injury: Accidental and Intentional
- Personal Illness Control: Personal Preventive Measures, Medical Treatment.

Determinants of first four groups affect the rate at which children move from healthy to sick, whereas factors in the last group influence both this rate (through prevention) and the rate of recovery (through treatment). This list of proximate determinants is intended to be exhaustive, such that child health will change if-and only if-one or more of the determinants change.

2.1.3: The Alma-Ata Declaration

WHO director Mahler proposed the goal "Health for All", was formally put forth in 1978 WHO-UNICEF Alma-Ata Declaration. The Alma-Ata Declaration declared health is a fundamental human right and every one has the right to achieve primary health care. For the first time the declaration identified the issue of reproductive health of women, such as the maternal and child health care, including family planning; immunization against the major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; and provision of essential drugs for providing the social justice and for social development. The declaration relies, at local and referral levels, on health workers, including physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed, suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community (Alma-Ata Declaration 1978).

2.1.4: Introduction and Implementation of Safe Motherhood Conference 1987

After the Alma-Ata declaration, the excessively high maternal mortality rates among women in developing countries finally received attention from the international health community at the safe motherhood conference in 1987 and after that it was adopted globally as a strategy to reduce maternal mortality and morbidity. The conference decided to launch a worldwide campaign to promote improved standards of maternal health in developing countries and identified the important element of safe motherhood including family planning, abortion care, emergency delivery care, prenatal care, appropriate care during labour and childbirth for normal deliveries and post partum care. Safe motherhood program is directly related to the mother as well as newborn health (Safe Motherhood program 1987).

The government of Nepal has implemented the safe motherhood program since 1991. Making motherhood much safer will require improvements in socio-economic and political status of girls and women. Such status would include high quality family planning, pre-natal, delivery and post natal care for all women: and skilled obstetric care for high risk and emergency cases. Family Health Division of the Department of Health service (DOHS) developed the National Safe Motherhood Plan (2002-2017), which lays out various levels of outputs and activities, the long term goal of the 15 years plan envisages establishment of Basic Emergency Obstetric Care (BEOC) and Comprehensive Emergency Obstetric Care (CEOC) services in all 75 district, skill attendance of birth to 60 percent by 2017 and increased access to emergency fund and appropriate transport services (DOHS 2000).

Nepal government revised the safe motherhood plan in 1996. The revised Safe Motherhood and Neonatal Health Long Term Plan (SMNHLTP 2006-2017) focuses on improvement of maternal and neonatal health and survival, especially of the poor and excluded. The goal of SMNHLTP is the reduction of maternal mortality ratio to 134 per 100,000 live births by 2017, and the reduction of neonatal mortality rate to 15 per 1000 live births by 2017, to increase the number of deliveries assisted by delivery skill birth attendant to 60 percent by 2017. The percentage of delivery taking place in a health facility increased to 40 percent by 2017 (DOHS 2009: 99).

Reproductive health information, Quality pre-natal care, Clean and safe delivery with skill birth assistance, and Availability of referral services for complications are four essential components of safe motherhood in Nepal (DOHS, 1998:2). Safe motherhood program includes both for preventing mother during her pregnancy, child birth or post partum period and the health care of newborn. Safe motherhood directly covers the following areas of Newborn care in Nepal.

- Health education and behaviour change communication on essential newborn care practices which includes cord care, prevention and management of hypothermia, initiate immediate breastfeeding within one hour;
- Identification of neonatal danger signs and timely referral to the appropriate health facility (DOHS 2009:103).

2.1.4.1 Pre-natal Care

The standard guideline of WHO has recommended at least four visits for the pregnant woman to the doctors. The aim of the standard of WHO is to prevent, alleviate or treat/manage health problems/disease (including those directly related to pregnancy) that are known to have an unfavourable outcome on pregnancy and to provide women and their families/partners with appropriate information and advice for a healthy pregnancy, child birth and postnatal recovery, including care of the newborn, promotion of early exclusive breastfeeding and assistance with deciding on future pregnancies in order to improve pregnancy outcomes (WHO 2007:49). The mother should attain the antenatal clinic once a month during the first seven-month; twice a month during the next month; and thereafter once a week, if every thing is normal (Park, 2002:355). He further suggests three visits should as: first visit at 20 weeks or as soon as the pregnancy is known, second visit at 32 weeks and the third visit at 36 weeks (Park 2002:355).

2.1.4.2 Delivery Care

Delivery care refers to the care of mother during the period of delivery. This period starts from anaesthesia to post partum periods. Delivery period is considered as risky period for every mother (Kafle 2006: 9). Proper medical and hygienic conditions during delivery can reduce the risk of complications and infections that may cause and death or serious illness of the mother and the baby (MOHP, New Era and Macro International 2007:140). WHO has recommended that labour or delivery should be supervised by doctors, midwives or nurses with the midwifery skills to handle normal deliveries safely and recognize the onset of complications beyond their capacity to handle, referring the mother for emergency care.

2.1.4.3 Post-natal Care

Post natal care refers to the care of mother and new born baby after delivery. Broadly this care falls in two areas: care of mother which is primarily the responsibility of the obstetrician and secondarily of family members especially of husband and relatives; and care of new born babies, which is the combined responsibility of the obstetrician, paediatrician, mother, family members and other relatives. Post natal care is one of the essential components for the

reduction of maternal death (Kafle 2006: 11). The safe mother hood programs emphasize the importance of post natal care, recommending that all women receive at least two post natal checkups, first checkups should have soon after delivery (DOHS 2006).

2.1.4.4: New Born Care

The World Health Organization's (WHO) guidelines for essential newborn care include the following: hygiene during delivery, keeping the newborn warm, early initiation of breast-feeding, exclusive breast-feeding, care of the eyes, care during illness, immunization and care of low birth-weight newborns (WHO 1996:9). Some standard guidelines categories the area for newborn care as: immediate care after birth and continuing postnatal care. Immediate care encompasses; be sure that attendants wash hands with soap and water before the delivery and before tying and cutting the cord. Keep delivery room warm and ensure baby is dried and warmly wrapped immediately after birth. Keep the head covered. Delay bathing; at least six hours. Use a clean (preferably sterile) instrument to cut the umbilical cord, and check frequently for bleeding; Keep the baby with the mother to ensure warmth and frequent breastfeeding. Pay attention to frequent hand washing by anyone handling the baby. Clean baby's eyes immediately after birth, and if prophylaxis is country policy, instill drops or ointment. Help mother with the first (within one hour) breastfeeding. Continue postnatal care focus on; Keep the baby with the mother. Avoid putting two babies in the same cot. Clean the cord with soap and water and keep it dry. Do not cover the cord with any bandage or cloth. Tell mother what danger signs to look for in the condition of the cord and in her baby. Be sure she knows when and where to go for help. Teach mother how to keep the baby warm. Take baby to health centre at six weeks for immunizations. Advise the mother to give her child nothing but breast milk for the first six months and to continue breastfeeding up to two years or longer (Moore and Dermott 2004).

In Nepal, government has standardized the content for maternal and newborn health communication which focus the following practices as essential newborn care practices; dried newborn with a clean cloth, wrapped from head to toe, initiation breastfeeding (colostrums) within 1 hour of birth, cut the cord with a clean blade and tie it with clean material, nothing apply to the

cord, avoided bathing of newborn for the first 24 hours, PNC visit within 3 days, BCG immunization (WHO 2006).

- Cord Care

Clean delivery and clean cord care are for the prevention of newborn infections specially tetanus and sepsis. Clean delivery practices are associated with 55-99 percent reduction of incidence of neonatal infection (Darmstadt et.al. 2005). WHO recommended that umbilical cord should be cut and tied with a sterile instrument and not to apply anything to the cord stump. But in some cultures, some kind of substance is applied to the cord stump. Ash, oil, butter, herbs and mud are commonly used. These substances are often contaminated with bacteria and spores and that increase the risk of infection. One of the most dangerous practices is the application of cow, chicken or rat dung to the stump; this is associated with a high risk of NNT. Ghee application has also been found to be a risk factor for tetanus (WHO, 1996).

- Thermal Care

Avoiding hypothermia (rectal temperature less than 36.5°C or 96.8° F) is important for newborn health outcomes because hypothermia increases morbidity and mortality. Low birth weight babies are more susceptible to becoming cold. The risk of losing heat is greatest when the baby is wet (i.e., just after delivery or bath). A baby can lose one degree of body temperature per minute when wet, even in a room that is not obviously cold. To prevent heat loss, it is necessary to dry up the baby and wrap the baby in a clean, dry cloth and to make sure the baby's head is covered (Moss et.al. 2002: 484-495).

- Breastfeeding

The first breast milk is important for babies because it contains colostrums, which is highly nutritious and rich in antibodies that protect the newborn from diseases. The early initiation of breastfeeding also increases the bond between mother and child. Early initiation of breastfeeding is beneficial for both mothers and children. Early suckling benefits mothers because it stimulates the release of a hormone that helps the uterus to contract (Adhikari and Kratz, 2001). Breast-feeding should be started within an hour of birth (WHO, 1996).

2.1.5 International Conference on Population and Development (ICPD)-1994

The ICPD conference held in Cairo in 1994. Among the various aspect of human development and health, the conference focused the issues on safe motherhood and the child survival and health as a key component. The commitment of safe motherhood was reinforced in conference where in addition to the call to reduce maternal mortality and morbidity by at least 50 percent by the turn of the century, safe motherhood was recognized as key component of reproductive health. Attention was also drawn to creating and enabling environment, enhancing gender equality, equity and empowerment of women. It also gave priority in promoting reproductive health including family planning, sexual health and reproductive rights (ICPD 1994: 57).

With the aim for promoting child health and survival, reducing the gap between developed and developing countries with particular attention to eliminating the pattern of excess and preventable mortality among girl infants and children; for improving the health and nutritional status of infants and children; and promoting breast-feeding as a child-survival strategy, ICPD set the action for capturing the poor situation. The action of ICPD takes into the account that over the next 20 years, trough the international cooperation and national programs, the mortality gap of girl infants and children among the developed and developing countries should be substantially narrowed and also the disparities within countries, those between geographical regions, ethnic or cultural groups, and socio-economic groups should be eliminated. Countries with indigenous people should achieve infant and under-5 mortality levels among their indigenous people that are the same as those of the general population (ICPD 1994: 57).

ICPD identified that breastfeeding is only the way to receive nutrition and for specific protection against a range of diseases among the infants. Hence, ICPD wants to enable women to breastfeed their infants exclusively for four to six months without food or drink supplementation and to continue breast-feeding infants with appropriate and adequate complementary food up to the age of two years or beyond. Therefore, Governments should promote public information on the benefits of breast-feeding; health personnel should receive training on the management of breast-feeding; and countries should examine

ways and means to implement fully the WHO International Code of Marketing of Breast Milk Substitutes (ICPD 1994: 57).

2.1.6: United Nations Millennium Development Goals (MDGs) 2000

At the onset of the new millennium, 189 member states of United Nations had adopted the common consensus during United Nations Millennium Summit in 2000. The summit declared to meet the eight Millennium Development Goals to be achieved by 2015 respond to the world's most urgent development needs with the aim of bringing peace, security and development to all the people (NPC et. al. 2010:1).

The Millennium Development Goals

Goal 1: Eradicate Extreme Poverty and Hunger
Goal 2: Achieve Universal Primary Education
Goal 3: Promote Gender Equality and Empower Women
Goal 4: Reduce Child Mortality
Goal 5: Improve Maternal Health
Goal 6: Combat HIV/AIDS, Malaria and Other Diseases
Goal 7: Ensure Environmental Sustainability
Goal 8: Develop a Goal Partnership for Development

The goal 4 of MDGs aims to reduce child mortality by two third by 2015. It also indicated the indicator for reducing child mortality such as reduced under five mortality by increasing access to safe water, better sanitation facilities and improved education, especially for girls and mothers are closely linked to reduced child mortality. Furthermore, MDGs indicated that among the childhood vaccine-preventable diseases measles is the leading cause of child mortality, over half a million deaths in 2000. Increased routine measles immunization to at least 90 percent coverage in all countries combined with a 'second opportunity' for measles vaccination either through a second dose in the routine immunization schedule or the supplemental immunization activities are the main strategies to reduce measles death (MDGs 2000).

The neonatal period should be the key concerns for reducing the infant mortality because previous literature has already suggested that this period covers two third of death of baby among the total infant deaths. Besides, the two-third of neonatal deaths takes in to accounts within seven days from the birth (DOHS 2004:1). Hence, for achieving the MDGs target, needed to improve newborn care practice in most of the rural community.

With the aim to improve the maternal health, MDGs set the goal for three-fourth reduction of maternal mortality by 2015 from the 1990s level through presence of skilled birth attendant during pregnancy, delivery and post natal period. The MDGs now widely accepted as the framework for assessing progress on overall health and development at the national and international levels, safe motherhood can figure more prominently in country programs and in development agencies' priorities.

The MDGs strategy for reducing maternal mortality by presence of SBA likely to improve the knowledge about hygiene, baby-feeding and childrearing practices which directly contributes to reduce the neonatal morbidity and mortality. On the other hand, presence of SBA during pregnancy and child birth to be increased emergency obstetric care and antenatal care contributes to better newborn care practice.

2.1.7: Free Health Service and Maternity Care Scheme

Nepal government has implemented the National Free Health Program for the first time since 2008. The ultra-poor, helpless, poor, differently able and elderly people (60+) are the target population of the action plan of free health program. Free health program provides the following services:

- Only listed emergency medicines are provided free of cost for general people in the hospitals incommoding up to 25 beds and for targeted population all the available facilities along with the emergency medicines are provided for free.
- In primary health care centres (PHC), sub-health posts and health posts, all the listed emergency medicines, registration fee and all other available medicines are provided for free for general public.
- Regulations for providing free health facilities by private and non-governmental organization should be implemented.
- Institutional clinics should make all its facilities along with medicines and registration fee free of cost (MOHP 2008).

The free health program of Nepal has been attempting to meet "Health for all" by 2015. In the meantime, a maternity care scheme has been adopted in 2005 for increasing the demand of safe delivery in the health institution and to provide the home maternity services at the time of emergency. The main components of the programme were set as:

- A cash payment to women presenting for delivery at any public health facility. The amount varies according to ecological regions, reflecting

the associated difficulties of travel: NRs. 500 in the Tarai, NRs. 1,000 in Hill areas and NRs. 1,500 in Mountain areas.

- A payment of NRs. 300 to staff classified as trained health workers for attending deliveries either at home or in a facility.
- In selected districts (25 classified as having a low human development index) free services at public health facilities for both normal and complicated deliveries (DOHS 2005:11).

2.1.8: Introduction to Khas, Dalit and Indigeneous Nationalities

2.1.8.1: Historical Context

The Nepalese caste system is highly influenced by the Hindu religion. Before the first Civil Code *(Muluki Ain)* in 1854, most part of the existing Nepal's geographical boundary, people were socially defined by the Caste system whether they were Hindu or not. The civil code itself an influenced by the Hindu religion and it also further strongly emphasized to the caste system based on classical Hindu *varna* system i.e. Brahman priests, Kshatriya Kings and Warrior, the Vaisya traders and businessmen and the Sudra peasants and labourers-with an additional group technically "outside" the caste system because of their ritually defiling occupations which rendered them "untouchable" by others (Bennet et.al. 2008: 1).

Occupying the top and bottom of the *Varna* system were the hill Hindus or *Parbatiya* who migrated into Nepal from the western hills. They were from the Indo-European language group and spoke Sanskrit-based language (Khas) from which the modern Nepali language emerged. The top ordered caste in Varna hierarchy caste system i.e. Brahman and Kshatriya/Thakuri as considered as Tagadari or 'wearers of the sacred thread' and the people from the occupational group Damai (tailors/musicians), Kami (blacksmith) and Sarki (cobblers) was collectively considered as 'impure' or *Pani Nachalne or* Non-Tagadari (Bennet et.al. 2008: 1).

The state civil code thus restructured the Nepalese social structure into a four-fold caste hierarchy and placed Dalits-the groups of Sudra category (Damai, Kami and Sarki).

On the other, the people resided in hill and mountain areas in Nepal were ranked in middle order to the existing Indigeneous groups, belonging to the Tibeto-Burman language. Since many of these groups consumed homemade beer and spirits, they were called 'liquor-drinkers' or *matwali* by the

Brahmans and Chhetris whose caste status did not allow them to take alcohol which was considered polluting. In contemporary Nepal, these various ethnic groups are considered as the *Adibasi Janajati* (indigeneous Nationalities) (Bennet et.al. 2008: 2).

2.1.8.2: Definition of Dalit and Indigeneous

Dalit *are* commonly known as untouchables belonging to occupational and artisan group in traditional Nepalese society. Dalit Commission has defined Dalit as, "the community discriminated on the basis of caste and marginalized in terms of social, economic, educational, political and religious sectors." Dalit are further divided into different groups in accordance to socially prescribed occupations.

The Interim Constitution of Nepal commits for the protection and development of Indigenous Peoples (IPs) or adivasi/janajati. As defined by Nepal indigenous/nationalities/tribal, Act; "People having their own mother tongue, distinct traditional values, and cultural identities, including social structure and written/non-written history are Indigenous and nationalities population." According to National Census 2001, in Nepal, there are 100 different social groups having over 92 languages and representing 43 ethnic nationalities covering 37.2% of the country's population**.** Further, the National Foundation of Indigenous Nationalities (NFIN) has declared 59 groups as ethnic nationalities and has classified these groups into five categories based on their population size and other socio-economic variables such as literacy, housing, land holdings, occupation, language, and area of residence.

2.1.8.3: Present Context

After the restoration of democracy in 1990, the concept of I/NGO came into exists for the development of countryside as a holistic approach. I/NGOs recognized the social exclusion as a main hindrance to the development of society. The debate moved towards not only suffering from the exclusion of the state's facility and services but it also ranging from the cultural, political to the economic. The people from the untouchable groups and the middle order Adibasi Janajati were acknowledged by suffering from the social exclusion.

The impoverished living standard of Dalits and Janajatis stems from traditional adoption of exclusion and marginalization by the state based on social discrimination such as caste based work system and untouchability. Their prospect of coming out of the economic trap was limited because of their traditionally defined work which they cannot violate (in case of Dalits). In this way, social deprivation led them to their economic fall which, in turn, has had various ramifications such as poor ability or inability to access basic services e.g. education, health care facilities, poor access to sources of information and lack of awareness on every sphere of life. Hence, social deprivation coupled with economic suffering lagged them behind across every aspect their lives and the new born care practice is one among them.

2.2: Empirical Literature

2.2.1: Review of the Government Activities

The Government of Nepal has developed the "National Neonatal Health Strategy 2004" to establish policies to improve pre-natal, delivery and post-natal care practices for women and their neonates. NNHS shows the direct causes of neonatal death admitted in hospital. Infection, Birth asphyxia/trauma, Prematurity and Hypothermia are considered the direct causes of neonatal death in Nepal. Considering these direct causes, NNHS analyses the underlying causes of neonatal deaths which are:

- Poor pregnancy health
- Inadequate care during pregnancy
- Inadequate care during delivery
- Low birth weight
- Inadequate newborn and post partum care. (NNHS 2004:10)

MINI program is the result of the provision of a pilot project to identify neonatal infections at home, treatment with antibiotics such as Cotrimoxazole by FCHVs and use of intramuscular gentamicin or other appropriate antibiotics by VHWs and MCHWs. The program is implemented in Morang district with the aim of developing and testing a strategy for community health workers to identify and manage sick neonates, focusing on early initiation of treatment of neonatal infection, and provides the MOHP with a practical model for scaling-up and to establish birth and death recording system. For achieving the goal following activities are conducted in the community.

- Neonatal Infections Identified by families, FCHV manages local infections of eye, skin and the cord and refers to CHW for gentamicin injection if suspects severe bacterial infection.
- Birth weight taken using colour-coded tubular Salter scale by FCHVs
- Birth and death recording by FCHVs
- FCHV monthly meetings strengthened
- Mother Groups Meetings strengthened (DOHS 2063/2064).

Neonatal mortality shows the health status of newborn. Neonatal mortality rate 33 per 1000 live birth indicates the high mortality level of the neonates in Nepal. The 2006 further analysis report "caste, ethnicity and regional identity in Nepal" shows the early child hood mortality rates. It presents the comparatively high NMR 44 for Dalit, than 36 of Janajatis and 34 of Brahman/Chhetri (Bennet, Dahal and Govindasamy. 2008:15). Adolescence pregnancy and motherhood can cause the severe problem to both mother and child. The NMR 55 indicates high mortality level when the mother' s age at birth is less than 20 in comparison to 32 in mother's age is 20-24 years. Furthermore, the neonatal death of first order birth 46 and 55 for seven plus birth order shows the higher than the second, third and fourth order birth (MOHP, New Era and Macro International, 2007:127).

2.2.2: Nepal Demographic and Health Survey 2006

2.2.2.1 New Born Care

In Nepal infant and neonatal mortality and morbidity is high: IMR -48, NMR-33 per 1000 live birth (MOHP, New Era and Macro International 2007:125). Nepal has made a commitment to achieve the millennium development goals to reduce child mortality to 54 by the year 2015. This target cannot be reduced unless neonatal mortality is decreased. The first 28 days of the life of a child is the most vulnerable period where most morbidity and mortality occurs. The government has already recognizes that the present rate of neonatal mortality in country can not be reduced without bringing change in behaviour for home based newborn health practices(NNHS 2004:11) where nearly 81percent of newborns born at home (MOHP, New Era and Macro International 2007:141). Although there has been marked progress in a number of health indicators in recent years, newborns are still at-risk and largely neglected population. The state of newborns in Nepal still compares poorly to that of almost all other developing countries. Appropriate care for

the normal newborn is neither widely understood nor practiced in the community or in the health system (MOHP, New Era and Macro International 2007:150). Most newborn deaths can be avoided by preventive measures such as clean delivery, thermal protection and breast-feeding (WHO 1996).

- Cord Care

In Nepal, traditionally, the cord is usually cut with a razor blade, knife, sickle or even pieces of wood none of them are generally sterile. Among 81 percent home delivery, 18 percent births use new blade from safe delivery kit, 61 percent of births use new or boiled blade, 12 percent of births use sickle and 5 percent of births use old blade as their cord-cutting instrument. In Tarai area of Nepal, 20.5 percent used instruments from a clean home delivery kit and 73 percent used new/boiled blade to cut the cord. In Nepal about a quarter (25%) of the newborns had some material (usually oil, ash or ointment) places on their stump, a practice that could lead to infection. Something applied on the cord stump is 36.2 percent in Tarai area of Nepal (MOHP, New Era and Macro International 2007:151).

- Thermal Care

In Nepal, the practice of keeping the newborn warm is not common. In most of the cases, families do not have warm clothes ready at the time of delivery. The newborn is kept naked or covered by a thin piece of cloth until the placenta is delivered or the umbilical cord is cut. The NDHS 2006 revealed that 43 percent are dried and 44 percent are wrapped in cloth before the placenta is delivered. Ninety percent babies were given a bath within 24 hours of delivery, 74 percent in the first hour. Only 9 percent of the babies were given a bath after 24 hours where as 17 percent bath within 2 to 24 hours. In Tarai area of Nepal, 59.7 percent of the newborns are given bath within 1 hour and 15 percent are given bath after 24 hours of birth. In Tarai area of Nepal, 47.5 percent of the newborns are dried and 47.3 percent are wrapped before the delivery of the placenta. However, there is no significant difference in the thermal care with the education of the women (MOHP, New Era and Macro International 2007).

- Breastfeeding

In Nepal 35.4 percent of children were breastfed within one hour of birth, 85 percent started breastfeeding within one day of birth. More urban (39.4%) children are breastfed within one hour of birth than rural (34.4%) children. Still, a higher proportion of children in urban areas do not receive the first milk, compared with rural children. Women who have completed their SLC or a higher level education are slightly more likely to initiate breastfeeding within one hour than women who have lower levels of education. More than eight percent of the children delivered by an SBA were breastfed within a day of delivery, compared with 79 percent delivered by other types of health worker (MOHP, New Era and Macro International 2007). Pre lacteal feeds, that is, giving something other than breast milk to newborns before the mother's milk flows regularly, are discouraged because they are less nutritious than breast milk, are more susceptible to contamination and discourage suckling. About 37 percent of the children were given pre lacteal feeds. The data indicate that pre lacteal feeds are more common in the Tarai. Pre lacteal feeding is same in the urban (35.4%) and rural (36.6%) area of Nepal (MOHP, New Era and Macro International 2007).

2.2.3: Review of the Community Based Studies

To determine home based newborn care practices in rural Nepal in order to inform strategies to improve neonatal outcome, a cross sectional-retrospective study using structured interviews were conducted in Makawanpur district. The result of the study shows that 4893 (90%) women gave birth at home. Attendance at delivery by skilled government health workers was low (334, 6%), as was attendance by traditional birth attendants (267, 5%). Only 461 (8%) women had used a clean home delivery kit, and about half of attendants had washed their hands. Only 3482 (64%) newborn infants had been wrapped within half an hour of birth, and 4992 (92%) had been bathed within the first hour. Among the total, 5362 (99%) of babies were breast fed, and 4939(91%) within six hours of birth and 63 percent started within one hour. A taste of clarified butter (ghee), sugar, or honey was sometimes given before feeding began (12%) Colostrums was discarded before the first feed in 2416 cases (45%); foremilk was discarded at every subsequent feed in 3696 (69%) (Osrin et.al. 2002).

A cross sectional study conducted in Pokhara city to describe the home delivery and newborn care practices showed that only 16.2 percent women had used a CHDK and only 38.3 percent birth attendants had washed their hands. The umbilical cord was cut using a new/boiled blade in 90.4 percent deliveries. Mustard oil was applied to the umbilical cord in 22.1 percent deliveries. Birthplace was heated throughout the delivery in 64.2 percent deliveries. Only 45.8 percent newborns were wrapped within 10 minutes and 97.1 percent were wrapped within 30 minutes. Majority (93.8%) of the newborns were given a bath soon after birth. About 10.8 percent others did not feed colostrums to their babies. Pre lacteal feeds were given to 15.2 percent newborns. Initiation rates of breast-feeding were 57.9 percent within one hour and 85.4 percent within 24 hours (T Sreeramareddy et.al. 2002: 27).

Out of the 240 mothers interviewed, 73 (30.4%) had not gone for any antenatal visit and only 25 (10.4%) mothers had at least four antenatal visits as recommended by the National Safe Motherhood Program of Nepal. The majority of women received antenatal care from the publicly funded Western Regional Hospital, Pokhara. Seventy (29.2%) mothers did not receive tetanus toxoid vaccine during their previous pregnancy and 86 (35.8%) received two doses of tetanus toxoid as recommended by the National Safe Motherhood Program. Of the 173 multiparous women, 148 (85.5%) had delivered at home at least once before. Only 55 mothers (24.6%) had at least one institutional delivery in the past. Seven mothers reported of having had a still birth (2.9%), 16 a neonatal death (6.7%) and four a post-neonatal death (1.7%) after their previous home deliveries (T Sreeramareddy et. al.2002: 27).

The majority (92.5%) of the deliveries took place either in a separate room or inside the house and the remaining 18 deliveries (7.5%) took place outside the house, either in the backyard or other places. One hundred and twenty eight (53.3%) deliveries were attended by neighbours, 51 (21.3%) were attended by family members and 38 women (15.8%) gave birth alone. Only 15 (6.3%) deliveries were attended by skilled personnel i.e. auxiliary nurse midwife or health assistant and 13 (5.4%) deliveries were attended by traditional birth attendants (T Sreeramareddy et.al.2002: 27).

The study report of Makawanpur district shows that it has used both quantitative and qualitative approach for identifying the care seeking obstacles and practices relating to perinatal illness. The quantitative

component employed a cross-sectional survey of recalled events during previous pregnancies. The qualitative component employed a series of morbidity and mortality case studies based on semi structured interviews, and a series of community focus group discussions on the same issues. The result of the study concludes that the major obstacles to seeking care were: a limited capacity to recognise danger signs; the need to watch and wait; and an overwhelming preference to treat illness within the community. Concealment of pregnancy, particularly in the first months, was the norm. Women tended to work until the first signs of labour began, and there were proscriptions on behaviour. Preparation for birth was limited. Specific foodstuffs might be collected and stored in advance, but extensive preparation was seen as tantamount to tempting fate. In respondents' view, events during pregnancy were intimately connected with problems during delivery and the puerperium. Ninety four percent of women gave birth at home or in the environments of the home. A woman's commonest birth attendant was her mother-in-law [40%] and 12 percent of women gave birth entirely alone (Mesko et al. 2003: 8).

The traditional healer was the first care provider outside the household. Moreover, a healer who is a friend or relative, and one's own ethnic group, is called first to perform a ceremony. After the suggestion of traditional healer, people consult with the allopathic health service provider. Study further shows the problems and the causes of neonatal death. The case studies indirectly show the cessation of suckling and shortness of breath are the causes of neonatal death. The focus group discussion of women shows the Key neonatal problems of newborns included a weak cry, breathing difficulties, poor feeding, feeling cold to the touch, looking very small, and looking yellow (Mesko et al. 2003: 8).

A qualitative research on newborn care practice in Nepal shows that some attendants washed their hands with soap (surf, *pinna* and ash) before and after delivery. Most of the delivery must to be conducted on floors covered with mats. Bathing is a common practice undertaken to purify the baby born and breastfeeding is only initiated after this is over. Some had knowledge about CHDK; however its use was very low. Most said that new or boiled blade was used for cord-cut and almost all have applied mustard oil on stump considering it prevents infection. There is no tradition of feeding

prelacteal food exception in some Brahmins. Most of the families initiated breast-feeding after the delivery of placenta, cord cutting and bathing. So the duration of breastfeeding is normally determined by the time taken for delivery of the placenta, bathing baby and availability of helping hands during the period. Exclusive breast-feeding for the first 6 months was common. Regarding the danger sign of newborn, most of the respondent reported that not sucking mother's milk. Most of the people treat baby with home remedies as well as call faith healer and go for mordent option like health post and hospital as last option (SCF 2002).

2.3: Variables Identified

On the basis of above reviewed theoretical and empirical literature, different variable were identified which are directly or indirectly contribute to determine the newborn health status. The identified variables were separated in five broad categories i.e. socio-economic, participatory, demographic, knowledge and service related variable listed below.

The whole study is concerned about the newborn care practice of the rural community. Hence, the dependent variable, the newborn care practice, was affected by the various independent variables. The identified independent variables were categorised into the socio-economic variables, Participatory variables, demographic variables, Knowledge related variables and service related variables. The identified independent variables were listed below.

Dependent Variable

Newborn care practice

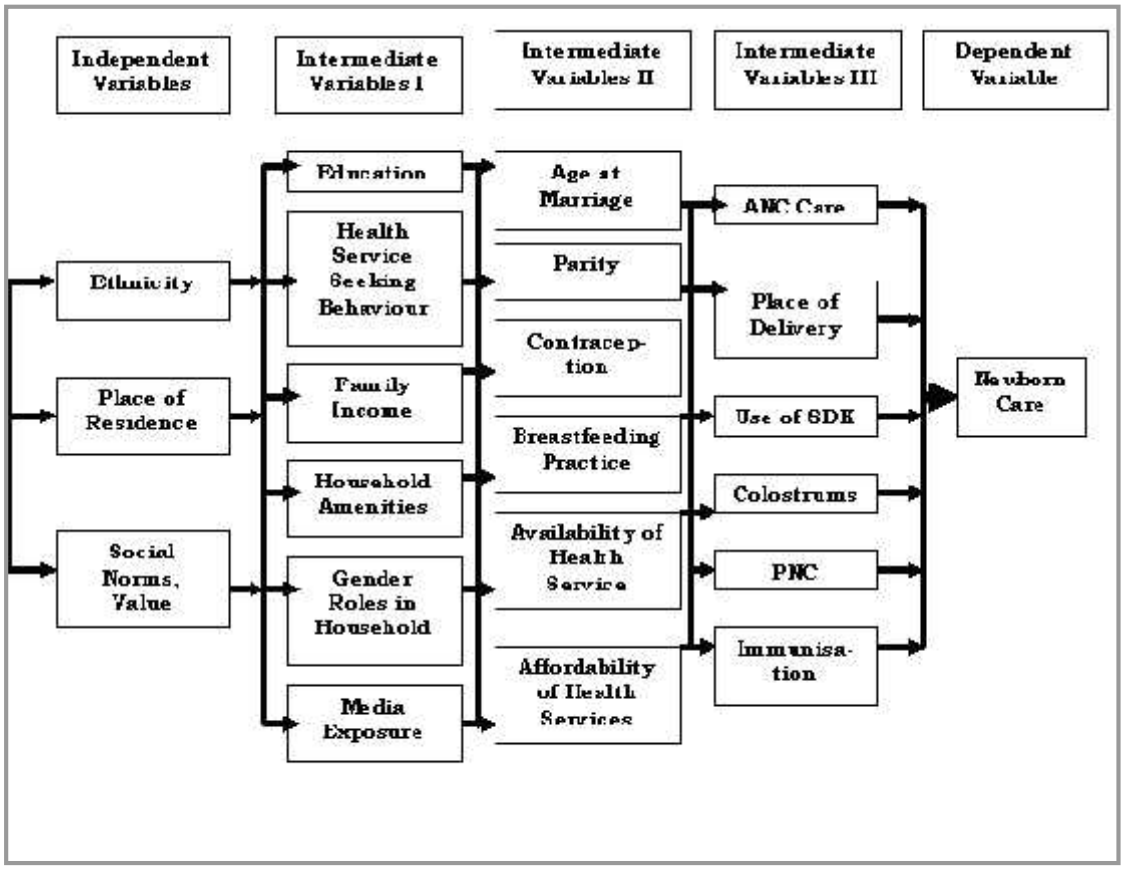
Independent Variables

<table>
<tr><th>1. Socio-economic variables</th><th>2. Demographic variables</th></tr>
<tr><td rowspan="3">Age of the mother
Ethnicity of the mother
Social norms and values
Place of residence
Education of the mother
Economic status of family
Occupation of mother
Household Amenities</td><td>Sex of child
Parity
Age at marriage
Contraception
Previous child loss experience</td></tr>
<tr><td>3. Participatory variables</td></tr>
<tr><td>Gender roles in households
Media exposure</td></tr>
<tr><th>4. Knowledge related variables</th><th>5. Service related Variables</th></tr>
<tr><td>ANC Visit
Place of delivery
Delivery assistance by
Post natal check up
Knowledge on danger sign of new born
Use of safe delivery kit</td><td>Accessibility of health services
Free Health service and Maternity care scheme
Affordability of health service.</td></tr>
</table>

2.4: Conceptual Framework

The different variables related to the new born care practice are interdependent. New born care practice is generally influenced by different variables like Socio-economic, Modernization variable, demographic variable, Service related variables and Knowledge related variables. The presented all of the variable i.e. independent variable, intermediate variable I, intermediate variable II and intermediate variable III are interlinked each other. Every variable within these major title variable have also affected to each other. The combined relation between these variables affects the new born care practice. The framework presented gives an overall idea about the new born care and related aspects that this study was attempt to study (Figure 1).

Figure 1: *Conceptual Framework*



2.5: Formulation of Hypotheses

Based on the literature review, identified variables and the conceptual framework of the study, the hypothesis were formulated about the relation of social, economic, modernization and demographic variables with newborn care practice. The formulated hypotheses were:

- Better Newborn Care practice depends upon the improved social variables
- Better economic condition determines the better the Newborn Care practice
- Higher the modernization variables better the Newborn Care
- Better the demographic variables improvement in Newborn Care

CHAPTER III

METHODOLOGY

3.1: Selection of Study Area

The responsible VDC of Shanishchare PHC in Jhapa district was the study area. Jhapa District and Shanishchare PHC area were selected purposively for the study. There are four VDCs Arjundhara, Khudunabari, Shanishchare and Budhabare in Shanishchare PHC area. All of the VDCs were included for the study.

The study area was selected purposively due to the several reasons. First, this study was only for the fulfilment of the partial requirements of master's degree in Population studies. Second, the study report should be submitted within certain time schedule of University. Third, this was the non-funding study. Hence, for obtaining the quick decision of the study in low cost within certain time, this small scale purposive study within certain area was selected purposively. However, to reduce the personnel biasness of the researcher, the systematic sampling was applied for the respondent selection. In addition, this study has attempted to apply the theoretical knowledge of research of the researcher in practice.

The study area is surrounding by the Shantinagar and Dhaijan VDCs from the east; Ghailadubba, Charpane and Anarmuni VDCs from the south; the north part and the most part of the west side except Surunga VDC of Jhapa surrounded by the Ilam District. These VDCs are inhabited by people of all caste/ethnicity (Brahmin/Chhetri, Janajati, Dalit and others) with different economic footing. Still a significant mass of the people of this area give birth at home.

3.2: Study Design

An exploratory cum cross-sectional descriptive study was conducted to explore and to describe the newborn care Practices. Both Quantitative and Qualitative data was used in the study.

3.3: Sample Design

3.3.1: Identification of Sampling Frame

The government health system has developed the policy to record the newborn in sub-health post, health post and primary health centre wherever the baby is born either at home or in health centre. The female community health volunteers (FCHVs) were used for taking the record of newborn who is born in home or community level and gives records for village health worker (VHW) of health centre. VHW maintains the record by separating caste/ethnicity of baby and mother for the purpose of implementation of immunization. The researcher was used as sampling frame for those health centre record of newborn since 1st Poush 2065 and also by asking with FCHVs for current newborn those record have not reach in health centre. The total 835 newborn or mothers were found by both health centre records and FCHVs in study areas.

3.3.2: Determining Sample Size

The total 835 number of mother having less than 12 months of baby were used to determine the sample size of the study. Besides, the Nepal Demographic and Health Survey 2006 show the data on the element of new born care. It shows that among the women who had non-institutional live births, a total of 60.7 percent (0.607) women used new or boiled blade for cutting umbilical cord, 42.6 percent (0.426) dried the newborn before the placenta was delivered, 44.4 percent (0.444) women wrapped the newborn in cloth before the placenta was delivered and 35.4 percent (0.354) of mother started breastfeeding within one hour of birth. With this information, the prevalence (P) has taken the averaging value of these four elements of new born care. Hence, the P= 0.3724 and Q= 1-P= 0.6276 of the study. With this information, sample size has been calculated by using the formula of sample size calculation of proportion (formula: $n= Z^2PQ/ (E^2+Z^2 PQ/N)$ [Here, n= required number of sample size, N= total number of study population i.e.835, Z=95 percent confidence interval i.e. 1.96, and E= maximum acceptable error i.e. 5 percent]. Hence, the minimum sample size of the study was 252 for household survey.

3.3.3: Sample Implementation

Sample was selected based on multistage sampling. To ensure proportionate representation from all ethnic groups, proportionate stratified sampling method was used for determining the required number of sample in each caste/ethnic groups in the study. At first listing of all mothers having less than twelve months of baby on each ethnicity was prepared based on sub-health post record, PHC record and asking from FCHVs.

Table 1: *Sample Implementation Based on the Total Study Population of Ethnicity*

Ethnicity	T. P.*	Percent	S. P.*	Percent	Sample Observed	Percent
Khas	444	53.2	134	30.2	134	100.0
Dalit	139	16.6	42	30.2	42	100.0
Janajati	252	30.2	76	30.2	76	100.0
Total	835	100.0	252	30.2	252	100.0

T.P.* = No. of Total Population S.P.* =No. of Sample Population

Study population were segregated in three broad categories based on ethnicity i.e. Khas, Dalit and Janajati. Among the total 252 minimum sample size, Khas occupies 134 sample populations, Dalit 42 and Janajati 76. The entire sample of each ethnicity was successfully interviewed.

For the comparison of the result obtained from the quantitative data, the qualitative information was also collected through FGD and In-depth interview with key informants. Furthermore, the qualitative information gave some socio-cultural practices of newborn care. Total 4 FGD and 18 in-depth interviews were carried out in the study.

FGDs were carried out in VDCs immunization days i.e. 3rd day, 4th day, 5th day, 6th day and 7th day of Magh 2066. Study was succeeded to represent at least one FGD from one VDC and the participants were included from all wards in the mothers, having less than twelve months of baby, from all ethnic groups as possible.

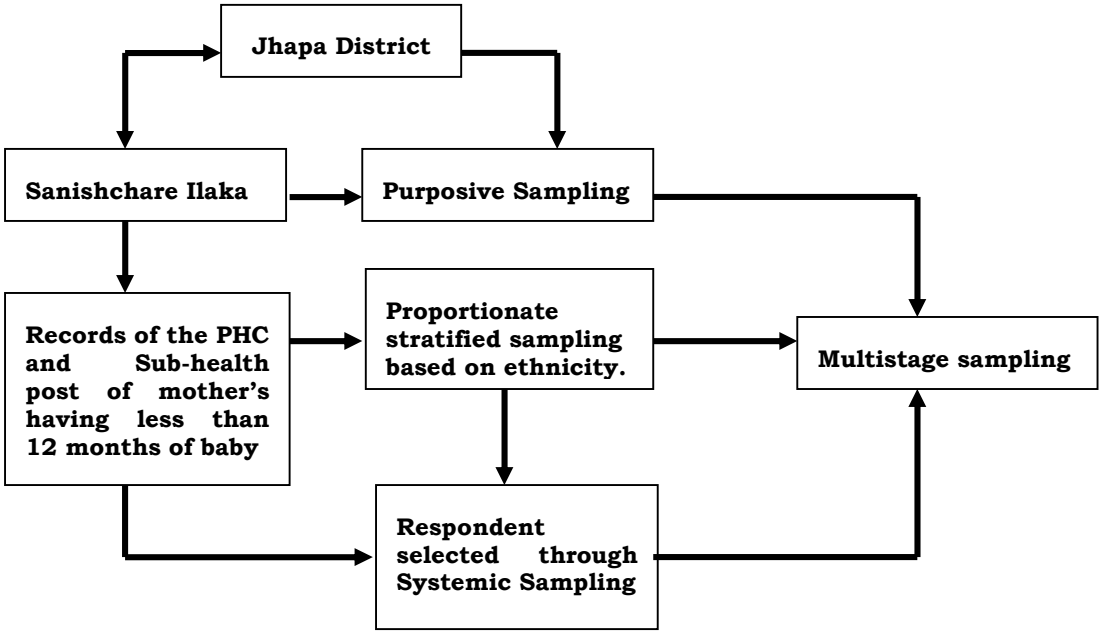
In-depth interview were conducted with A.H.W., MCHW, Auxiliary Nurse Midwife (ANM), FCHVs, TBAs, and Mother-in-Laws. The government of Nepal has managed one sub-health post in one VDC with one AHW in-charge & one MCHW, and a PHC in one electoral area with a MBBS Doctor, a Nurse, an AHW, an MCHW. The available AHW & MCHW from sub-health post and AHW & ANM from PHC (Total 6 KII) were successfully interviewed during

information collection. The Doctor and Nurse were not available during data collection. Each one FCHV, TBA and Mother-in-law who delivered mothers at home from a VDC were interviewed (Total 12 KII).

3.4: Selection of Respondents

Individual mother having less than twelve months of baby was the sample unit of the study. Among the distributed sample populations of caste/ethnicity, respondent was selected based on systematic sampling method from each caste/ethnicity. Sampling interval was calculated by dividing the total number of study populations in each stratum (caste/ethnicity) by total number of sample from that caste/ethnicity. Respondents were selected at a regular interval.

Figure 2: *Respondent selection Method*



3.5: Questionnaire Design, Guidelines and Field Operation

Questionnaire construction is one of the initial activities that are critical for a pragmatic social science research. If the questionnaire is far from the reality, it will collect a gamut of garbage information. A mislead information produces misleading conclusion and recommendations. Thus, the efficiency of research entirely depends upon the excellence of questionnaire. Hence, Questionnaire design is very crucial and important part of the research, because an appropriate question in a sequential order, appropriate language, length and appearance is required for quality data collection in research (Acharya

2003:118). By considering these elements of questionnaire design, researcher was prepared the questionnaire as per the suggestion and guidelines of the research supervisor and also by reviewing the questionnaire of previous studies on the related topics and it has fully guided by the study objectives. Questionnaire was designed for the mothers having less than 12 months of baby for direct interview. Researcher was included the following section in questionnaire.

- Informed consent
- General information
- Filter question of the respondent
- Household information
- Socio-economic status of the family
- Demographic information of the respondent
- New born care information
- Service related information

The sequence of questions, as mentioned in the sections, has maintained the major three element of Questionnaire as follows in questionnaire:

- Background questions related to the independent variable and intermediate variable I
- The main body related to the questions of dependent variables, and
- Finally, the closing questions related to intermediate variable II and III.

The in-depth interview guideline is the road map for taking information which guides the researcher in a right track. The interview guideline used for focusing attention on salient points in the study, securing comparable data in different interviews by the same or by various interviewers, gathering the same range of items essential in the analysis of data or in testing the hypothesis formulated, and accumulating specific concrete details as a basis for quantitative studies of the life histories (Young 1998: 238). Therefore, researcher used the in-depth interview guideline for depth information from the different categories of the delivery attendance i.e. health personnel, TBAs, FCHVs and Mother-in-laws in concerned with the thermal care, cord cutting and breastfeeding practices of newborn and other effecting background variables (independent and intermediate variable I, II, III) of such practices.

For the in-depth information, FGD is another technique used in most of the qualitative research. The FGD guideline included the newborn care and socio-

cultural related issues. FGD guideline was made for the mother of the selected VDCs.

Two enumerators were hired for collecting the primary data. Enumerators had oriented to the study objectives and questionnaires and uses to the pre testing of questionnaire for them and also be taught for calculating the exact age of the respondent. The planning of In-depth interview was done by the principle investigator himself; FGD by principle investigator (moderator) and an enumerator (note taker); and the questionnaires by the enumerator as well as principle investigator.

3.5.1: Pre-test of the Questionnaire

The questionnaire was prepared simple Nepali language. The pre testing of questionnaire was done at the similar setting of out of study VDC (Dhaijan) in Jhapa district for checking the wording, sequence and the uses of language that can be understood or not by the respondent in the questionnaire. After completing the pre testing, questionnaire was edited according to the feedback of pre testing for finalizing the questionnaire.

3.6: Data Collection and Processing

3.6.1: Methods of Data Collection

3.6.1.1: Quantitative Technique

The most effective and an efficient data collecting mechanism in survey research is Questionnaire which is a formal list of questions in sequential order designed to gather responses from respondents on a specific research topic. An organized questionnaire is much easier and more enjoyable for the respondent to complete. By using the questionnaire, researcher knows exactly what is required and how to measure the variable of interest (Woolf and Panta 2008: 199). Thus, data was collected through household survey with systematically selected mother having less than 12 months of baby from the selected households using semi-structured questionnaire (given in annex-I).

3.6.1.2: Qualitative technique

Three approaches were applied in qualitative data i.e. in-depth interview, focus group discussion and case study.

- In-depth Interview

The widely used, well-established, practicable and reliable method of qualitative data collection method, in-depth interview technique is one face to face verbal method of securing data for the specific purpose of obtaining research relevant information. Researcher focused on the content specified series of unstructured questions to the interviewee for obtaining the description and explanation on those issues. Kerlinger describes " the interview is face to face interpersonal role situation in which one person, the interviewer, asks a person being interviewed, the respondent, questions designed to obtain answers pertinent to the purpose to the research problem" (Kerlinger 1986:469).

In-depth interview mainly concerned with the psychological and socio-cultural issues. In some circumstances, maternal health care practice and newborn care related issues also depend upon the caste/ethnic socio-cultural practices. Mesko reported in his study, the traditional healer was the first care provider outside the household. Moreover, a healer who is a friend or relative, and one's own ethnic group, is called first to perform a ceremony. After the suggestion of traditional healer, people consult with the allopathic health service provider (Mesko et.al. 2003:8).

In-depth interviews were conducted with delivery attendant such as Health Personnel, TBAs, FCHVs and Mother-in-law in the selected VDCs providing delivery services, (given in annex-II).

- Focus Group Discussion

In order to understand the perception, socio-cultural norms, expectation, values and beliefs on specific issues; researcher uses FGD method for the qualitative information from the perspective of some group. A focus group is a data collection procedure in the form of a carefully planned group discussion among eight to ten people plus a moderator and observer, in order to obtain diverse ideas and perceptions on a topic of interest or a pre-selected topic/issue in a relaxed, permissive environment that fosters the expression of different points of view, with no pressure for consensus.

Researcher used FGD method for exploring the existing newborn care practice in the society, for exploring the cultural norms about newborn care, for exploring the caste wise newborn care practice, determining factors of

newborn care and maternal health, role of TBA and FCHV in newborn care practice (Given in Annex-III.

- Case Studies

Case study method gives the more emphasis on the full analysis of a limited number of events or conditions and their interrelations. It involves a careful and complete observation of a social unit, be that unit a person, a family, an institution, a cultural group or even the entire community. It is essentially an intensive investigation of the particular unit under consideration (Kothari 2002: 140). So that researcher was also used this method on specific cases of newborn care to identify the detail explanation of such cases.

3.6.2: Data Processing

Both quantitative and qualitative data was collected for the study. Household survey was carried out for taking quantitative data by using semi-structured questionnaire through direct interview from mothers having less than 12 months of baby. The questionnaire were edited after the completing of each day's interview for the accuracy and completeness and if necessary revisit was also done after the second day of interview.

The whole questionnaire was scrutinized; and reediting and coding was done for accuracy and uniformity of the data. Coding and decoding was done properly to make data entry and analysis easy. Data were entered in EPI DATA software and export to the entered data in SPSS program for the analysis.

The Focus Group Discussion with mothers, In-depth interview with service providers, TBAs, FCHVs and Mother-in-Laws were conducted for Qualitative data. Thematic areas were identified with the supervision of research supervisor to summarise the information and to draw a conclusion.

3.7: Data Quality

There is no any proper statistical tool to measure the data quality on survey research. However, sex ratio and age-sex structure gives, to some extent, the glimpse of the quality of data. On the other hand, based on the age heaping containing on the data, quality of data is frequently measured in most of the population research. The age always concentrates on the digit 0 and 5. The UN Age Sex Accuracy Index is one of the most regularly used methods for

measuring the age heaping on data. In this research, the UN Age Sex Accuracy Index was measured, and also sex ratio and age sex structure was observed to assess the data quality.

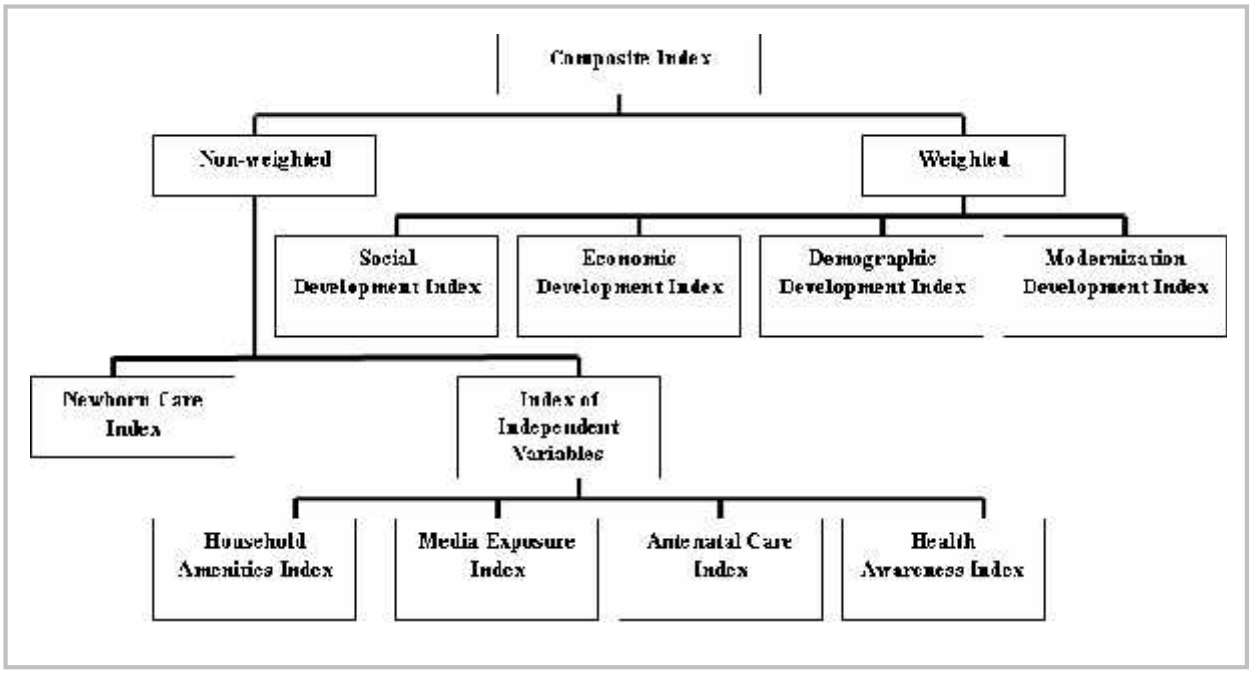
Quality of data in UN Age Sex Accuracy Index has defined in three levels based on the observed index value. If the index value observed less than 20 is defined as "Accurate Data Quality", if the index value ranges between 20 and 40 is considered as "Inaccurate Data Quality", and if the index value observed higher than 40 is described as "Highly Inaccurate Data Quality". In this research, the UN Age Sex Accuracy Index value 17.87 represents to the "Accurate Data Quality" (Annex-IV).

3.8: Methods of Quantitative Data Analysis

3.8.1: Composite Index

A composite index is constructed by combining the values of several variables into one value on a defined scale. Two types of composite indexes are developed. First, non weighted composite index and second, weighted composite index. Besides, non weighted composite index was further categorised in two levels viz. composite index of selected independent variables and the composite index of dependent variables of the study. Likewise, total four weighted composite index was prepared. Figure-3 gives the overall developed composite indexes in the study.

Figure 3: *Chart of Developed Composite Index*



3.8.1.1: Formulation of Non-weighted General Indices of Independent Variables

A total four indexes were prepared for the analysis with newborn care practice, i.e. Household amenities index, Media exposure index, Antenatal care index and Health Awareness index.

- ***Variables and Its Responses Used in Formulating Household Amenities Index***

The information of 18 household amenities was collected during the study. Amenities were segregated in two broad categories: household facilities and availability of means of transportation within household. To make analysis easy, all amenities were converted into single index i.e. Household Amenities Index. Index included having household facilities i.e. Electricity, Radio, Television, Mobile or Phone, Refrigerator, Table, Chair, Bed, Sofa, Cupboard, Computer, Watch and Means of Transportation i.e. An Animal Drawn Cart, Bicycle or Rickshaw, Motor cycle or Scooter, Tempo, Car or Jeep or Pick up and Bus or Truck or Tractor. Only having household amenities were included to make index.

- ***Variables and Its Responses Used in Formulating Media Exposure Index***

The information of the access to electronic media, Radio and Television, and access to print media Newspaper was collected during study time. The information of listening and watching "Every day" "Three/four days a week" and "one/two days a week" to electronic media such as Radio and TV; and read "Every day" "Mostly" and "sometimes" to print media was applied for making media exposure index.

- ***Variables and its Responses Applied for Formulating Antenatal Care Index***

All of the antenatal care practice related variables were demonstrated by the single composite index. The composite index of Antenatal care incorporated the practice of ANC (if visit ANC service), Recommended number of times of ANC Visit (i.e. ≥4) , place of ANC Visit (at least minimum health center), ANC service provider (SBA), Received ANC Services (Pregnancy check up, TT vaccine, Iron tablets, Folic Tablets, Parasitic drugs), Number of times of

received TT vaccine (at least 2 times and 1 times if she received booster dose), Number of days received Iron tablets (180 days during pregnancy), Received Intestinal Parasite Drugs (at least 1 tablets), Last visit days for ANC before delivery (within 7 days before delivery), Received extra rest during pregnancy (at least 6 hours a day), Having nutritional food during pregnancy (meat/fish/liver, Leafy vegetables, Yellow Pumpkin, Carrot, Cereals/Beans, Fruits) and Number of times of having extra nutritional food during pregnancy (Three/Four days a week).

- ***Variables and Its Responses Applied for Formulating Health Awareness Index***

There are number of responses were collected from the mothers about the indicators of health awareness during study period. They are exposure in health related program in media (Radio and TV); knowledge, ever used and current use of contraception; place of delivery (at health facility); delivery assistance (SBA only, i.e. Dr, Nurse and ANM); practice of post natal check up - time of first post natal check up (within one hour of delivery, no. of times for PNC (at least three times), place of PNC (at least minimum health facility) and PNC provider (SBA i.e. Dr., Nurse and ANM); vaccination of BCG; Knowledge of danger signs of baby (Do not sucking, Drowsy, Cyanosis, Birth Asphyxia, Cord Bleeding, Hypothermia, Apnoea, Convulsion) and place of treatment of danger signs of baby (at health facility); Practice of antenatal care (place of ANC, ANC providers, number of visit for ANC, received ANC services, last ANC visit before delivery, time of rest per day during pregnancy, performed work during pregnancy, practice of having nutritional food during pregnancy, frequency of having those nutritional foods); and knowledge of free health service and maternity care scheme of government.

- ***Methods of Constructing General Index and newborn care index***

All of the pre-coded only constructive responses (given in applied variables and responses sub-section) were incorporated to make the index. The entire constructive responses, recoded as1, of each variable are summed and it divided by the total number of such applied variables to construct the individual index. The result of an index ranged between “0” and “1”.

Index= $\sum$(X1+X2+X3……Xn)/N

Where,

X1, X2, X3……Xn represents to the constructive responses recoded variables.

N- Total no. of variables used in the index.

- ***Definition and Categorisation of Achieved Index Value***

The household and the mothers were analysed based on the index value in which they achieved. If the mothers or household achieved the Index value '0', it has defined to the perfectly unconstructive consequences of the concerned variables while if '1' achieved, it has characterized by the absolutely constructive consequences. In household amenities index, '0' represents to the lack of any household facilities and means of transportations and '1' presents to the availability of all asked facilities and means of transportation. Likewise, '0' represents to the perfectly unexposed to any modern media and '1' stands for the perfectly exposed to the modern both print and electronic media in media exposure index. The '0' for antenatal care index depicts to no receive any antenatal care service and '1' shows for all received recommended ANC services to the last pregnancy. Similarly, in health awareness index, '0' express to the absolutely lack of reproductive/maternal health concern and '1' states for the absolutely awareness to the protected health.

However, for the cross tabulation with other background variables, general indices were reordered in three levels i.e. Low, Medium and High based on the index value 0 to 0.39, 0.40 to 0.74 and 0.74+ respectively. Nevertheless, the ungrouped index value was used in statistical analysis.

3.8.1.2: Formulation of Newborn Care Index (Non-weighted)

Newborn care practice is the focal point of the study. The analysis of newborn care in each element is too lengthy. Hence, the researcher presents the newborn care practice as a composite index.

- ***Variables and Its Responses Applied for Preparing Newborn Care Index***

The questionnaire was prepared including 25 medically recommended practices of new born care. Each practice was defined as single variable in SPSS entered data. Such variables were- hand washing practice of delivery assistance (using soap and water), weight of newborn at the time of delivery (2500+ gm), use of safe delivery kit(Yes), adopted measures for the crying of

newborn if not cry at the time of delivery (Visit to hospital and heat in back); adopted measures for the respiration at the time of delivery (Resuscitation and Used oxygen); cord cutting time (Before the placenta was delivered or less than 10 minutes of delivery); used instrument for cutting umbilical cord (New and boiled blade, New but not boiled blade, SDK blade and Sterilized ceasure); used material to tie the cord (Cord clamp, SDK thread and boiled thread); practice of applying no substance to the cord stump or used only betadin or nesporin; cleanliness of cord stump (washed cloth, new and washed cloth, cotton and boiled water ,and cotton and betadin for cord stump dressing) ; practice of drying baby after birth (Yes), time of drying baby after birth (before the expulsion of placenta) and material for drying baby after birth (Washed cloth, new and washed cloth and cotton) ; attempting time of wrapping baby after birth (before delivering placenta); material used for wrapping baby (New cloth, old but washed cloth and new and washed cloth); time of first bath to baby (After 24 hours of delivery); receiving time and used of kangaroo method for keeping baby soon after birth; breastfeeding practice (within one hour of birth); having colostrums feeding practice; and no practice of pre-lacteal feeding.

- ***Methods of Constructing Newborn Care Index and Explanation of Index Value***

Only recommended practice (given in 3.8.1.2 sub-section) of newborn care were recoded in '1' and other possible options were in '0'. Like individual index, all of the recoded recommended practices (i.e. 1) of newborn care were summed and it divided by such total number of newborn care variables used in questionnaire. Then the mothers were grouped in three categories, such as Poor, Moderate and Standard based on the score in which they achieved between 0.00 and 1.00. The mothers who falls the score less than 0.39 considered as poor index, the mother who achieved the score between 0.40 and 0.74 measured as moderate index and who attained the score higher than 0.74 as categorised in standard newborn care index.

Index= $\sum$(X1+X2+X3……Xn)/N.

Where, X1, X2, X3……Xn represents to the constructive responses recoded variables.

N- Total no. of variables used in the index.

3.8.1.3: Formulation of Weighted Development Indices

Development index is one of the composite indexes of the concerned variables of the study developed by the researcher to analyse and to test the research hypothesis. The hypothesis test is applicable if the demographic, social, economic and modernization variables are converted in to the interval scale. Hence, the composite index of such variables as developed as interval scale data. The weighted score (see annex V) is assigned for each characteristics within each variables used in development index in accordance with the newborn care practice to make the interval scale data. Total four types of development indexes were prepared.

(I) Demographic Development index

The concerned demographic variables i.e. current age of mother, age at marriage, total number of CEB and previous child loss experience are used to construct the Demographic development index.

(II) Social Development Index

Social development index was developed based on five analysed social variables with newborn care practice. Education of mother, Decision Makers of newborn treatment, accessibility of health service, ethnicity of mother and types of family are the used variables to formulate the social development index.

(III) Economic Development Index

Economic development index was prepared on the basis of 6 independent economic variables viz. occupation of household, occupation of mother, monthly income of family, monthly income of mother, level of household amenities and land holding by family.

(IV) Modernization Development Index

The developed modernization development index took into account total three independent variables analyzed with the newborn care practice viz. Awareness to health, place of delivery and media exposure level.

3.8.1.4: Constructing Method of Development Indices

The assigned score (annex V) of the characteristic within an independent variables of a mother are summed and it divided by the summed of maximum

granted score of all independent variables used in development index. Mothers are ranked according to the total score of the index in which they achieved. The value of index ranged between 0 and 1. Then the obtained index value of mothers is divided into five levels to compare and to analyse with the newborn care index. Each index designated at an upgrading regular interval of 0.20. The achieved interval scale indices are applied for the correlation analysis with newborn care index.

Calculation Procedure of Development Indices:

Index of Demographer (Xi) = X1 + X2 + X3 + X4 + ----------Xn.

Index = $\sum$ Xi/N.

Where, N= summation of Maximum weight points of independent variables of a mother used in development index.

X1, X2, X3, X4-------Xn represents the independent variables of a mother used in development index.

(Suppose, For Demographic Development Index, the independent variables were used as: X1: Age, X2: Age at Marriage, X3: CEB and X4: Child Loss Experience).

Steps Taken to Formulate Development Index

(1) The newborn care practice of a mothers were analysed (Cross Table) with independent variables.

(2) The statistical test (correlation coefficient & chi-square test) between independent variables and newborn care practice were conducted.

(3) The score was assigned for each characteristic of independent variables used in the development index based on the, researcher judgement, cross table analysis and statistical test.

(4) The achieved assigned score of each characteristic within independent variables of a mother was summed.

(5) The maximum assigned score of independent variables was summed.

(6) The sum of achieved assigned score of a mother was divided by the sum of maximum assigned score of independent variables of a mother.

3.8.2: Graphical Presentation

The graphical presentation makes easy to visualise the massage containing on the data. The information of numeric data table is converted into the pictorial form for the display of the massage enclosed within the data table in graphical presentation. In this study, four types of graphical presentation were applied to demonstrate the tabulated data. First, the population pyramid, the most effective ways of the presentation of age and sex structure of the population, is constructed. Second, Histogram with normal distribution curve is used to demonstrate the frequency of data and also the data are

normally distributed or not. Third, Multiple Bar Diagram, the most common technique of presenting data on a vertical or horizontal line, is constructed. Fourth, the line chart, the data of newborn care practice with independent variables are shown, is demonstrated.

3.8.3: Cross Table

The cross table is one of the efficient and effective method of the presentation of data. The data on two or more variables were presented on a vertical and horizontal way for the comparison and for cross matching its value or the percentage of the value in cross table. In this study, two types of data were frequently presented on cross table. First, the data on background variables (Household, socio-economic, demographic and modernization information) were cross tabulated with ethnicity, which helped to compare the actual condition of mother or family in accordance with the ethnicity. Second, the data on newborn care practice, dependent variable, was presented with the demographic variables, social variables, economic variables and modernization variables, independent variables, from which the researcher easily able to compared the newborn care practice on the basis of various independent variables.

3.8.4: Statistical Analysis

3.8.4.1: Analysis of Correlation Coefficient

The correlation coefficient is used to analyse the relationship between dependent and independent variables. The value of correlation coefficient ranges between +1 and -1. Furthermore, the value of correlation coefficient has reclassified in five categories to define the relationship between the variables, which is provides on the table 2.

To analyse the association between newborn care practice with different independent variables (demographic, social, economic and modernization variables), the method of correlation coefficient was used in the study which facilitated to the researcher for the scoring of such independent variables based on the practice of newborn care of a woman.

The value of Correlation Coefficient and the definition of the Value

Correlation Coefficient Value	Definition	Correlation Coefficient Value	Definition
+1	Perfect Positive Correlation	-1	Perfect Negative Correlation
+0.75 to +0.99	Very High Positive Correlation	-0.75 to -0.99	Very High Negative Correlation
+0.5 to + 0.74	High Positive Correlation	-0.5 to - 0.74	High Negative Correlation
+0.25 to + 0.49	Low Positive Correlation	-0.25 to - 0.49	Low Negative Correlation
<+0.25	Very Low Positive Correlation	<-0.25	Very Low Negative Correlation
'0'	No Correlation		

Besides, the formulated hypothesis was tested by using the correlation coefficient in the ungrouped interval scale data on Demographic development index, Social Development index, Economic development index and modernization development index with newborn care index.

3.8.4.2: Analysis by Chi-square

Chi-square is a non-parametric statistical technique, used primarily with nominal or categorical data. It is used to determine whether an association between 2 variables in a sample is likely to reflect a real association between these 2 variables in the population. The chi-square test for independence (two variables with 2 or more categories) and chi-square goodness of fit (one variable with 2 or more categories and a sample/participant may fall into one of them) are the classification chi-square test in statistics. The chi-square test for independence was applied to observe the association between categorical variables and newborn care practice.

3.8.5: Qualitative Data Analysis

The qualitative data was analysed using content analysis method. Thematic areas were identified with rigorous discussion with research supervisor and the data was coded and fed into MS Excel for summarizing the findings.

3.9: Consideration of Ethical Issues

An informed verbal consent was taken from each respondent and participant before data collection. Before obtaining the consent, the respondents and

participants were informed at least about the purpose of the study, potential risks and benefits of participating, procedure of maintaining confidentiality, and the right not to participate in the study. Working approval was also obtained from the Shanishchare PHC and concerned sub-health post of the VDCs.

This informed consent follows the norms and values of the National Ethical Guidelines for Health Research in Nepal, 2001. And, the ethical approval was received from Central Department of Population Studies Tribhuvan University, Kirtipur, Nepal.

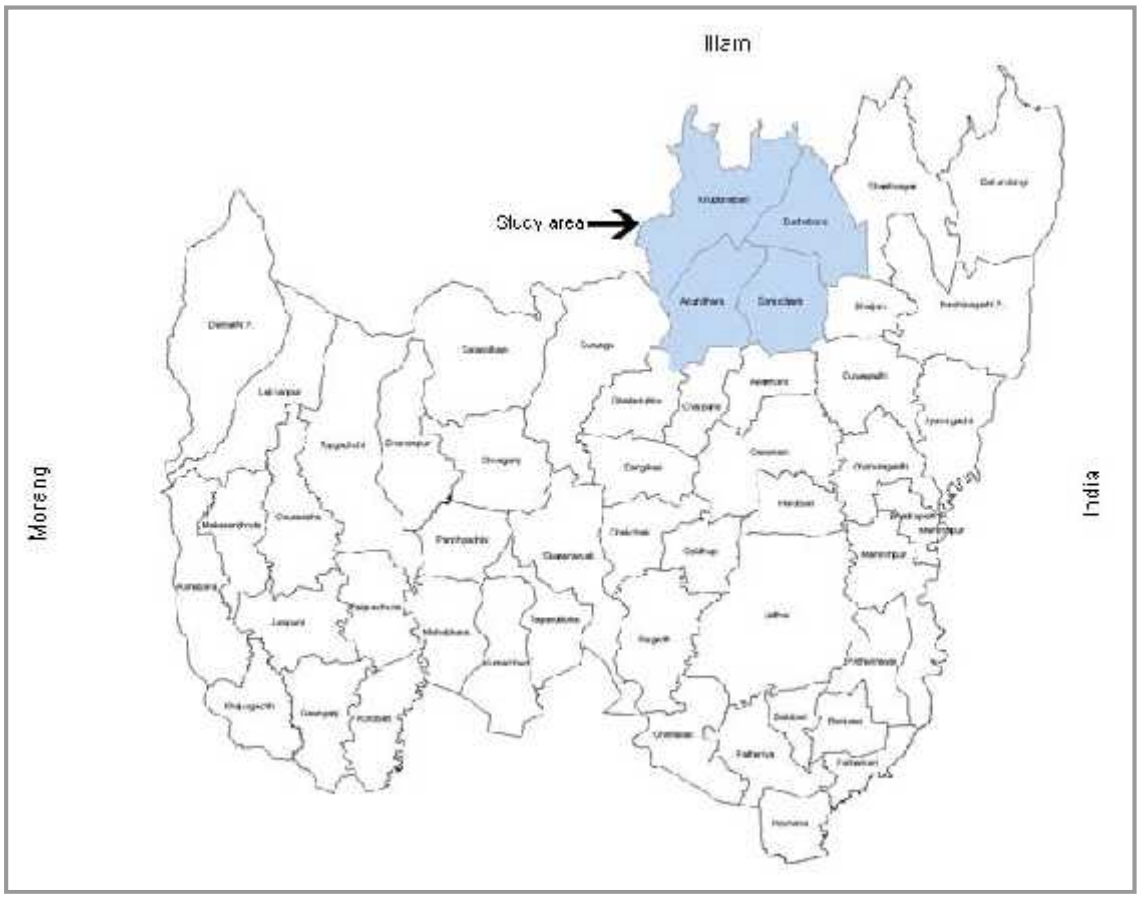
3.10: Validity and Reliability of the Research

The research findings were valid for similar settings. To ensure validity and reliability of the research, following measures were adopted:

- The research tools was prepared to cover the objectives of the research and also reviewing the tools used by previous similar studies
- Interviews was conducted in simple Nepali language as far as possible
- The pre-testing of questionnaire was done in a similar setting VDC with involvement of the researchers themselves
- Principal investigator and enumerators themselves were involved in all research activities including instrument development, pre-testing, finalization, data collection, data management and analysis
- Supervision (back checking of data collector, scrutinizing the filled up research tools, discussion on the collected data) and feedback to the data collector was provided intensively in the initial days of orientation, pre-testing and data collection.
- Adequate literatures were reviewed.

Figure 4: *Map of Nepal*

Figure 5: *Map of Jhapa District*



CHAPTER- IV

INTRODUCTION TO STUDY POPULATION

4.1: Characteristics of Household Population

4.1.1: Demographic Characteristics of Household Population

Fifty eight percent of the total population was observed in working population (15 to 59) while nearly 35 percent child population (0 to 14), 20 percent youth(15 to 24), 11 percent adolescence(10 to19), nearly 7 percent old age population respectively. The ethnic differential was mostly observed between Khas and other two ethnicities in adolescence group whereas youth proportion was slightly differentiated among the ethnicities.

Table 2: *Demographic Characteristics of Household Population by Ethnicity, Shanishchare PHC Area, Jhapa, Nepal, 2010*

	Khas		Dalit		Janajati		Total	
Age Group	N	%	N	%	N	%	N	%
0-4	166	22.8	59	21.0	101	25.3	326	23.2
10-14	26	3.5	18	6.6	21	5.2	65	4.6
0-14	**238**	**32.4**	**97**	**35.8**	**155**	**38.5**	**490**	**34.8**
15-19	38	5.2	20	7.4	34	8.4	92	6.5
10-19	**64**	**8.7**	**38**	**14.0**	**55**	**13.6**	**157**	**11.2**
20-24	90	12.3	48	17.7	53	13.2	191	13.6
15-24	**128**	**17.4**	**68**	**25.1**	**87**	**21.6**	**283**	**20.1**
15-59	**438**	**59.7**	**159**	**58.7**	**225**	**55.8**	**822**	**58.4**
60+	58	7.9	15	5.5	23	5.7	96	6.8
Total	734	100.0	271	100.0	403	100.0	1408	100.0
Dependency Ratio								
Child (0-14)		55.1		59.7		69.2		59.2
Old (60+)		13.3		9.4		10.3		11.7
Total Dependency Ratio		68.4		69.1		79.5		70.9
Economically Active (15-59)		58.8		59.1		55.7		58.5
Index of Ageing		24.2		15.8		14.8		19.7
Sex Ratio								
Overall Household Population		91.8		86.8		99.0		93.1
<1 children		100		75		68.9		85.3

Source: Field Survey 2010

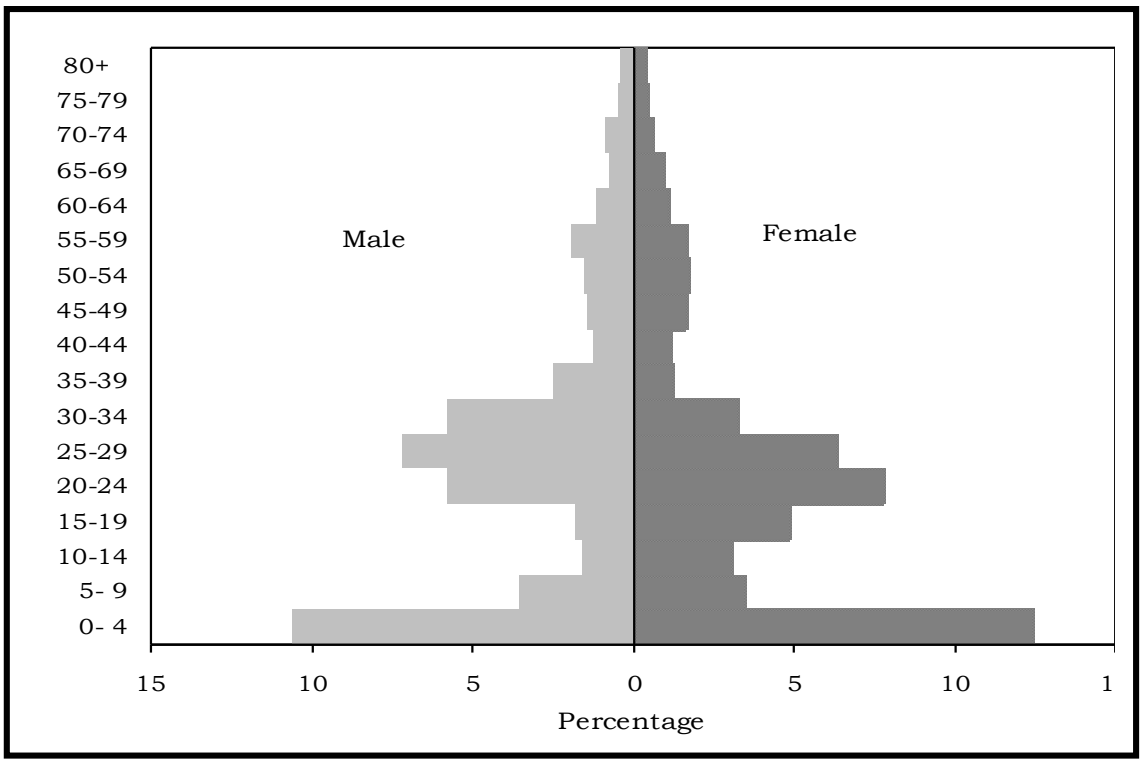
Dependency status indicates the level of socio-economic development of the society. The Janajati child and total dependency ratio was higher compared to Dalit & Khas and also from the total child and total dependency ratio respectively. Khas was found upper old age dependency than other two

ethnicities. Khas and Dalit economically active population was observed nearly equal proportion while slightly lower proportion in Janajati.

Index of ageing denotes the number of aged people per hundred children. The total 19.7 ageing index depicted the five children equals to the 1 old age people. The Khas (24.2) was the highest ageing index followed by Janajati (15.8) and Dalit (14.8) respectively (Table 4).

The sex ratio 93 of overall household population was indicated the excess of females in the sample household while observed this sex ratio is greater than national sex ratio i.e. 99.7 (CBS, 2001). The sex ratio was differentiated among the ethnicities in both household and under 1 year population. Sex ratio of household population depicted the excess of female in all three ethnicities. The lower difference between the sexes was observed in Janajati (99 sex ratio) followed by Khas (91.8 sex ratio) and Dalit (86.8 sex ratio) respectively in overall household population. Khas was the balance of sex accuracy in under one children whereas excess of female of Dalit (75 sex ratio) and Janajati (68.9 sex ratio) respectively.

Figure 6: *Population Pyramid of Household Population*



Source: Field Survey 2010

Note: Distribution of Age and Sex by Ethnicity (See Annex VI)

4.1.2: Social Characteristics of Household Population

The question of marital status was asked to five and above years of household population. Among the total 1077 eligible household population, around two-third (69.5%) of the population was married or living together with their spouse, and about one-fourth (26.2%) was unmarried. Nearly 4 Percent were widow or widower. The separated and divorced constituted less than one percent (Table 6). The Khas and Janajati were nearly equal to the married proportion. Dalit occupied the highest position (31.5%) on unmarried followed by the Janajati (28%) and Khas (23.2%) respectively. Among nearly four percent of widow or widower, proportion was descending order from Khas (5.1%) to Dalit (4.2%) and Janajati (1%). The considering so called immoral marital status, separated and divorced, was found negligible proportion in all ethnic groups in study (Table 6).

The overwhelming population (90%) were Hindu followed by Buddha (6.6%), Kirat (1.8%) and Ishai (1.2%). Muslim was found less than one percent in the study. The seven people were not interest to give their religious status. Hindu religion was found nearly universal (99%) among the Khas population followed by Dalit (93%) and Janajati (70%) respectively. More than fourteen times, than Dalit (1.5%), population of Janajati was believed in Buddha religion (21.6%). But the small particle of Kirat was observed in only Janajati (6.2%). Islam was observed less than one percent. Three percent of Dalit population was observed in Ishai and less than one percent from Khas and Janajati (Table 7).

The five years and above age was the eligibility criterion for collecting the information of literacy status. Out of 1083 five years and above household population, 79 percent were literate which is significant greater than the national average of Nepal Living Standard Survey 2003/4 (50.6%) and Census 2001 (54.1%). The decreasing scenario of illiteracy status in study area (21%) than the national average showed positive contribution of Nepalese education system. Literacy differential was not so big among the ethnicity but Khas (85.4%) occupied the highest position in literate population while Dalit and Janajati were observed the nearly same proportion in literate. On the contrary, Khas was observed less proportion in illiterate compared to equal proportion of Dalit (27.3 %) and Janajati (27.6 %) in illiterate (Table 8).

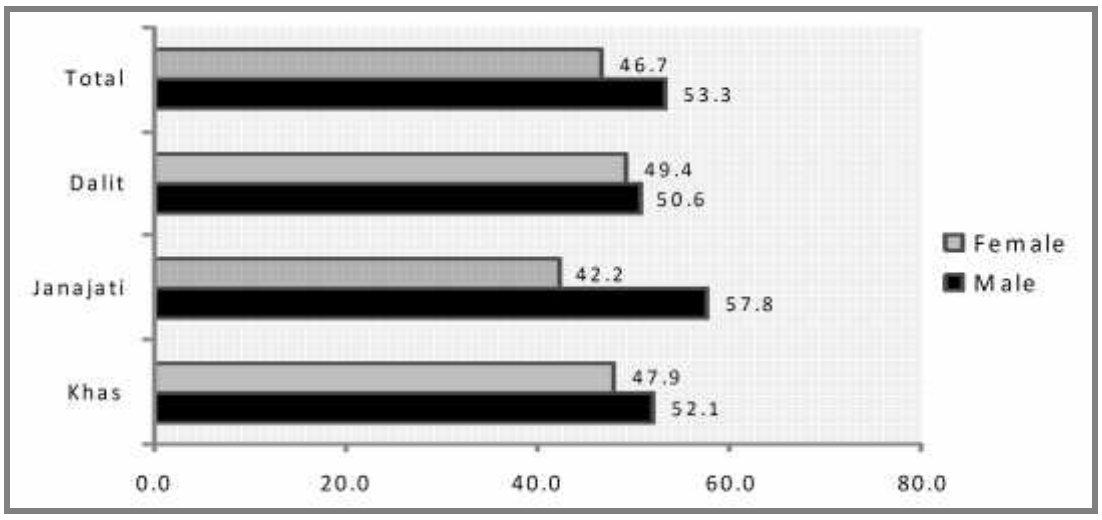
Table 3: *Social Characteristics of Household Population by Ethnicity, Shanishchare PHC Area, Jhapa, Nepal, 2010*

	Ethnicity				
Marital Status	Khas	Dalit	Janajati	Total	N
Married	71.1	63.8	70.3	69.5	748
Unmarried	23.2	31.5	28.0	26.2	282
Widow/Widower	5.1	4.2	1.0	3.8	41
Separated	0.5	0.5	0.3	0.5	5
Divorced	0.0	0.0	0.3	0.1	1
N	564	213	300	1077	1077
Religion					
Hindu	98.9	93.0	70.0	89.5	1260
Buddha	.3	1.5	21.6	6.6	93
Kirat	.0	.0	6.2	1.8	25
Islam	.0	.0	1.5	.4	6
Ishai	.8	3.0	.7	1.2	17
Not Stated	.0	2.6	.0	.5	7
N	734	271	403	1408	1408
Literacy Status					
Literate	85.4	72.3	72.4	79.2	858
Illiterate	14.6	27.7	27.6	20.8	225
N	569	213	301	1083	1083
Educational Level					
Pre-primary/Old Age Education	8.0	8.4	10.1	8.6	74
Primary	7.4	18.1	17.0	11.8	101
Lower Secondary	20.0	48.4	42.7	30.9	265
Secondary	47.8	21.3	28.9	38.2	328
Higher Secondary	10.7	1.9	1.4	6.8	58
Bachelor Plus	6.0	1.9	.0	3.7	32
N	485	15	218	858	858
Total Percent	***100.0***	***100.0***	***100.0***	***100.0***	

Source: Field Survey 2010

Females' were the less literate than males among the total literate population. The disparity in literacy by male and female was found in accordance with the ethnicity. The huge disparity was observed between male (57.8%) and female (42.2%) in literate population within Janajati while Dalit females' were slightly lower than male. Dalit (49.4%) females were greater proportion among the female literate population followed by Khas (47.9%) and Janajati (42.2%) respectively. Janajati (57.8%) males were more literate than Khas (52.1) and Dalit (50.6%) respectively (Figure 7).

Figure 7: *Literacy by Ethnicity and Sex, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

Educational Level was divided into six groups based on Nepalese formal education system as Pre-primary, Primary, Lower Secondary, Secondary, Higher Secondary and Bachelor Plus. Due to the low proportion of old education, the table was showed with merging by pre-primary level. Among the total literate population, proportion was ascending order from pre-primary (8.6%) to secondary education (38.2%) but the proportion was decreased in higher education (6.8%) and bachelor and above (3.7%) (Table 9).

More than 65 percent of household population had the lower secondary and secondary education in all ethnic groups. But the ethnic educational difference was showed up to lower secondary and above education. Khas population was the low proportion up to lower secondary (35.4%) comparing to Dalit (74.9%) and Janajati (69.8%). Dalit (48.4%) and Janajati (42.7%) occupied the highest position in lower secondary education in total educational attainment and Khas occupied the highest in secondary education (47.8%). The drop out ratio high in both Dalit and Janajati from lower secondary to bachelor plus. Janajati could not occupy the single person in the attainment of bachelor education. More than 50 percent of drop out ratio was observed in lower secondary to secondary education and only nearly 2 percent achieved in higher education and bachelor & above education in Dalit. Comparatively Khas was the better position in higher secondary (10.7%) and bachelor and above (6.0%) education (Table 9).

4.1.3: Economic Characteristics of Household Population

Occupation is one of the determining factors of health and economic status of family. Occupations were pre-coded for Farming, Wage Labour, Business, Service, Foreign Labour and Other. But the 'Other' category was not found in the study. The lowest proportion (13.1%) was observed in Business and highest in Farming (29.1%). The growing foreign labour market is one the major source of remittance in Nepal. Out of 252 total respondents, 14.3 percent said that foreign labour was the major occupation of their household (Table 4).

Among Khas family, farming (38.8%) was observed as largest proportion to their occupation followed by 37 percent in service and 15 percent in foreign labour and the lowest proportion was observed in wage labour (6%). In opposite of Khas, 41 percent of Dalit family engaged in wage labour whereas 17 percent in business and equal proportion 14 percent in three occupations-farming, service and foreign labour. Likewise, 29 percent of Janajati was observed in wage labour followed by farming (21.1%) and service (19.7%). The least proportion of Janajati involved in business occupation (Table 4).

The average land holding was observed 0.46 hector with the great inequality (SD 0.58 hector) among the sample household. The differentiate land ownership was observed among the ethnicity. Dalit occupied the lower average land (average 0.12 hector with 0.19 hector inequality among Dalit household) with less inequality within the Dalit household but Khas occupied highest average land with higher inequality within the Khas household (average 0.62 hector with 0.67 unequal difference). The average land of Janajati was 0.21 hector with greater unequal difference of land holding (Table 4).

Janajati (69.9%) and Dalit (57.2%) family concentrated mostly in less than 0.34 hector of land ownership while Khas (53.6%) was clustered in more than 0.35 hector of land ownership showed the unequal distribution of land among the ethnicity (Table 4).

The collected information of 18 household amenities i.e. availability of household facilities and means of transportation plays a significant role to improve the health of mother and baby. The total 63 percent of household was observed in the Medium Level of Amenities index where as only nearly 2

percent in high level. The Low level of index incorporated 36 percent of the household. Significant variation in the amenities index among the ethnicity was experienced in the study. Only 18 percent Khas had the low level of amenities index within the Khas household whereas both Dalit and Janajati had more than 55 percent. Seventy nine percent Khas belongs to the medium level of index. High level of index represented only by Khas (Table 4).

Table 4: *Economic Characteristics of Household Population by Ethnicity, Shanishchare PHC Area, Jhapa District, Nepal, 2010*

	Ethnicity			Total	N
	Khas	Dalit	Janajati		
Main Occupation of Household					
Farming	38.8	14.3	21.1	29.4	74
Wage Labour	6.0	40.5	28.9	18.7	47
Business	9.7	16.7	17.1	13.1	33
Service	30.6	14.3	19.7	24.6	62
Foreign labour	14.9	14.3	13.2	14.3	36
Monthly Income of Household (in NRs.)					
≤4000	32.6	36.7	36.5	34.5	87
4001-6000	14.0	28.6	23.0	19.4	49
6001-9000	11.6	10.2	12.2	11.5	29
9001-12000	11.6	6.1	9.5	9.9	25
12000+	28.7	18.4	18.9	23.8	60
Not Stated	1.6	.0	.0	.8	2
Average Income	11916.5	7464.9	7955.4	9871.5	
Mean Deviation	14201.1	5950.7	6885.2	9871.5	
Size of Land Holding (in hector)					
<0.17	27.1	42.9	51.4	37.3	94
0.18-0.034	16.3	14.3	9.5	13.9	35
0.35-0.51	10.9	2.0	2.7	6.7	17
0.52-0.68	14.0	4.1	2.7	8.7	22
0.68+	28.7	2.0	6.8	17.1	43
None	3.1	34.7	27.0	16.3	41
Average Landholding	0.62	0.12	0.21	0.46	211
Mean Deviation	0.67	0.19	0.26	0.58	211
Level of Household Amenities					
Low (≤.39)	17.9	57.1	55.3	35.7	24
Medium (.40-.74)	79.1	42.9	44.7	62.7	158
High (≥.75)	3.0	.0	.0	1.6	4
N	**134**	**42**	**76**	**252**	**252**
Total Percent	**100.0**	**100.0**	**100.0**	**100.0**	

Source: Field Survey 2010

The average income of Khas had the 11917, Janajati 9872 and Dalit Occupied the lowest 7465. Standard deviation shows the difference between

the average and individual data. Income inequality within the Khas (SD 14201) had nearly 3 times greater than the Dalit (SD 5951) and 2 times greater than Janajati (SD 6885). Dalit had the lowest income inequality (Table 4).

The ethnic monthly income difference was observed in the highest income 12000 plus and the lowest income below 4000. In the highest income Khas had (29%) the greater percentage than Dalit (18%) and Janajati (19%). Dalit and Janajati had slightly greater than the Khas in lowest income (below 4000) (Table 4).

4.2: Characteristics of Sample Population

4.2.1: Demographic Characteristics of Mothers

Mean age of mothers was 24.58 years. More than 50 percent of mothers were youths (15-24 years) and nearly one in five (19.4%) were adolescents (15-19 years). More than 60 percent of mothers were observed in 20 to 29 years which is the most fertile period of Nepalese women. The proportion of mother was decreased form above age 30 years. Almost all of mothers mean age was ranged between 23 to 24 years in all ethnicity. Nearly one out of five mothers was from adolescent period in all three ethnicity. Similar pattern of age observed in 35 to 39 years in all ethnic groups. Only one respondent was seen in above 40 years from Janajati (Table 5).

Mean age at marriage was 18.9 years. The mean age at marriage in all three ethnicity was adolescence period. Around 64 percent were married in adolescence period i.e. less than 20 years followed by 35 percent in relatively safe period for delivery i.e. in 20 to 29 years and only one respondent was observed in 30 plus age respectively. Over 80 percent Dalit married in adolescence period while Janajati 67 percent and Khas nearly 58 percent respectively. On the contrary, Khas (42.5%) proportion was higher than Janajati (32.9%) and Dalit (19%) in 20 plus year of marriage respectively (Table 5).

Total 1.96 was observed average CEB. Khas (1.79) was the lower average CEB than total CEB while Dalit (2.12) and Janajati (1.17) higher respectively. First parity mothers were greater than the second, third, fourth and fifth parity respectively. Inverse relation (mother's proportion higher in lower CEB and

vice versa) was observed between number of CEB and proportion of mother. The proportion of Khas (79.1%) was the higher in lower than 2 CEB followed by Dalit (73.9%) and Janajati (73.7%) respectively. On the contrary, Janajati proportion (26.4%) was higher in above 2 CEB followed by Dalit and Khas respectively (Table 5).

Table 5: *Demographic Characteristics of Mothers by Ethnicity, Shanishchare PHC Area, Jhapa, Nepal, 2010*

	Ethnicity			Total	N
	Khas	Dalit	Janajati		
Age of Mother					
15-19	18.7	21.4	19.7	19.4	49
15-16	*1.5*	*7.1*	*1.3*	*2.4*	*6*
17-19	*17.2*	*14.3*	*18.4*	*17.1*	*43*
20-24	29.1	40.5	35.5	32.9	83
25-29	32.8	23.8	26.3	29.4	74
30-34	14.9	9.5	11.8	13.1	33
35-39	4.5	4.8	5.3	4.8	33
40-44	0.0	0.0	1.3	0.4	1
Mean age	**24.79**	**23.74**	**24.58**	**24.58**	252
Age at Marriage					
<16	6.0	31.0	18.4	13.9	35
16-19	51.5	50.0	48.7	50.4	127
20-24	34.3	19.0	27.6	29.8	75
25-29	7.5	.0	5.3	5.6	14
30+	.7	.0	.0	.4	1
Mean Age at Marriage	**19.6**	**17.3**	**18.5**	**18.9**	
Children Ever Born					
1	48.5	42.9	38.2	44.4	112
2	30.6	31.0	35.5	32.1	81
3	15.7	14.3	13.2	14.7	37
4	3.7	2.4	5.3	4.0	10
5+	1.5	9.5	7.9	4.8	12
Average CEB	**1.79**	**2.12**	**2.17**	**1.96**	
Child Loss Experience					
1	9.7	11.9	9.2	9.9	25
2	.7	2.4	3.9	2.0	5
3	.7	.0	1.3	.89	2
None	88.8	85.7	85.5	87.3	220
N	**134**	**42**	**76**	**252**	**252**
Total Percent	**100.0**	**100.0**	**100.0**	**100.0**	

Source: Field Survey 2010

Child Loss is one of the tragic conditions of mothers. Twelve percent mothers experienced their previous child loss. Nearly 10 percent mother experienced

the single child loss, 2 percent experienced double child loss and less than one percent to the triple child loss. Janajati (9.2%) had the comparatively better position in single child loss and worse position in double child loss among the ethnicity where as Dalit (11.9%) had the better in single child loss and no experience in more than two child loss. Khas occupied the better position in double child loss among the ethnicity (Table 5).

4.2.2: Social Characteristics of Mothers

Fourteen percent mothers were illiterate. Highest proportion of Janajati mothers were illiterate followed by Dalit and Khas respectively. Dalit and Janajati were mostly concentrated in up to lower secondary level of education while Khas in secondary and above education. Huge difference was observed in secondary education in accordance with the ethnicity. More than 50 percent of Khas mothers were able to achieve secondary education which was 4 times higher than Janajati and more than 7 times than Dalit. Only 4 percent of Khas mothers had completed above bachelor education (Table 6).

Fifty two percent mothers were Joint family followed by 43 percent nuclear and 5 percent extended. Fifty three percent of Janajati and exact 50 percent of Dalit had nuclear family while 35 percent Khas. Around 60 percent of Khas had joint family. The proportion of mothers from Extended family was around 5 percent in all ethnicity (Table 6).

The average distance from the nearest health facility was 37 minutes. Majority of the respondents (56.7%) was residing less than 30 minutes distance from nearest health facility i.e. PHC or Sub-health post and only 5 percent was in more than 60 minutes distance. The average distance to nearest health facility of Dalit was 41 minutes followed by 37 minutes of Janajati and 35 minutes of Khas. More than 10 percent Janajati was far from the health facility which was 7 times higher than Khas. Khas (41.8%) and Dalit (40.5%) was the nearly equal in middle distance (30-60 minutes) from the health facility whereas 30 percent Janajati (Table 6).

Ten in nine (88.9%) respondents were believed in Hindu religion. Nearly 7 percent respondents were Buddha which was 3 times higher than Kirat (2.8%). Less than 1 percent of mothers were from both Muslim and Ishai. Only one respondent from Dalit was not given her religious identity. Khas (98.5%) was the almost nearly universal of Hindu religion whereas 91 percent

of Dalit and 70 percent Janajati. The second largest religion was Buddha where Janajati (19.7%) occupied the highest position followed by Dalit (2.4%) and less than 1 percent from Khas. Kirat and Muslim was nil from Khas and Dalit. Only 8 percent Janajati was Kirat and 1 percent from Muslim. Only one respondent was Ishai from Khas and one from Dalit (Table 6).

Table 6: *Social Characteristics of Mothers by Ethnicity, Shanishchare PHC Area, Jhapa, Nepal, 2010*

	Ethnicity			Total	N
	Khas	Dalit	Janajati		
Level of Education					
Literate	0.0	2.4	0.0	0.4	1
Primary	7.5	38.1	25.0	17.9	45
Lower Secondary	25.4	26.2	30.3	27.0	68
Secondary	54.5	7.1	13.2	34.1	86
Higher Secondary	6.7	2.4	1.3	4.4	11
Bachelor Plus	3.7	0.0	0.0	2.0	5
Illiterate	2.2	23.8	30.3	14.3	36
Types of Family					
Nuclear	35.1	50.0	52.6	42.9	108
Joint	59.7	45.2	42.1	52.0	131
Extended	5.2	4.8	5.3	5.2	13
Distance to Nearest Health Facility					
Nearest (<30)	56.7	52.4	59.2	56.7	143
Near (30-60)	41.8	40.5	30.3	38.1	96
Far (60+)	1.5	7.1	10.5	5.2	13
Average Distance	35.3	41.3	38.9	37.4	
Religion of Mother					
Hindu	98.5	92.9	69.7	88.9	224
Buddha	0.7	2.4	19.7	6.7	17
Kirat	0.0	0.0	9.2	2.8	7
Muslim	0.0	0.0	1.3	0.4	1
Ishai	0.7	2.4	0.0	0.8	2
Not Stated	0.0	2.4	0.0	0.4	1
Access to Media					
Listens to the Radio At least Once a Week	70.9	50.0	51.3	61.5	155
Watches TV at least Once a Week	80.6	61.9	57.9	70.6	178
Reads Newspaper at least Once a Week	29.9	14.3	11.8	21.8	55
Access to All Three Medias	21.6	7.1	6.6	14.7	37
N	**134**	**42**	**76**	**252**	**252**
Total Percent	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Field Survey 2010

The media exposure included the total 3 Medias i.e. electronic media-radio and television and the print media newspaper was asked to the respondent.

The information of media exposure was categorised in every day, Three/Four days a week, At least once a week, At least once a two weeks, At once a month and Never expose in any media. For making analysis easy, the information of every day, three/four days a week and at least once a week were merged and recoded in at least once a week for each media. The other options were discarded from the analysis.

More Khas mothers were exposed in all Medias than Dalit and Janajati respectively. Television Exposure was the greater percentage than radio listener and newspaper reader in all ethnicity. Almost 81 percent of Khas was exposed in television at least once a week whereas 62 percent from Dalit and 58 percent from Janajati. More than 70 percent of Khas was exposed in radio where as 51 percent from Janajati and 50 percent Dalit (Table 6).

The respondents were systematically taken from the four VDCs. The print media was access to only central place of VDCS and rural areas were lacking from such facility. The proportion of exposure in newspaper to the Khas (29.9%) was 2 times higher than Dalit (14.3%) and nearly 3 times greater than Janajati (11.8). Only 22 percent of Khas was exposed to all three Medias followed by Dalit and Janajati respectively (Table 6).

4.2.3: Economic Characteristics of Mothers

The information of both paying and non-paying occupation was categorised into five categories i.e. Housework, Farming, Wage Labour, Business and Service. Almost 93 percent of mothers were observed in non-paying work such as-house work and farming. Nearly 5 percent mothers had their own business and less than 1 percent had service (Table 7).

More than 78 percent of mothers were involved in housework activities in all ethnicity. The proportion of mothers engaged in farming was slight difference in accordance with the ethnicity. More Khas mothers were engaged in farming than Janajati and Dalit respectively while nobody Khas mothers had involved in wage labour and 2 percent only Khas associated in service. Dalit and Janajati proportion of business profession was double than Khas (Table 7).

Table 7: *Economic Characteristic of Mothers by Ethnicity, Shanishchare PHC Area, Jhapa, Nepal, 2010*

	Ethnicity			Total	N
	Khas	Dalit	Janajati		
Occupation of Mothers					
House Work	78.4	81.0	78.9	79.0	199
Farming	17.2	7.1	11.8	13.9	35
Wage Labour	0.0	4.8	2.6	1.6	4
Business	3.0	7.1	6.6	4.8	12
Service	1.5	0.0	0.0	0.8	2
Monthly Income (In NRs.)					
≤3000	3.0	7.1	7.9	5.2	13
3001-5000	0.7	4.8	0.0	1.2	3
5001-9000	1.5	0.0	0.0	0.8	2
9001+	0.7	0.0	1.3	0.8	2
None	94.0	88.1	90.8	92.1	232
Average Income	5625	2824	2842.9	3951	252
Deviation From Average	4033.3	1309.5	3254.7	3415.6	252
N	**134**	**42**	**76**	**252**	**252**
Total	**100.0**	**100.0**	**100.0**	**100.0**	

Source: Field Survey 2010

The information of monthly income was asked to those respondents who had wage labour, business and service occupations. Only 8 percent mothers were eligible to give the information of monthly income. The total average income was 3951 Nepalese rupees with 3415.6 Nepalese rupees deviation from the average income among the 20 income holders' mothers. The average income of Khas was nearly double than the Janajati and Dalit respectively with the massive inequality income within Khas mothers followed by Janajati and Dalit continuously (Table 7).

4.2.4: Participatory/Modernization Characteristics of Mothers

Around half of the mothers (49.2%) were decided to the treatment of their sick baby followed by husband (28.2%), mother-in-law (15.1%), father-in-law (6.7 %), and other family member (0.8%) respectively. Higher proportion of Janajati mothers were decided to the treatment of their sick baby compare to Dalit and Khas respectively. The results of husband decision maker was not the exception obtain from the self decision maker. But the result of mother-in-law and father-in-law decision maker was just opposite to the mothers and husband decision makers. The proportion of Khas was higher in mother-in-law decision makers followed by Dalit and Janajati respectively. Dalit

occupied lowest proportion in father-in-law decision making. Nobody other decision maker was observed in Dalit and Janajati (Table 8).

Nearly 96 percent of mothers were highly health conscious. Health awareness level was not so difference among the ethnicity. More than 90 percent of mothers were highly conscious about the health in all ethnicity. The proportion of medium level health awareness level of Khas (6%) was more than 2 times greater than Dalit (2.4%) and 5 times than Janajati (1.3%). The huge difference among the indexes was examined within all ethnicity. Only 2 percent of Dalit mothers were found in low level of health awareness index (Table 8).

Table 8: *Percentage of Decision Makers by Ethnicity, Shanishchare PHC Area, Jhapa, Nepal, 2010*

	Ethnicity			Total	N
	Khas	Dalit	Janajati		
Decision Makers					
Respondent herself	47.0	50.0	52.6	49.2	124
Husband	23.9	31.0	34.2	28.2	71
Mother-in-law	17.9	16.7	9.2	15.1	38
Father-in-law	9.7	2.4	3.9	6.7	17
Other	1.5	0.0	0.0	0.8	2
Level of Health Awareness					
Low	0.0	2.4	0.0	0.4	1
Medium	6.0	2.4	1.3	4.0	10
High	94.0	95.2	98.7	95.6	241
Antenatal Care practice					
Low(≤.39)	0.0	23.8	14.5	8.3	21
Medium(.40-.74)	86.6	76.2	82.9	83.7	211
High(.75+)	13.4	0.0	2.6	7.9	20
Delivery Assistance					
Doctor/Nurse	71.6	47.6	39.5	57.9	146
ANM	8.2	23.8	11.8	11.9	30
TBA	3.0	7.1	6.6	4.8	12
Relatives/Neighbours/Friends	12.7	16.7	34.2	19.8	50
HA /Health Worker	4.5	4.8	7.9	5.6	14
N	**134**	**42**	**76**	**252**	**252**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Field Survey 2010

All of the mothers received some ANC services. Nearly 84 percent mothers received 40 to 74 percent of ANC services which was 10 times higher than low (8.3%) and high (7.9%) level of antenatal care index. More Dalit (23.8%) was

received lower level of ANC services than Janajati (14.5) while nobody Khas mother was observed in lower level of ANC receivers. Likewise, nobody Dalit received high level of ANC service. Huge difference was observed in high level ANC receivers between Khas and Janajati. The proportion of Khas (13.4%) in high ANC Index was 5 times higher than Janajati (2.6%) (Table 8).

With the aim to increase the skill birth attendant (SBA) during delivery, not only in health facilities but also to the home delivery, government of Nepal has put into practiced in certain amount of delivery charge for the health personnel since 2009. However, one out of four (24.6%) delivery was assisted by the untrained personnel (TBA/friends/relatives/neighbours). SBA (Doctor, Nurse and ANM) assisted 70 percent of delivery which was 13 times higher (5.6%) than the delivery assisted by semi-skilled health personnel (HA, Auxiliary Health Worker and Maternal Child Health Worker) (Table 8).

Delivery assistance varies among ethnicity. Ten out of eight (79.8%) delivery of Khas was assisted by SBA followed by ten in 7 (71.4%) of Dalit and ten in five (51.3% of Janajati respectively. On the contrary, nearly 41 percent delivery of Janajati assisted by untrained personnel whereas Dalit 24 percent and Khas 16 percent. Likewise, eight percent delivery of Janajati assisted by semi-skilled health personnel while nearly 5 percent of both Dalit and Khas (Table 8).

CHAPTER V

ANALYSIS OF NEWBORN CARE PRACTICE BY SELECTED VARIABLES

5.1: Newborn Care Index

Newborn care, to a larger extent, related to the delivery care practice. Appropriate medical care during delivery minimizes the risk of complication of mother and helps to improve the newborns health. Realizing the presence of SBA during delivery, Nepal government has implemented the free delivery service and the maternity incentives for women who give birth in government health facilities and has managed some amount of delivery charge for delivery service providers either the delivery conducts in health facilities or at home. Newborn Care Practice could be conduct different two phases. First, at the time of delivery includes the behavioural aspects of mothers/families/delivery service providers. The behavioural aspects includes Practice five cleans- clean surface for delivery, clean hands, new blade for cutting umbilical cord, clean cord tie, clean cloth to wrap neonate; Breastfeeding within one hour of delivery; Thermal care- dry and wrap neonate immediately after birth, delay first bath for at least 24 hours; and seek trained care promptly in case of danger signs for mother or baby. Second, care during neonatal period includes Essential Newborn care- early and exclusive breastfeeding, Cord Care, Thermal Care, Apply no substance to the cord stump, and Detect danger signs and seek care from trained health providers (WHO 2008:798). The newborn care index covers both two phases of newborn care information.

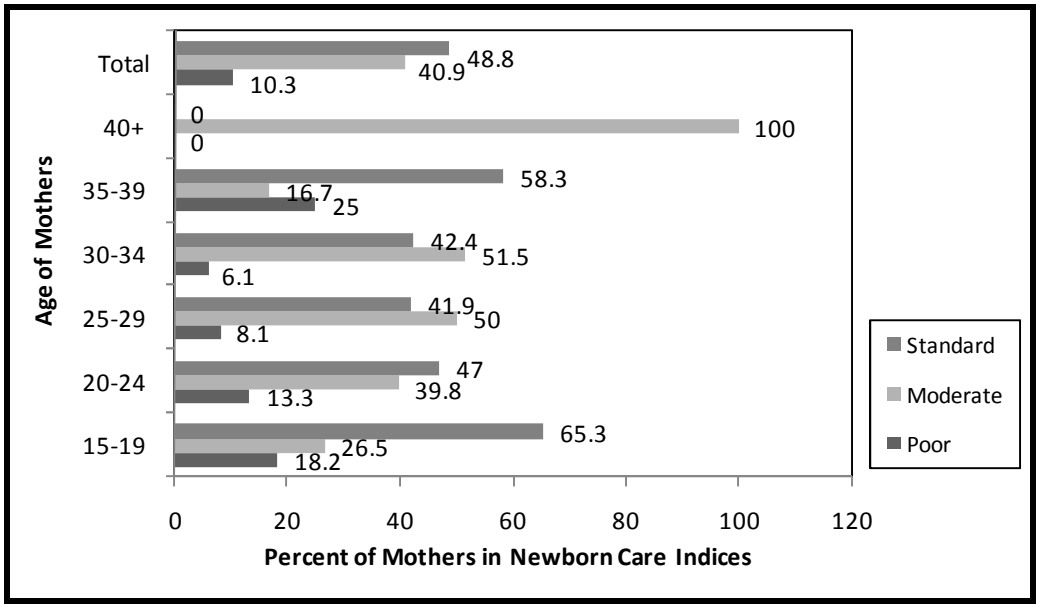
5.2: Newborn Care by Demographic Characteristics

5.2.1: Current Age of Mother and Newborn Care Practice

The Adolescence period (15-19 years) and over 35 years of age are considered risky in terms of pregnancy complications (Pradhan, 2005). Adolescence Motherhood is one the serious health issue in Nepal. An early start to child bearing greatly reduces the educational and employment opportunities of women and is associated with higher levels of fertility (MOHP, New ERA and Macro International, 2007:73). Due to lack of education and employment opportunities, it ultimately helps to reduce the proper newborn care practice. So, age is one of the determining factors of newborn care. The non teen age

mother is six times higher chance to maintain good newborn care than teen age (KC 2007:46).

Figure 8: *Percentage of Mothers in Newborn Care Indices by Age, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

The lowest age (15-19) of mothers were clustered in standard newborn care index. The cause may be the exposure in the modern media. The significant proportions of mothers were grouped in both standard and moderate newborn care index from the age 20 to 34. The number of mothers was decreased along with the higher age (Table 30). Among the total 12 mothers form 35 to 39 years, the proportion of mothers in standard newborn index was more than 2 times greater than the poor newborn care index of same age group. Only one mothers found above 40 years of age maintained moderate newborn care practice. Among the mothers maintained poor newborn care practice, the lower age (15-19) and the second highest age group (35-39) of mothers were the largest proportion in poor newborn care index (Figure 8).

Among the 134 Khas mothers, the largest proportion of mothers maintained the standard newborn care index followed by moderate and poor respectively in all age groups. The different caring practice of newborn was observed among the ethnicity. Ten in six mothers of Khas performed standard practice to their newborn whereas Dalit 10 in 4 and Janajati 10 in 3 only. The largest proportion of Dalit (52.4%) maintained moderate newborn care index followed by 46 percent of Janajati and 34 percent of Khas. The proportion of Janajati

in poor newborn care index was 3 times greater than Dalit and 5 times from Khas (Table 9).

Table 9: *Current Age of Mother and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Age of Mothers	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	15-19	1	4.0	6	24.0	18	72.0	25	100.0
	15-16	0	0.0	0	0.0	2	100.0	2	100.0
	17-19	1	4.3	6	26.1	16	69.6	23	100.0
	20-24	2	5.1	12	30.8	25	64.1	39	100.0
	25-29	2	4.5	18	40.9	24	54.5	44	100.0
	30-34	0	0.0	9	45.0	11	55.0	20	100.0
	35-39	1	16.7	1	16.7	4	66.7	6	100.0
	40-44	0	0.0	0	0.0	0	0.0	0	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	15-19	1	11.1	4	44.4	4	44.4	9	100.0
	15-16	1	33.3	1	33.3	1	33.3	3	100.0
	17-19	0	0.0	3	50.0	3	50.0	6	100.0
	20-24	1	5.9	9	52.9	7	41.2	17	100.0
	25-29	1	10.0	5	50.0	4	40.0	10	100.0
	30-34	0	0.0	3	75.0	1	25.0	4	100.0
	35-39	0	0.0	1	50.0	1	50.0	2	100.0
	40-44	0	0.0	0	0.0	0	0.0	0	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	15-19	2	13.3	3	20.0	10	66.7	15	100.0
	15-16	1	100.0	0	0.0	0	0.0	1	100.0
	17-19	1	7.1	3	21.4	10	71.4	14	100.0
	20-24	8	29.6	12	44.4	7	25.9	27	100.0
	25-29	3	15.0	14	70.0	3	15.0	20	100.0
	30-34	2	22.2	5	55.6	2	22.2	9	100.0
	35-39	2	50.0	0	0.0	2	50.0	4	100.0
	40-44	0	0.0	1	100.0	0	0.0	1	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

The newborn care difference was also observed in different age groups in all ethnicity. The age group 15-19 years of mothers practiced highest proportion of the standard newborn care except Janajati mothers. Moreover, Khas (72%) maintained the highest position in standard newborn care than Janajati (66.7%) and Dalit (44.4%). The age group 30-34 was found in low percentage

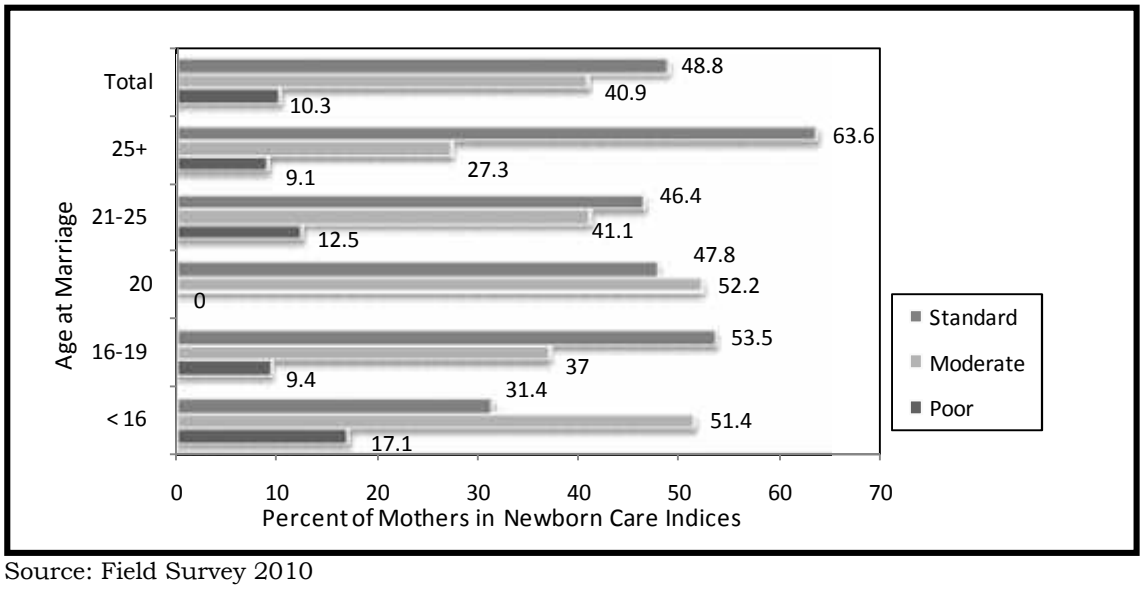
of Khas (30.1%) and Dalit (25%) in standard newborn care, whereas Janajati (15%) was observed in 25-29 age groups (Table 9).

Four in three mothers of Dalit in the age group 30-34 was moderately cared to their newborn while 56 percent of Janajati and 45 percent of Khas of same age group. The least proportion of moderate newborn care index was observed in the adolescence age group 15-19 years of Dalit and Janajati among all age groups whereas 35-39 years of Khas. The proportion of Janajati (15%) in poor index in age 25-29 years was 2 times greater than Janajati (10%) and 3 times than Khas (4.5%). Single mother was not observed from Khas and Dalit in poor index while 22 percent from Janajati (Table 9).

5.2.2: Age at Marriage and Newborn Care Practice

The age at which a woman marries and enters the reproductive period of life has a great impact on her fertility (Park 2002:325). Woman who marry early have the longer period of exposure to the risk of becoming pregnant and a great number of lifetime births (MOHP, New ERA and Macro International, 2007:102). In Nepal, childbearing is socially acceptable when women marry.

Figure 9: *Percent o f Mothers in Newborn Care Indices With Respect to Age at Marriage, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

The mothers from the cohort of highest age at marriage (25+ years) focused on the standard newborn care index. Likewise, 16 to 19 years of marriage cohort were maintained the second highest position in standard newborn care index and the less than 16 years of marriage cohort mothers were found the low proportion in standard newborn care index. The mothers of the exact age

at marriage 20 years and the lower age at marriage less than 16 years were clustered mostly in moderate newborn care index. The mothers of age at marriage 20 to 25 years were the lower difference between standard and moderate newborn care indices. The age at marriage less than 16 years of mothers were also largest proportion in poor newborn care index among the mothers belongs to poor newborn care index. Nobody mother of exact age marriage 20 years was observed in poor newborn care index (Figure 9).

Table 10: *Age at Marriage and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Age at Marriage	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	Φ16	1	12.5	3	37.5	4	50.0	8	100.0
	16-19	3	4.3	23	33.3	43	62.3	69	100.0
	20	0	0.0	8	47.1	9	52.9	17	100.0
	21-25	1	3.2	10	32.3	20	64.5	31	100.0
	25+	1	11.1	2	22.2	6	66.7	9	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	less than 16	1	7.7	8	61.5	4	30.8	13	100.0
	16-19	2	9.5	10	47.6	9	42.9	21	100.0
	20	0	0.0	1	50.0	1	50.0	2	100.0
	21-25	0	0.0	3	50.0	3	50.0	6	100.0
	25+	0	0.0	0	0.0	0	0.0	0	0.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	less than 16	4	28.6	7	50.0	3	21.4	14	100.0
	16-19	7	18.9	14	37.8	16	43.2	37	100.0
	20	0	0.0	3	75.0	1	25.0	4	100.0
	21-25	6	31.6	10	52.6	3	15.8	19	100.0
	25+	0	0.0	1	50.0	1	50.0	2	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

The majority of Khas in all groups of age at marriage maintained the standard newborn care practice whereas one third maintained the moderate index and less than twelve percent maintained poor index. In contrary to the Khas, the largest proportion of Dalit and Janajati was observed in moderate newborn practice except above 25 years of age at marriage of Dalit and above 30 years of Janajati. Khas (62.3%) was observed the highest proportion in standard newborn care index followed by Janajati (43.2%) and Dalit (42.9%)

respectively in late adolescence marriage age 16 to 19 years. The lowest proportion of standard newborn care practice was observed in the marriage of early adolescence period up to 15 years of Khas and Dalit and the marriage of youth period 20 to 24 years of Janajati. Among the marriage age up to 15 years, Two in one mothers of Khas practiced standard newborn care whereas three in one from Dalit and five in one from Janajati (Table 10).

The Dalit (61.5%) occupied the highest position in moderate newborn care index among age at marriage less than 16 years while Janajati 50 percent and Khas 38 percent. The proportion of Janajati (28.6%) among less than 16 years of marriage age for practicing poor newborn care was 2 times greater than Khas (12.5%) and 4 times than Dalit (7.7%). The least proportion among all age at marriage group of poor index was observed in 20 to 24 years of Khas (2.2%) whereas Janajati was found the highest poor index (Table 10).

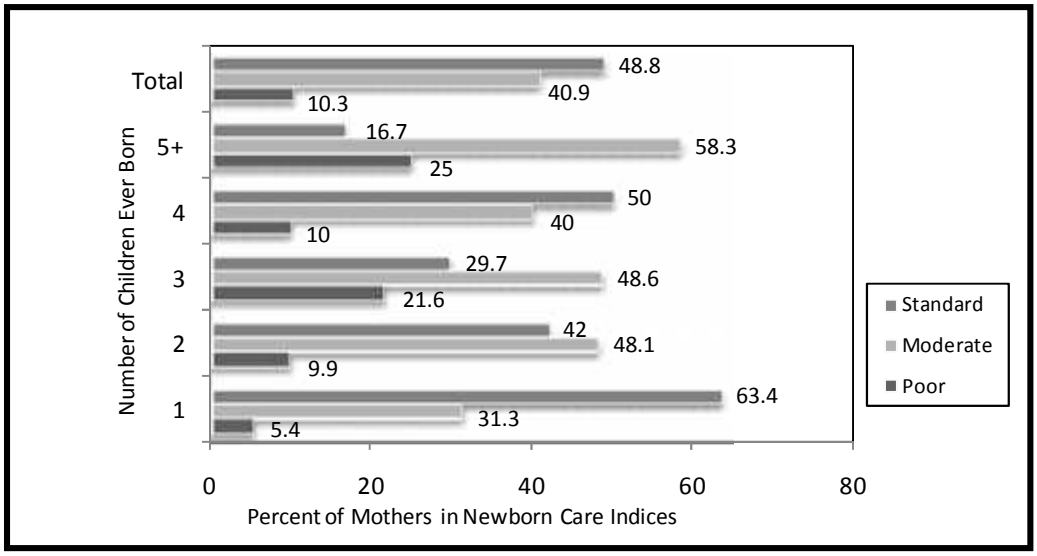
The largest number of population was observed in 16 to 24 years of marriage age where Khas was observed the majority in standard newborn care; Dalit was observed the majority in moderate newborn care and Janajati in poor newborn care index. In totality, Khas was observed the better practice of newborn care practice than Dalit and Janajati (Table 10).

5.2.3: CEB and Newborn Care Practice

CEB is also determined the newborn care practice. The first order baby was better care of newborn than above one order. The standard newborn care index (63.4%) having CEB one was the highest proportion followed by CEB 4, CEB 2, CEB 3 and CEB 5 respectively. In contrary, moderate and poor newborn care index was increasing order along with the increasing number of CEB. The newborn care indices and the number of CEB depicted that the higher number of CEB and the lower level of newborn care practice was related and vice versa (Figure 10).

The discrepancy in newborn care practice was also observed in companion with the number of CEB among the ethnicity. Having CEB 1 mothers concentrated in standard newborn care index to all ethnicity but the proportion of mother was highest in Khas followed by Dalit and Janajati. All of the mothers having CEB 1 belong to the 15 to 19 years of age. It means that modern women performed better newborn care practice (Table 11).

Figure 10: *Percentage of Mothers in Newborn Care Indices With Respect to Number of CEB, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

Table 11: *Children Ever Born and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	No. of CEB	Newborn Care Index						Row Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	1	1	1.5	15	23.1	49	75.4	65	100.0
	2	2	4.9	19	46.3	20	48.8	41	100.0
	3	3	14.3	9	42.9	9	42.9	21	100.0
	4	0	0.0	1	20.0	4	80.0	5	100.0
	5+	0	0.0	2	100.0	0	0.0	2	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	1	1	5.6	7	38.9	10	55.6	18	100.0
	2	1	7.7	8	61.5	4	30.8	13	100.0
	3	1	16.7	4	66.7	1	16.7	6	100.0
	4	0	0.0	0	0.0	1	100.0	1	100.0
	5+	0	0.0	3	75.0	1	25.0	4	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	1	4	13.8	13	44.8	12	41.4	29	100.0
	2	5	18.5	12	44.4	10	37.0	27	100.0
	3	4	40.0	5	50.0	1	10.0	10	100.0
	4	1	25.0	3	75.0	0	0.0	4	100.0
	5+	3	50.0	2	33.3	1	16.7	6	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

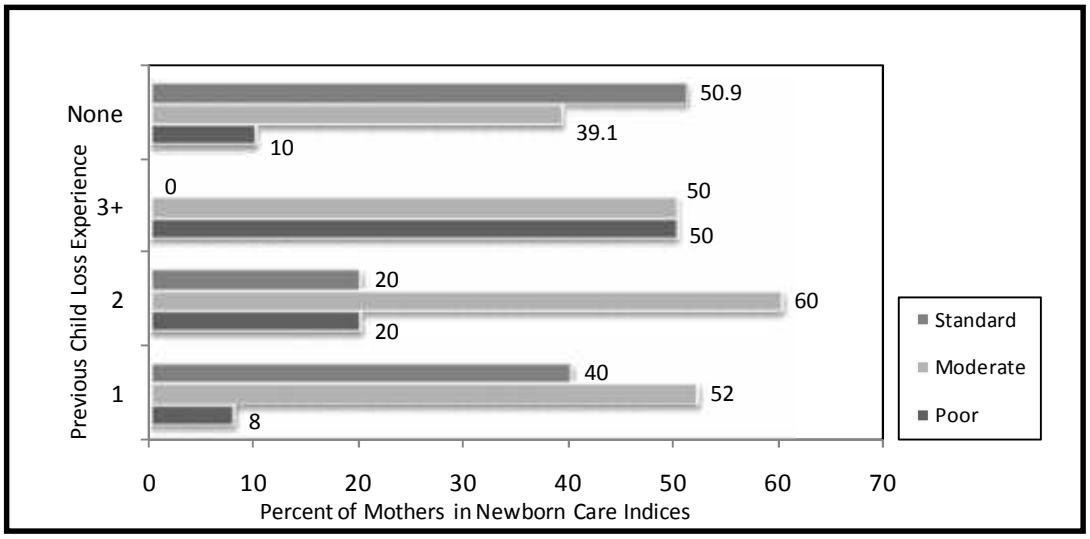
Source: Field Survey 2010

Birth order 5 or more and birth weight less than 2.5 kg is considered as 'at risk' baby (Park 2002:364). Four in two Janajati mothers having CEB 5 plus was observed in Poor newborn care index whereas three in one in moderate and only five in one in standard index (Table 11).

5.2.4: Child Loss Experience and Newborn Care Practice

The two ways relation between child loss experience and newborn care practice was observed in the study i.e. child loss experience determines the newborn care practice and newborn care practice saves the number of child loss. The standard newborn care index decreased and increased moderate newborn care index along with the increased number of child loss experience. The lack of standard newborn care index had having 3 and above number of child loss. Likewise, more than 50 percent of mothers clustered in standard and nearly 40 percent clustered in moderate newborn care index having no experience of previous child loss. The highest proportion of mothers from poor newborn index was observed in having 3 and above child loss experience (Figure 11).

Figure 11: *Percent of Mothers in Newborn Care Indices With Respect to Previous Child Loss Experience, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

Among the 32 child loss mothers, the largest proportion of mothers were experienced a single child loss. The mothers who were illiterate, and below secondary level of education and also involved in housework activities experienced a single child loss. No body was experienced the child loss in

above secondary level of education and service to their occupation. The impact of education is more obvious in child loss (Table 12).

Table 12: *Child Loss Experience and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Child Loss Experience	Newborn Care Index						Row Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	1	1	7.7	5	38.5	7	53.8	13	100.0
	2	0	0.0	0	0.0	1	100.0	1	100.0
	3	0	0.0	1	100.0	0	0.0	1	100.0
	None	5	4.2	40	33.6	74	62.2	119	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	1	0	0.0	4	80.0	1	20.0	5	100.0
	2	0	0.0	1	100.0	0	0.0	1	100.0
	3	0	0.0	0	0.0	0	0.0	0	100.0
	None	3	8.3	17	47.2	16	44.4	36	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	1	1	14.3	4	57.1	2	28.6	7	100.0
	2	1	33.3	2	66.7	0	0.0	3	100.0
	3	1	100.0	0	0.0	0	0.0	1	100.0
	None	14	21.5	29	44.6	22	33.8	65	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Field Survey: 2010

The newborn care practice was differently performed in accordance with the ethnicity and number of child loss. Among the single child loss experience mothers, Ten in five Khas mothers maintained standard newborn care whereas ten in three by Janajati and ten in two by Dalit. Child loss is one of the tragic moments of mother. Thus, previous child loss encourage to mother to better care to their further newborn. The ascending order (Poor <Moderate <Standard) of newborn care practice was observed in single child loss experienced Khas mothers. A single mothers of Khas experienced 2 child losses maintained standard newborn care index whereas also a Dalit mothers

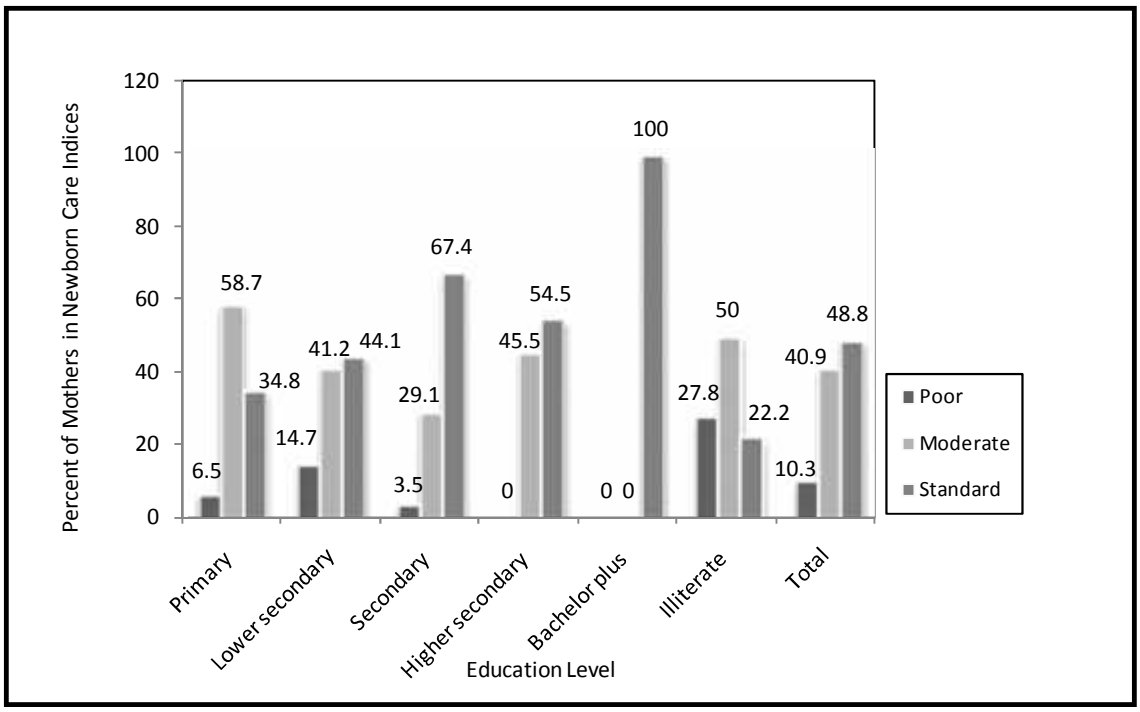
and two Janajati mothers experienced 2 child loss performed moderate newborn care. But single child loss Dalit and Janajati mothers were more performed moderate newborn care than standard. Only 2 mothers, one from Khas and one from Janajati, were experienced 3 child loss maintained moderate and poor newborn care index respectively (Table 12).

5.3: Newborn Care by Social Characteristics

5.3.1: Education of Mother and Newborn Care Practice

Drying the child and wrapping it in cloth before the placenta is delivered are good practices while immediate bathing can lead to hypothermia (Bennet, Dahal and Govindasamy, 2008: 15). NDHS 2006 shows that SLC and above educated women had better caring practice of newborn in terms of curd care, thermal care and initiation of breastfeeding than the uneducated women. The results nearly coincide with NDHS 2006. The secondary and above level of education mothers mostly concentrated in standard newborn care followed by moderate newborn care index. The low proportion (3.5%) in poor newborn care index was observed from only secondary level while nobody was observed in poor newborn care index from higher secondary and bachelor plus education. Nearly equal proportion in standard and moderate newborn care index observed from lower secondary level of education and significant proportion in poor newborn care index. In primary level, mothers were focused in moderate newborn care index followed by standard and poor newborn care index (Figure 12).

Figure 12: *Percentage of Mothers in Newborn Care Indices With Respect to Education, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

The newborn care index was different in accordance with the education. The illiterate and primary level educated mothers from all ethnicity were the greater proportion in moderate index. The total 69 percent of Dalit mothers having primary level education performed moderate newborn care followed by Khas (60%) and Janajati (47.4%) of same level of education. In secondary education level, 69 percent Khas mothers maintained standard newborn care followed by 30 percent moderate and 1 percent poor whereas 67 percent Dalit performed standard newborn care and 33 percent performed moderate and nobody Dalit was observed in poor index having secondary level of education (Table 13).

Table 13: *Education of Mother and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Education Level	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	Literate only	0	0.0	0	0.0	0	0.0	0	0.0
	Primary	0	0.0	6	60.0	4	40.0	10	100.0
	Lower secondary	4	11.8	13	38.2	17	50.0	34	100.0
	Secondary	1	1.4	22	30.1	50	68.5	73	100.0
	Higher secondary	0	0.0	4	44.4	5	55.6	9	100.0
	Bachelor plus	0	0.0	0	0.0	5	100.0	5	100.0

	Illiterate	1	33.3	1	33.3	1	33.3	3	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	Literate only	0	0.0	1	100.0	0	0.0	1	100.0
	Primary	0	0.0	11	68.8	5	31.3	16	100.0
	Lower secondary	2	18.2	3	27.3	6	54.5	11	100.0
	Secondary	0	0.0	1	33.3	2	66.7	3	100.0
	Higher secondary	0	0.0	0	0.0	1	100.0	1	100.0
	Bachelor plus	0	0.0	0	0.0	0	0.0	0	100.0
	Illiterate	1	10.0	6	60.0	3	30.0	10	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	Literate only	0	0.0	0	0.0	0	0.0	0	100.0
	Primary	3	15.8	9	47.4	7	36.8	19	100.0
	Lower secondary	4	17.4	12	52.2	7	30.4	23	100.0
	Secondary	2	20.0	2	20.0	6	60.0	10	100.0
	Higher secondary	0	0.0	1	100.0	0	0.0	1	100.0
	Bachelor plus	0	0.0	0	0.0	0	0.0	0	0.0
	Illiterate	8	34.8	11	47.8	4	17.4	23	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

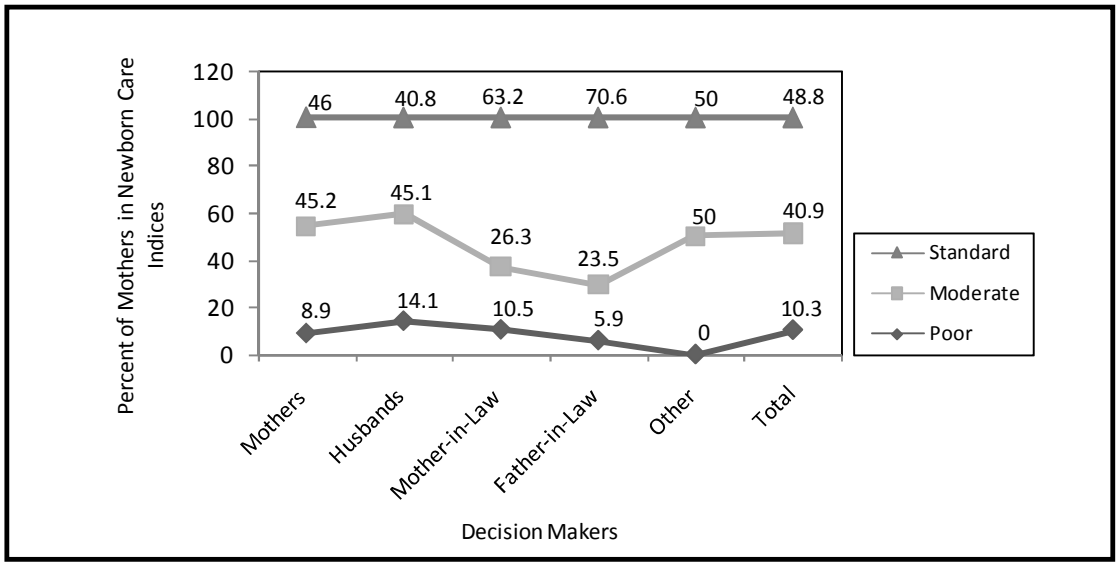
Sixty percent of Janajati mothers were observed in standard newborn care index among the secondary level of education whereas equal proportion 20 percent in moderate and standard. Among the lower secondary level, the standard (50%) newborn care index of Khas was observed the largest proportion followed by moderate (38.2%) and poor (11.8%). The proportion of standard newborn care of Dalit in lower secondary level was observed in 2 times greater than moderate and 3 times than poor index. Janajati was observed the largest proportion in moderate index (52.2%) while 30 percent in standard and 17 percent in Poor index (Table 13).

The Khas mothers were observed 'higher the education higher the newborn care index'. Only 5 respondents from Khas were observed Bachelor plus education maintained standard newborn care index. Illiterate Janajati mothers were the higher proportion in moderate newborn care index followed by poor index (34.8%) and standard (17.4%). Ten in six illiterate mothers of Dalit maintained moderate index whereas ten in three maintained standard and ten in one maintained poor newborn care practice (Table 13).

5.3.2: Decision Making and Newborn Care Practice

The decision making role related to treatment of newborn was asked to the respondent. Treatment of newborn is directly related to the economic aspect. Thus, decision makers play an important role to determine the newborn care. The mothers concentrated mostly in standard newborn care index among the father-in-law decision makers. Similarly, more than 60 percent mothers also clustered in standard newborn care index but the proportion of mothers slightly has increased in moderate index and has doubled in poor newborn care index among the mother-in-law decision makers. On the contrary, the concentration of mothers was divided in standard and moderate newborn index along with the arrival of decision making role in mothers themselves and husbands. Nevertheless, application of standard newborn care was slightly lower and implication of poor newborn care was moderately higher than mothers' decision makers. Each one mother was observed in standard and moderate newborn care index among other decision makers (Figure 13).

Figure 13: *Percentage of Newborn Care Indices With Respect to Decision Makers of Newborn Treatment, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

Altogether 124 mothers herself were decided their treatment of newborn. Among them, 61 percent mothers of Khas performed standard newborn care followed by 34 percent moderate and 17 percent poor respectively. Among the self decision makers, Khas (63.5%) was observed the largest proportion in standard newborn care index than Dalit (33.3%) and Janajati (25%) whereas Dalit (61.9%) was largest in moderate newborn care index followed by Janajati (55%) and Khas (33.3%). Likewise, Janajati was observed the largest proportion in poor index while Dalit 5 percent and Khas 3 percent only (Table 14).

Husband was observed the second highest decision makers in all ethnicity. Among the husband decision makers, ten in five from Khas was performed standard newborn care whereas ten in four from Janajati and four in one from Dalit maintained standard newborn care. The equal proportion (46.2%) of Dalit and Janajati was observed in moderate newborn care among the husband decision makers whereas Khas 43.8 percent. The highest proportion of Janajati (23.1%) was observed in poor newborn care among the husband decision makers followed by Dalit (15.4%) and Janajati (6.3%) (Table 14).

Table 14: *Decision making and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Decision Makers	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	Respondent herself	2	3.2	21	33.3	40	63.5	63	100.0
	Husband	2	6.3	14	43.8	16	50.0	32	100.0
	Mother-in-law	2	8.3	6	25.0	16	66.7	24	100.0
	Father-in-law	0	0.0	4	30.8	9	69.2	13	100.0
	Other	0	0.0	1	50.0	1	50.0	2	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	Respondent herself	1	4.8	13	61.9	7	33.3	21	100.0
	Husband	2	15.4	6	46.2	5	38.5	13	100.0
	Mother-in-law	0	0.0	3	42.9	4	57.1	7	100.0
	Father-in-law	0	0.0	0	0.0	1	100.0	1	100.0
	Other	0	0.0	0	0.0	0	0.0	0	0.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	Respondent herself	8	20.0	22	55.0	10	25.0	40	100.0
	Husband	6	23.1	12	46.2	8	30.8	26	100.0
	Mother-in-law	2	28.6	1	14.3	4	57.1	7	100.0
	Father-in-law	1	33.3	0	0.0	2	66.7	3	100.0
	Other	0	0.0	0	0.0	0	0.0	0	0.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

The traditional role of mother-in-law in Nepal is the care of baby at home. Among the mother–in-law decision makers, sixty seven percent of Khas was found in standard newborn care index whereas the equal proportion (57.1%) from both Dalit and Janajati. The proportion of Dalit (42.9%) in moderate newborn care among the mother-in-law decision makers was observed nearly 2 times greater than Khas (25%) and 3 times than Janajati (14.3%). The 27 percent of Janajati was observed in poor newborn care index among the

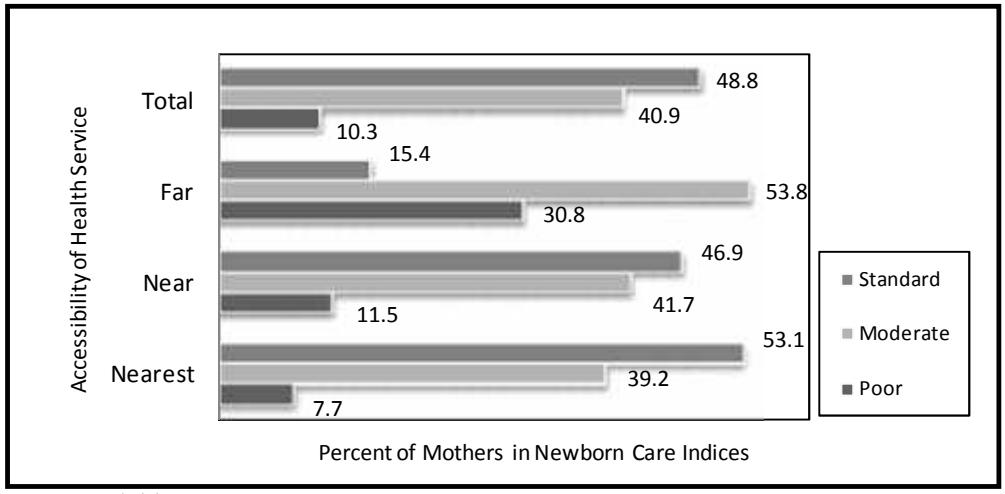
mother-in-law decision makers while Khas only 8 percent and no body was found in Dalit in poor index of mother-in-law decision makers (Table 14).

Sixty nine percent of Khas maintained the standard newborn care regarding the father-in-law decision makers while 3 in 2 was observed in Janajati and only one mother of Dalit was found in father-in-law decision maker maintained standard newborn care. Only Khas (30.8%) was observed in moderate newborn care index and single Janajati was found poor index among the father-in-law decision makers. The two respondents from Khas were given the information of the other decision makers (elder brother of husband) (Table 14).

5.3.3: Accessibility of Health Service and Newborn Care Practice

Nearly 41 percent of women were informed that distance to health facility is the barrier for seeking care during pregnancy and at the time of delivery (MOHP, New Era and Macro International, 2007:155). The lack of health facility at the time of delivery creates problems for both mother and the newborn. The result of this study was also nearly agreed with the results of NDHS 2006. The proportion of standard newborn care index was significantly decreased, moderately increased and heavily increased in companion with the nearest to the far distance (Figure 14).

Figure 14: *Percentage of Newborn Care Indices With Respect to Accessibility of Health Service, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

Out of total, 143 mothers were residing in nearest health facility. Among these, 37 percent of Khas mothers maintained standard newborn care followed by 11 percent from Janajati and 5 percent from Dalit respectively.

The total 17 percent of Janajati mothers performed moderate newborn care among those mothers who were nearest heath facility whereas 13 percent from Khas and 9 percent from Dalit. Only 4 percent mothers practiced poor newborn care followed by 3 percent by Khas and 1 percent by Dalit (Table 15).

Table 15: *Accessibility of Health Service and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Distance	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	Nearest(>30 minutes)	4	5.3	19	25.0	53	69.7	76	100.0
	Near(30-60)	2	3.6	25	44.6	29	51.8	56	100.0
	Far(<60 minutes)	0	0.0	2	100.0	0	0.0	2	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	Nearest(>30 minutes)	2	9.1	13	59.1	7	31.8	22	100.0
	Near(30-60)	1	5.8	6	35.3	10	58.8	17	100.0
	Far(<60 minutes)	0	0.0	3	100.0	0	0.0	3	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	Nearest(>30 minutes)	5	11.1	24	53.3	16	35.6	45	100.0
	Near(30-60)	8	34.8	9	39.1	6	26.1	23	100.0
	Far(<60 minutes)	4	50.0	2	25.0	2	25.0	8	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

The second largest proportion was observed in 30 to 60 minutes distance from the health facility. The proportion of Khas (30.2%) among 30 to 60 minutes distance from health facility was maintained the standard newborn care which was 3 times greater than Dalit (10.4%) and 5 times than Janajati (6.3%) from the same category whereas 26 percent of Khas practiced moderate newborn care followed by 9 percent by Janajati and 6 percent by Dalit respectively among the same distance. Janajati was highest proportion in poor newborn care among the 30 to 60 minutes distance from the health facility while 2 percent was observed in Khas and only 1 percent in Dalit. Only 4 mothers of Janajati were residing from more than 60 minutes distance from the health facility and all were practiced poor newborn care (Table 15).

5.3.4: Ethnicity and Newborn Care Practice

Out of 252 mothers, 49 percent followed standard newborn care practice whereas 41 percent moderate and 10 percent poor practice. The proportion of Khas mothers were observed ascending order from Poor to Standard newborn care index whereas Dalit and Janajati was higher percentage in moderate index followed by standard and poor respectively (Table 16).

Table 16: *Distribution of Caste of the Respondent and Newborn Care Practice*

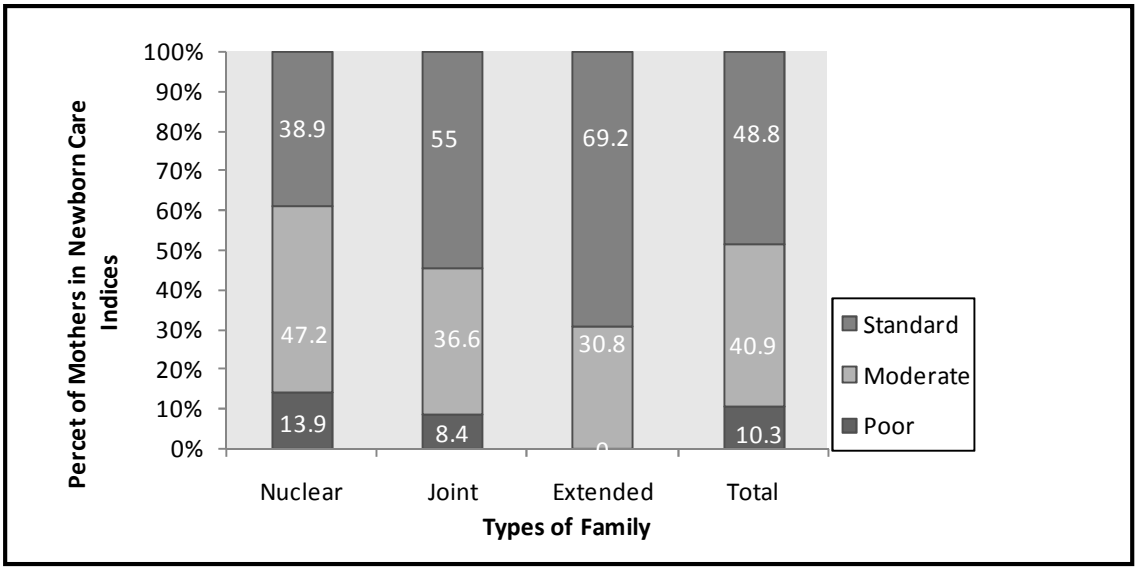
Ethnicity	Newborn Care Index						Total	
	Poor		Moderate		Standard			
	N	Row %	N	Row %	N	Row %	N	Row %
Khas	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	17	22.4	35	46.1	24	31.6	76	100.0
Total	26	10.3	103	40.9	123	48.8	252	100.0

Ten in six mothers from Khas were observed in standard newborn care index whereas 10 in 4 from Dalit and 10 in 3 from Janajati. The reverse situation was found in Poor index where Janajati (22.4%) was higher proportion than Dalit (7.1%) and Khas 4.5%). In moderate newborn care index, Dalit (52.4%) occupied the higher position followed by Janajati 46 percent and Khas 34 percent respectively (Table 16).

5.3.5: Types of Family and Newborn Care Practice

The outcome of the newborn care practice according to the types of family was compatible with the newborn care practice with decision makers. Almost 70 percent of mothers from extended family performed standard newborn care followed by Joint Family (55%) and Nuclear Family (38.9%) (Figure15).

Figure 15: *Newborn Care Practice and Types of Family, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

The concentration of mothers in standard newborn care practice was extended from Nuclear Family to the Extended Family while the focus of mothers in moderate newborn care practice was shrunk from Nuclear to Extended Family. On the contrary, the poor newborn care practice was greater in nuclear family than the poor practice of Joint Family (Figure 15).

Ethnic differential was observed in newborn care index in accordance with the types of family. The largest proportion of Khas practiced standard newborn care in all types of family compared to Dalit and Janajati whereas the highest proportion of Janajati practiced poor newborn care than Dalit and Khas in nuclear and joint family. Nobody was experienced the poor newborn care from extended family (Table 17).

Table 17: *Types of Family and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Types of Family	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	Nuclear	5	10.6	14	29.8	28	59.6	47	100.0
	Joint	1	1.3	31	38.8	48	60.0	80	100.0
	Extended	0	0.0	1	14.3	6	85.7	7	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	Nuclear	1	4.8	15	71.4	5	23.8	21	100.0
	Joint	2	10.5	6	31.6	11	57.9	19	100.0
	Extended	0	0.0	1	50.0	1	50.0	2	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0

Janajati	Nuclear	9	22.5	22	55.0	9	22.5	40	100.0
	Joint	8	25.0	11	34.4	13	40.6	32	100.0
	Extended	0	0.0	2	50.0	2	50.0	4	100.0
	Total	17	6.7	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

Nearly 60 percent of Khas implemented standard newborn care practice belongs to the nuclear family followed by 24 percent Dalit and 23 percent Janajati. Similarly, 71 percent of Dalit applied moderate newborn care practice while 55 percent Janajati and 30 percent Khas from nuclear family. A proportion of Janajati in poor newborn care index was 2 times greater than Khas and 5 times than Dalit among the mothers from nuclear family (Table 17).

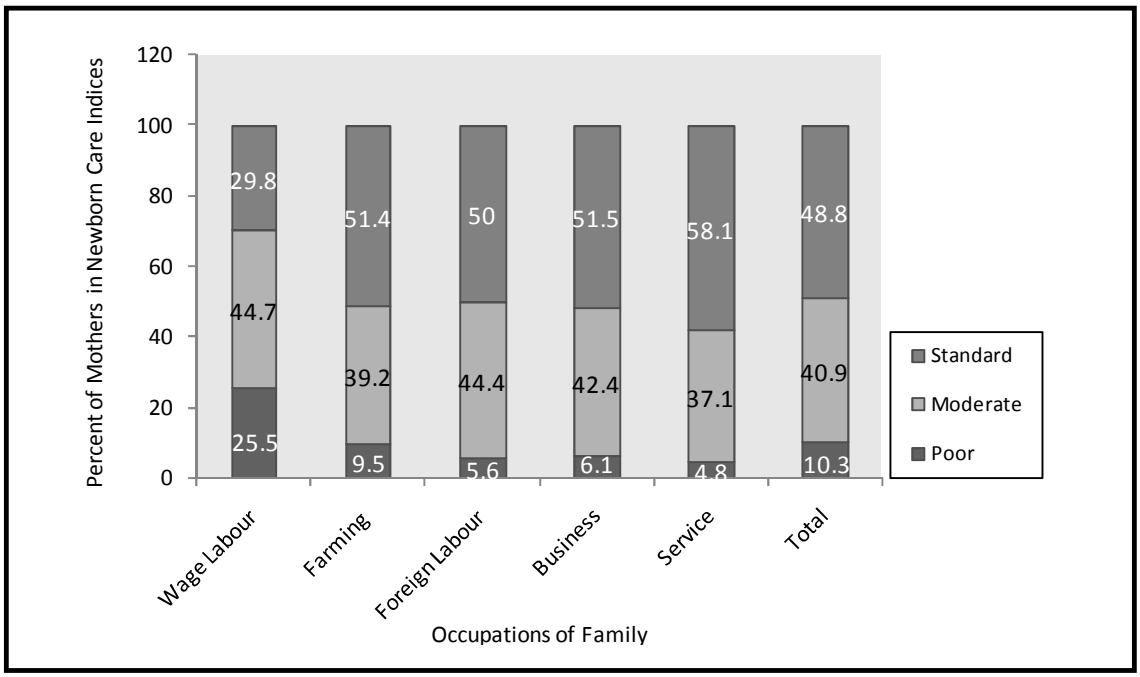
In joint family, 60 percent Khas practiced standard newborn care followed by 58 percent Dalit and 41 percent Janajati. Similarly, 35 percent Janajati cared moderately to their newborn while 32 percent Dalit and 30 percent of Khas in Joint family. Likewise, 23 percent Janajati of nuclear family poorly cared to the newborn followed by 11 percent Khas and 5 percent Dalit of nuclear family (Table 17).

5.4: Newborn Care by Economic Characteristics

5.4.1: Occupation of Household and Newborn Care Practice

The outdoor occupation exposes the rural people to the relatively modern world which encourages to the better newborn care practice. Based on the newborn care index in accordance with the occupation, the concentration of major four occupations such as service, business, foreign labour and farming were close behind in standard and moderate newborn care index but the family of wage labour as an occupation mainly concentrated on moderate and poor newborn care index. However, the mothers from service holder families had the higher percentage in standard newborn care and also highest difference between standard and moderate newborn care practice and lowest proportion in poor newborn care index as well. Just opposite to mothers of service holder families, mothers from wage labour as a major family occupation had the highest proportion in poor newborn care index and lowest proportion in standard newborn care index (Figure 16).

Figure 16: *Newborn Care Indices With Respect to Household Occupational Differences, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

The Khas household which involves in the modern occupation i.e. business, service and foreign employment was observed the higher proportion in standard newborn care index than Dalit and Janajati. In moderate newborn care index, ethnic differential was observed in accordance with the occupation. Among the household who were the business occupation, Janajati (61.5%) was found the largest proportion for maintaining the moderate newborn care followed by Dalit (42.9%) and Khas (23.1%). Dalit (83.3%) was observed the 5 times greater than standard newborn care in moderate newborn care practice while Janajati (53%) 13 percent greater and Khas (24%) 3 times greater among those family who was the service occupation. Dalit and Khas was observed the greater proportion in standard newborn care than moderate who were the foreign employment as a major occupation to their family while Janajati was the greater in moderate newborn care index. Twenty percent Janajati household cared poorly to their newborn but single household was not observed in poor index who were a foreign labour as a major occupation (Table 18).

Table 18: *Occupation of Household and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Occupations	Newborn Care Index			Total	
		Poor	Moderate	Standard	N	Row

		N	Row %	N	Row %	N	Row %		%
Khas	Farming	2	3.8	22	42.3	28	53.8	52	100.0
	Wage Labour	1	12.5	2	25.0	5	62.5	8	100.0
	Business	1	7.7	3	23.1	9	69.2	13	100.0
	Service	2	4.9	10	24.4	29	70.7	41	100.0
	Foreign Employment	0	0.0	9	45.0	11	55.0	20	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	Farming	0	0.0	2	33.3	4	66.7	6	100.0
	Wage Labour	2	11.8	10	58.8	5	29.4	17	100.0
	Business	1	14.3	3	42.9	3	42.9	7	100.0
	Service	0	0.0	5	83.3	1	16.7	6	100.0
	Foreign Employment	0	0.0	2	33.3	4	66.7	6	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	Farming	5	31.3	5	31.3	6	37.5	16	100.0
	Wage Labour	9	40.9	9	40.9	4	18.2	22	100.0
	Business	0	0.0	8	61.5	5	38.5	13	100.0
	Service	1	6.7	8	53.3	6	40.0	15	100.0
	Foreign Employment	2	20.0	5	50.0	3	30.0	10	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

The proportion of Dalit in poor newborn care practice was 2 times higher than Khas but single family from Janajati was not found in poor practice among those families who took business as a primary occupation. Among the service holder family, Eight in one (6.7%) family of Janajati poorly cared to their newborn whereas ten in two of Khas and nil of Dalit in poor index (Table 18).

There may be the number of reasons for changing the occupations by the family of study area from Agriculture (dominant occupation of Nepalese family) to the other sector (foreign employment, service and business). The scenario of growing level of above secondary education (48.7%) (Table 3), demand of foreign labour by developed and gulf countries, land fragmentation (37.3% have <0.17 hector) (Table 4), availability of service specially demand

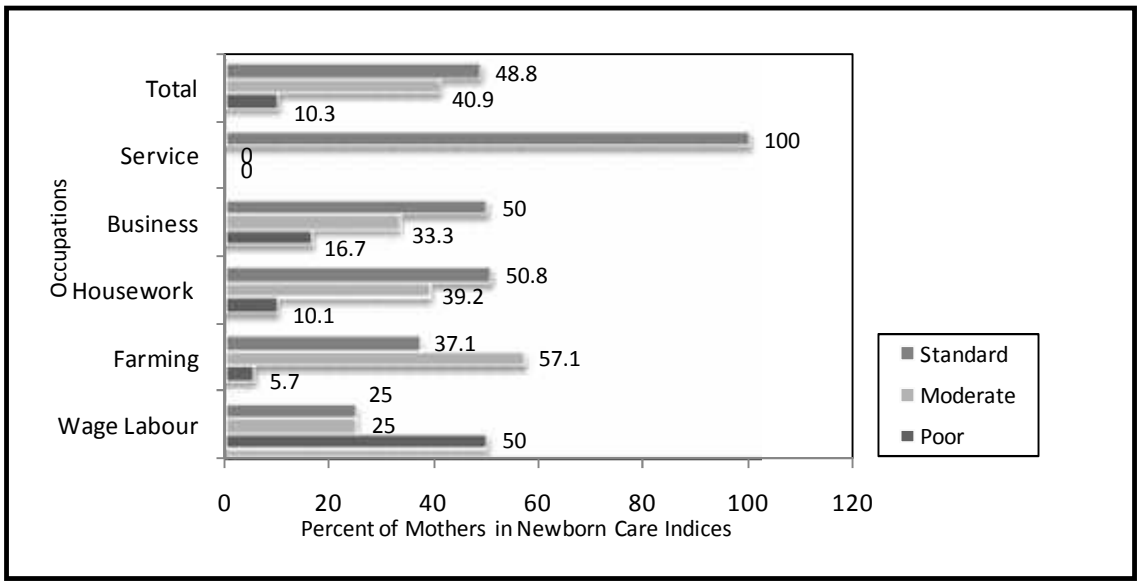
for the Dalit and Janajati in service sector (Total 24.6% family involved in service) (Table 4) are the major cause of shift from to other sectors. Fifty four percent of Khas family having farming occupation maintained standard newborn care followed by 42 percent moderate and 4 percent cared poorly to their newborn whereas 67 percent Dalit maintained standard newborn care followed by 33 percent moderate no family in poor index. The situation of Janajati was observed relatively poor compare to Dalit and Khas. Thirty seven percent of Janajati having farming occupation maintained standard newborn care followed by equal proportion 31 percent in moderate and poor index (Table 18).

Among the 18 percent family having wage labour as a major occupation, the proportion of standard newborn care practice (62.5%) of Khas was the largest than moderate (25%) and poor newborn care practice (12.5%) whereas the proportion of Dalit in moderate newborn care practice (58.8%) was observed the largest than standard (29.4%) and poor (11.8%). In contrast to the Khas and Dalit, equal proportion of Janajati family (40.9%) practiced moderate and poor newborn care while only 18 percent practiced standard newborn care (Table 18).

5.4.2: Occupation of Mother and Newborn Care Practice

All of the service owner mothers clustered in standard newborn care index. The mothers who only involved in housework activities had engaged in better newborn care than the mothers having business as a major occupation. The discrepancy was observed in moderate and poor newborn care index. The proportion of mothers who had farming as a major occupation moderately cared to their newborn. Likewise, mothers having wage labour as an occupation concentrated in poor newborn care index while each 25 percent in standard and moderate newborn car index (Figure 17).

Figure 17: *Occupational Differences of Mothers and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

Ten in eight mothers was observed in non-paying housework activities. Among these mothers, the proportion of standard newborn care index of Khas was more than 2 times greater than moderate and 17 times than poor index whereas Dalit and Janajati were observed the greater proportion in moderate index. Fifty percent of Dalit mothers maintained Moderate newborn care practice while 41 percent Standard newborn care and 9 percent poor. Likewise, nearly half of the Janajati (48.3%) practiced moderately to their newborn followed by 30 percent standard and 22 percent practiced poorly (Table 19).

Fourteen percent mothers were observed for engaging in agriculture (Table 26). Among these mothers, the moderate newborn care index of all ethnicity was the largest proportion than standard and poor. Fifty seven percent of Khas practiced moderately to their newborn followed by 39 percent standard and 4 percent poor whereas 67 percent of Dalit cared moderately followed by 33 percent standard and nobody was found in poor newborn care practice. The maximum proportion of Janajati was observed in moderate newborn care practice (55.6%) compared to standard (33.3%) and poor (11.1%) (Table 19).

Table 19: *Occupation of Mother and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Occupation of Mother	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	Housework	4	3.8	3	30.5	6	65.7	10	100.0

				2		9		5	
	Farming	1	4.3	13	56.5	9	39.1	23	100.0
	Wage Labour	0	0.0	0	0.0	0	0.0	0	0.0
	Business	1	25.0	1	25.0	2	50.0	4	100.0
	Service	0	0.0	0	0.0	2	100.0	2	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	Housework	3	8.8	17	50.0	14	41.2	34	100.0
	Farming	0	0.0	2	66.7	1	33.3	3	100.0
	Wage Labour	0	0.0	1	50.0	1	50.0	2	100.0
	Business	0	0.0	2	100.0	0	0.0	2	100.0
	Service	0	0.0	0	0.0	0	0.0	0	0.0
	Total	3	7.3	22	53.7	16	39.0	41	100.0
Janajati	Housework	13	21.7	29	48.3	18	30.0	60	100.0
	Farming	1	11.1	5	55.6	3	33.3	9	100.0
	Wage Labour	2	100.0	0	0.0	0	0.0	2	100.0
	Business	1	20.0	1	20.0	3	60.0	5	100.0
	Service	0	0.0	0	0.0	0	0.0	0	0.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

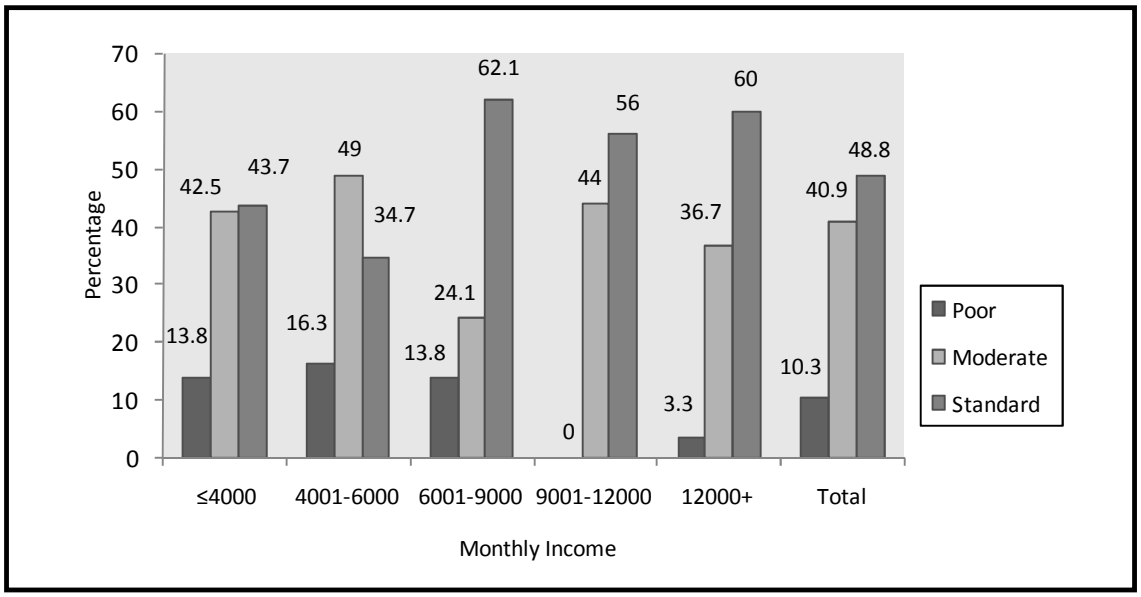
Business was observed the third highest position in occupation of mothers. Sixty percent Janajati maintained standard newborn care practice followed by equal proportion in moderate and poor newborn care practice among those mothers who had business as a major occupation whereas 50 percent of Khas in standard and one and the same proportion 25 percent in both moderate and poor newborn care practice but two in two (100%) Dalit maintained moderate newborn care index only (Table 19).

Among Dalit, one each practiced standard and moderate newborn care among the mothers receiving wage labour as a major occupation whereas two out of two Janajati mothers practiced poor newborn care but nobody was found in wage labour occupation from Khas. Two in two mothers (100%) of Khas was observed in service profession maintained standard newborn care index while nobody was surveyed from Dalit and Janajati (Table 19).

5.4.3: Income of Family and Newborn Care Practice

Income plays a key role for determining the place and service provider of ANC, Delivery and PNC and ultimately its impact goes on the mothers and newborn's health. Thus, the information was collected on the total monthly income of family. The concentration of highest income (1200+) family was mainly on standard and moderate newborn care index while the concentration of second highest income (9000-12000) family was also standard and moderate index but the proportion of standard newborn care index was lower than higher income family. The third highest (6001-9000), second lowest (4001-6000) and lowest (Φ4000) income family did somewhat better newborn care practice. Nevertheless, significant proportion of family from less than 4000 to 9000 monthly incomes was also observed in poor newborn care index (Figure 18).

Figure 18: *Percentage of Monthly Income of Family and Newborn Care Indices, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

The highest number of family was observed in the lower income (≤4000). Amongst the monthly family income less than 4000, 64 percent of Dalit exercised standard newborn care followed by 36 percent moderate and no any family in poor index whereas 52 percent Khas implemented standard newborn care followed by 41 percent moderate and 7 percent poor newborn care but largest proportion of Janajati (48%) moderately cared to their newborn followed by 29 percent practiced poorly and 23 percent standard. The middle income (6001-9000) family of Khas (92.5%) was observed the

highest proportion of standard newborn care practice followed by seven percent in poor newborn care practice and no any family in moderate practice whereas 67 percent of Dalit in moderate newborn care practice followed by each 15 percent in standard and poor newborn care practice. The equal proportion of newborn care indexes was observed in Janajati (33.3%) in middle income (6001-9000) family. The higher income (12000+) family of Dalit was observed the largest proportion for maintaining the standard newborn care compared to the Khas (62.5%) and Janajati (50%) (Table 20).

Table 20: *Income of Family and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Monthly Income of Family	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	≥4000	3	7.1	17	40.5	22	52.4	42	100.0
	4001-6000	2	10.0	6	30.0	12	60.0	20	100.0
	6001-9000	1	7.1	0	0.0	13	92.9	14	100.0
	9001-12000	0	0.0	6	37.5	10	62.5	16	100.0
	12000+	0	0.0	15	37.5	25	62.5	40	100.0
	Not Stated	0	0.0	2	100.0	0	0.0	2	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	≥4000	0	0.0	5	35.7	9	64.3	14	100.0
	4001-6000	2	15.4	9	69.2	2	15.4	13	100.0
	6001-9000	0	0.0	4	66.7	2	33.3	6	100.0
	9001-12000	0	0.0	3	100.0	0	0.0	3	100.0
	12000+	1	16.7	1	16.7	4	66.7	6	100.0
	Not Stated	0	0.0	0	0.0	0	0.0	0	0.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
									100.0
Janajati	≥4000	9	29.0	15	48.4	7	22.6	31	100.0
	4001-6000	4	25.0	9	56.3	3	18.8	16	100.0
	6001-9000	3	33.3	3	33.3	3	33.3	9	100.0
	9001-12000	0	0.0	2	33.3	4	66.7	6	100.0
	12000+	1	7.1	6	42.9	7	50.0	14	100.0
	Not Stated	0	0.0	0	0.0	0	0.0	0	0.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

The proportion of standard newborn care index of Khas family was increased up to the middle income 6001 to 9000 then after it falls down for higher income. But the standard index variation was observed for Dalit in accordance with the family income. Sixty seven percent Dalit maintained standard newborn care index among the 12000 plus monthly family income

followed by 64 percent in lower family income 4000, thirty three percent in middle income 4001 to 9000, fifteen percent in 4001 to 6000 monthly family income and no any family was observed in standard newborn care index from 9001 to 12000 monthly family income. Likewise, the largest proportion of standard newborn care practice of Janajati was observed in second highest income 9001 to 12000 followed by 50 percent in 12000 plus income, 33 percent in 6001 to 9000, less than equals to 4000 income and 19 percent in 4001 to 6000 monthly family income (Table 20).

The higher income (12000 plus) family of Janajati (42.9%) was observed the largest proportion in moderate newborn care practice followed by Khas (37.5%) and Dalit (16.7%). In contrast to the higher income family, the largest proportion (48.4%) of the lower income family of Janajati cared moderately to their newborn compared to Khas (40.5%) and Dalit (35.7%). Two out of three (66.7%) middle income (6001-9000) family of Dalit maintained moderate newborn care while one out of three by Janajati and no any lower income family were observed from Khas in moderate newborn care practice (Table 20).

Seventeen percent higher income (12000+) family of Dalit cared poorly to their newborn whereas seven percent of Janajati and no any higher income (1200+)family was observed from Khas in poor newborn care practice. In contrast to the higher income in poor newborn index, 29 percent lower income (less than 4000)family of Janajati practiced poorly newborn care while 7 percent of Khas and no any family from Dalit in poor newborn care index. Only middle income (6001-9000) family of Janajati (33.3%) practiced poor newborn care (Table 20).

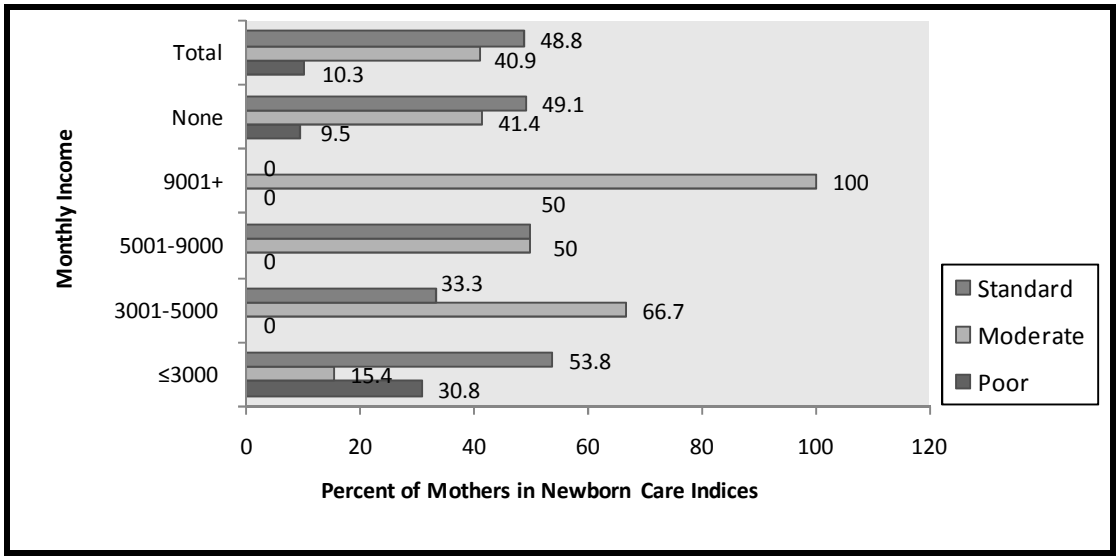
5.4.4: Income of Mother and Newborn Care Practice

The farming and housework were the non-paying occupations and the mothers from these categories were not asked to the information of monthly income. To compare with newborn care practice, these income less mothers were also re-categorised into 'None' options.

The newborn care indices of income less mothers were the equal proportion to total average newborn care indices. Among the 13 lowest income mothers, more than 50 percent implemented standard newborn care practice followed

by 31 percent poor and only 15 percent moderate newborn care practice (Figure 19).

Figure 19: *Newborn Care Indices and Monthly Income of Mothers, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

The mothers from monthly income 3000 to 9000 plus some what better practice of newborn care and nobody was observed in poor newborn care index in these income groups. Two out of three mothers exercised moderate newborn care while one out of three exercised standard newborn care practice among the mothers from the second lowest income groups. The newborn care practice was going better along with the higher level of monthly income. Each one mothers from 5000 to 9000 monthly income practiced standard newborn care while 2 in 2 mothers implement standard newborn from above 9000 plus monthly income (Figure 19).

Among the non-income mothers, 62 percent Khas mothers maintained standard newborn care practice followed by 34 percent moderate and only 4 percent poor newborn care. In contrast to the Khas, the largest proportion of Dalit non-income mothers moderately (51.4%) practiced newborn care followed by standard (40.5%) and poor (8.1%). Similarly, the greater proportion of Janajati (49.3%) non-income mothers also moderately cared to their newborn compared to the standard (30.4%) and poor (20.3%) newborn care practice (Table 21).

Table 21: *Income of Mother and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Monthly Income	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	≤3000	1	25.0	1	25.0	2	50.0	4	100.0
	3001-5000	0	0.0	0	0.0	1	100.0	1	100.0
	5001-9000	0	0.0	1	50.0	1	50.0	2	100.0
	9001+	0	0.0	1	100.0	0	0.0	1	100.0
	None	5	4.0	43	34.1	78	61.9	126	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	≤3000	0	0.0	1	33.3	2	66.7	3	100.0
	3001-5000	0	0.0	2	100	0	0.0	2	100.0
	5001-9000	0	0.0	0	0.0	0	0.0	0	0.0
	9001+	0	0.0	0	0.0	0	0.0	0	0.0
	None	3	8.1	19	51.4	15	40.5	37	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	≤3000	3	50	0	0.0	3	50.0	6	100.0
	3001-5000	0	0.0	0	0.0	0	0.0	0	0.0
	5001-9000	0	0.0	0	0.0	0	0.0	0	0.0
	9001+	0	0.0	1	100.0	0	0.0	1	100.0
	None	14	20.3	34	49.3	21	30.4	69	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

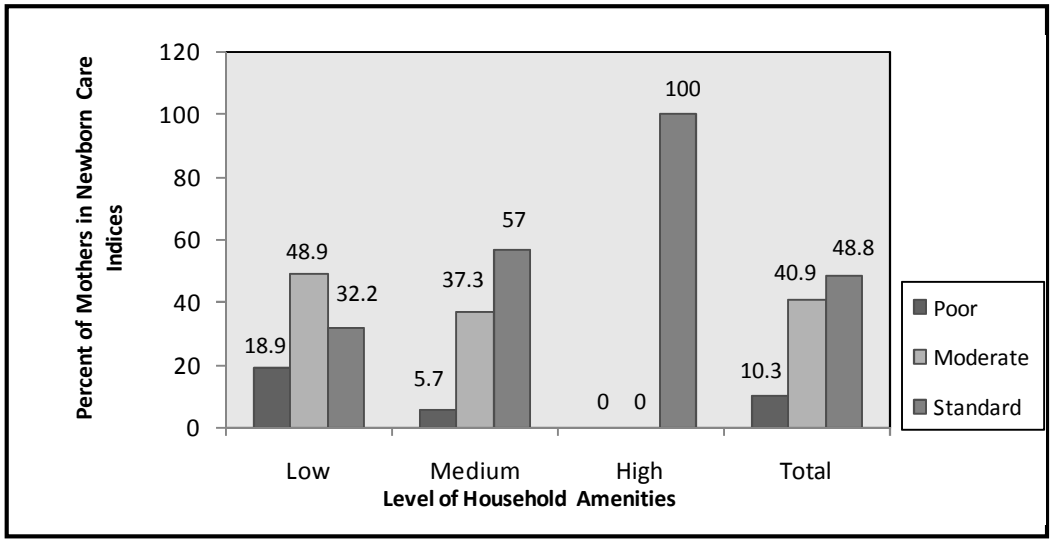
Source: Field Survey 2010

Only 20 mothers were observed in paying work. For helping to compare the newborn care index with income, the monthly income of mothers was reclassified in broadly four categories i.e. less than 3000, 3001 to 5000, 5001 to 9000 and 9001+. The total 13 mothers were observed in lower income. The proportion of standard newborn care practice (66.7%) of lower income mothers of Dalit was observed 2 times greater than moderate newborn care (33.3%) and no one lower income Dalit mother in poor index whereas the standard newborn care practice (50%) of Khas was 2 times greater than moderate (25%) and poor newborn care practice (25%) but equal proportion of Janajati lower income mothers were observed in standard and poor newborn care practice nobody observed in moderate index. One each higher income (9000+) mother of Khas and Janajati practiced moderate newborn care. Only 2 Khas mothers were observed in 5001 to 9000 monthly income and one each maintained standard and moderate newborn care index (Table 21).

5.4.5: Household Amenities and Newborn Care Practice

The information of eighteen household amenities was collected in relation to the various durable goods and means of transportation. These amenities to some extent reflect the socio-economic status of households. Household amenities not only related to the luxury but also to the health of family, mother and newborn. Functioning Radio and television provides the information of health concern to the whole family member whereas ownership of functioning means of transportation makes easy to reach the health centre. The household possession refrigerator and watch help mothers to have timely healthier food. The chair, sofa and bed help to encourage the healthier and relaxed rest to the mothers. Thus, if the household have higher number of amenities, there may be the better health of both mothers and newborns.

Figure 20: *Level of Household Amenities and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

Among the total 90 mothers from low level of amenities index, near about 49 percent mothers clustered in moderate newborn care index followed by 32 percent standard and 19 percent poor newborn care index. But the newborn care index of medium level mothers (N=158) was significantly climb up from poor (5.7%) to moderate (37.3%) to standard (57%) newborn care index. Four out of four mothers in high level of amenities index implemented standard newborn care practice (Figure 20).

Four out of four (100%) Khas household of high levels of amenities index maintained standard newborn care practice while no any household from

Dalit and Janajati was observed high level of amenities index. The proportion of standard newborn care practice of Khas in medium levels of amenities index was 2 times greater than moderate and 23 times greater than poor newborn care index of same level amenities index. The 56 percent of Dalit cared moderately to their newborn among the medium level of amenities index of same ethnicity followed by 39 percent in standard and 3 percent in poor newborn care practice. Likewise, 44 percent of Janajati practiced moderate newborn care from the medium level of amenities index whereas 41 percent standard and 15 percent in poor newborn care practice (Table 22).

Table 22: *Household Amenities and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Level of Amenities Index	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	Low	3	12.5	12	50.0	9	37.5	24	100.0
	Medium	3	2.8	34	32.1	69	65.1	106	100.0
	High	0	0.0	0	0.0	4	100.0	4	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	Low	2	8.3	12	50.0	10	41.7	24	100.0
	Medium	1	5.6	10	55.6	7	38.9	18	100.0
	High	0	0.0	0	0.0	0	0.0	0	0.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
									100.0
Janajati	Low	12	28.6	20	47.6	10	23.8	42	100.0
	Medium	5	14.7	15	44.1	14	41.1	34	100.0
	High	0	0.0	0	0.0	0	0.0	0	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

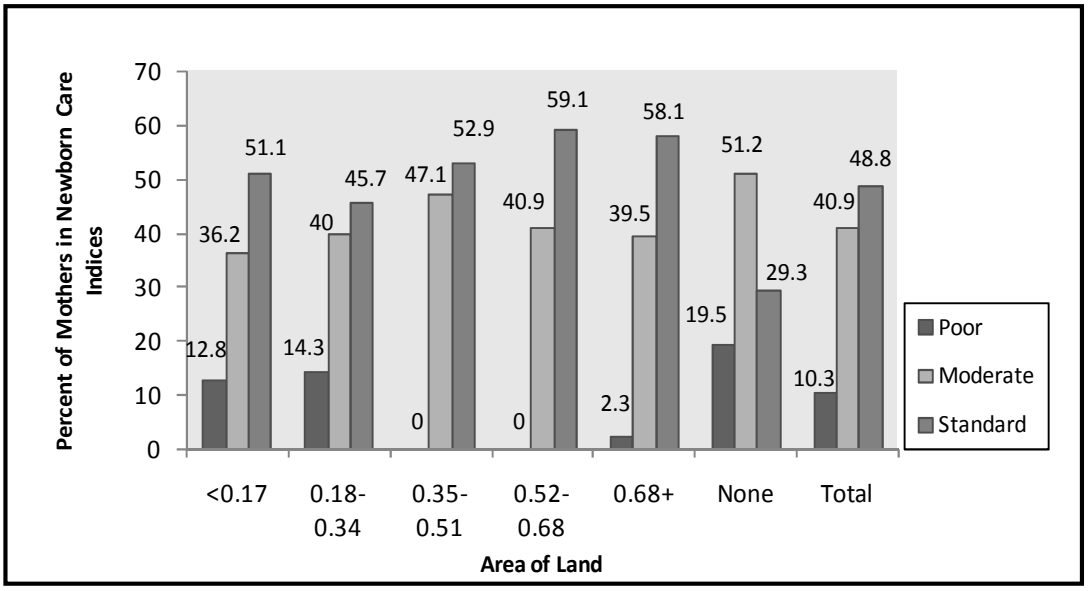
The largest proportion of moderate newborn care practice was observed in all ethnicity having lower level of amenities index. Fifty percent Khas household having lower level of amenities index practiced moderate newborn care

followed by 38 percent standard and 13 percent poor newborn care practice. Likewise, 50 percent Dalit family having lower level of amenities index also maintained moderate newborn care while 42 percent standard and 8 percent poor newborn care practice. Among the Janajati household belongs to low level of amenities index, 48 percent cared moderately to their newborn followed by 29 percent cared poorly and 24 percent standard (Table 22).

5.4.6: Land Holding by Family and Newborn Care Practice

The poor newborn care practice experienced from those family who have land less and lower size of land ownership (<0.17-0.34 hector). Nobody mothers from the family who possessed 0.38 to 0.68 hector land implemented poor newborn care practice while around 2 percent mothers from 0.68 hector family land ownership implemented poor newborn care practice. The mothers mostly concentrated in standard newborn care index along with the significance differences to moderate newborn care index belong to the family from above 0.52 hector land ownership. The mothers clustered both standard and moderate newborn care index with the lower discrepancy from those family who owned 0.18 to 0.51 hector land. The huge difference was observed in newborn care practice between the mothers from landless and having lower land area (<0.17). The mothers focused in standard newborn care index from less than 0.17 hector land while mothers concentrated in moderate newborn care index from land less family (Figure 21).

Figure 21: *Land Holding by Family and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal,2010*



Source: Field Survey 2010

Majority of Khas mothers concentrated in standard (61.2%) newborn care index from having land of family followed by moderate and poor newborn care index respectively except 0.18 to 0.34 hector. Fifty percent of Khas mothers grouped in moderate newborn care index while 35 percent in standard and 15 percent in poor newborn care index from having 0.18 to 0.34 hector family

land. Only four families of Khas was land less and equal proportion of mothers practiced standard and moderate newborn care (Table 23).

Table 23: *Land Holding by Family and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Area of Land (In Hector)	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	<0.17	2	5.0	9	22.5	29	72.5	40	100.0
	0.18-0.34	3	15.0	10	50.0	7	35.0	20	100.0
	0.35-0.51	0	0.0	4	30.8	9	69.2	13	100.0
	0.50-0.68	0	0.0	5	27.8	13	72.2	18	100.0
	0.68+	1	2.6	16	41.0	22	56.4	39	100.0
	None	0	0.0	2	50.0	2	50.0	4	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	<0.17	2	11.8	7	41.2	8	47.1	17	100.0
	0.18-0.34	0	0.0	2	33.3	4	66.7	6	100.0
	0.35-0.51	0	0.0	1	100.0	0	0.0	1	100.0
	0.50-0.68	0	0.0	2	100.0	0	0.0	2	100.0
	0.68+	0	0.0	0	0.0	0	0.0	0	0.0
	None	1	6.3	10	62.5	5	31.3	16	100.0
	Total	3	7.2	22	52.4	17	40.5	42	100.0
Janajati	<0.17	8	21.6	18	48.6	11	29.7	37	100.0
	0.18-0.34	2	22.2	2	22.2	5	55.6	9	100.0
	0.35-0.51	0	0.0	3	100.0	0	0.0	3	100.0
	0.50-0.68	0	0.0	2	100.0	0	0.0	2	100.0
	0.68+	0	0.0	1	25.0	3	75.0	4	100.0
	None	7	33.3	9	42.9	5	23.8	21	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey

Janajati was not as good as Dalit in newborn care index belong to the mothers from 0.18 to 0.34 hector family land. Dalit and Janajati mothers having family land 0.18 to 0.34 hector clustered in standard newborn care index but the proportion of Dalit was higher than Janajati. Likewise, 33 percent Dalit mothers of this category grouped in moderate newborn care index and nobody in poor newborn care index while each 22 percent of Janajati mothers in moderate and poor newborn care index. All of the mothers of Dalit and Janajati from family land 0.35 to 0.68 maintained moderate newborn care practices. Three out of four Janajati mothers from above 0.68 hector of family land were centralized in standard newborn care

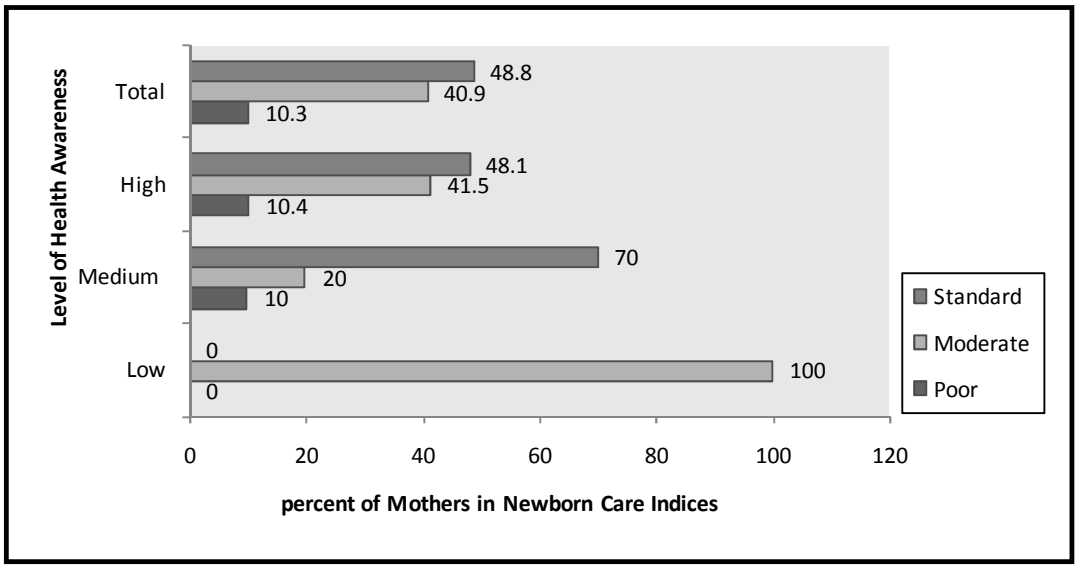
index while one out four in moderate newborn care index. Dalit a single mother was not observed from above 0.68 hector family land (Table 23).

5.5: Newborn Care by Modernization Characteristics

5. 5.1: Awareness to Health and Newborn Care Practice

The mothers in high level of health awareness index were nearly equal to the total average of all newborn care indices. Around 48 percent of mothers implemented standard newborn care followed by 41 percent moderate and only 10 percent mothers implemented poor newborn care practice from the high level of health awareness index. The medium level of mothers practiced better newborn care than high level of health awareness index but the number of mothers in medium level was 24 times less than high level. Among the medium level mothers, ten in seven practiced standard followed by ten in 2 moderate and ten in one practiced poor newborn care practice. Only one mother was observed in low level maintained moderate newborn care practice (Figure 22).

Figure 22: *Awareness to Health and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

Approximately 95 percent of mothers of all ethnicity were observed in high level of health awareness index. In high level of health awareness index, majority of Khas was observed for practicing standard newborn care whereas the largest proportion of Dalit and Janajati mothers implemented moderate newborn care practice. Among these mothers, 60 percent of Khas mothers

maintained standard newborn care practice followed by 36 percent moderate and 4 percent poor newborn care practice. Just opposite of Khas, 53 percent of Dalit mothers belongs to high level of health awareness index exercised moderate newborn care practice compared to 40 percent standard and 8 percent poor newborn care practice. In the same way, 45 percent of Janajati are a member of high level of health awareness index cared moderately to their newborn followed by 32 percent standard and 23 percent poor newborn care practice (Table 24).

Table 24: *Awareness to Health and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Health Awareness Index	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	Low	0	0.0	0	0.0	0	0.0	0	0.0
	Medium	1	12.5	1	12.5	6	75.0	8	100.0
	High	5	4.0	45	35.7	76	60.3	126	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	Low	0	0.0	1	100.0	0	0.0	1	100.0
	Medium	0	0.0	0	0.0	1	100.0	1	100.0
	High	3	7.5	21	52.5	16	40.0	40	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	Low	0	0.0	0	0.0	0	0.0	0	0.0
	Medium	0	0.0	1	100.0	0	0.0	1	100.0
	High	17	22.7	34	45.3	24	32.0	75	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

The huge difference was observed in proportion between high and medium level of health awareness index (Medium is 24 times least from High). In medium level of health awareness index, 8 in 6 (75%) mothers of Khas implemented standard newborn care practice while each eight in one (12.5%) implemented standard and moderate newborn care. Each one mother from Dalit and Janajati was observed in medium level of health awareness index

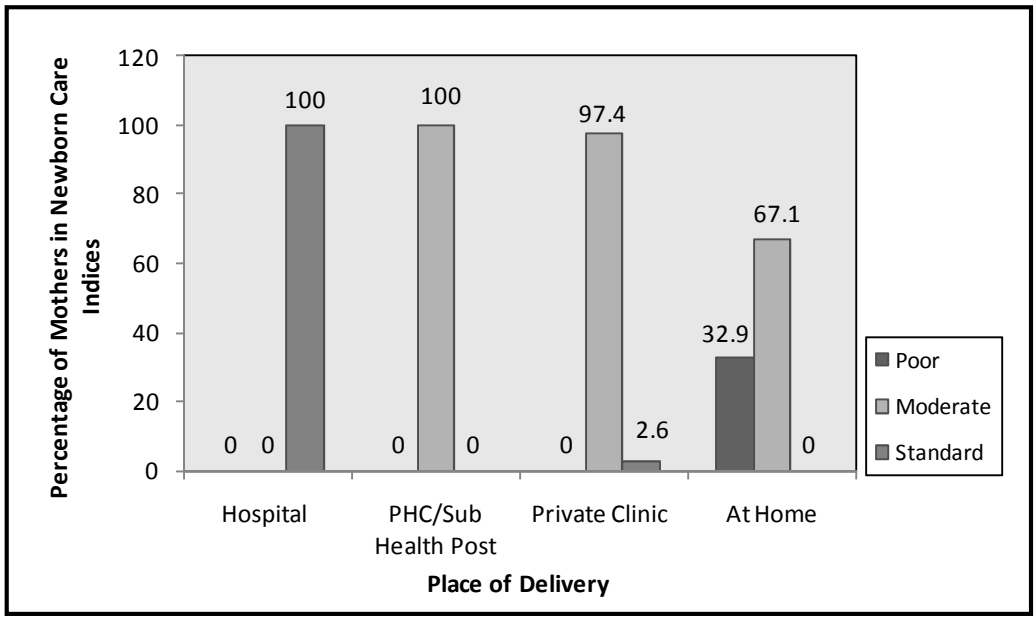
practiced standard and moderate newborn care respectively. A single mother of only Dalit was observed in low level of health awareness index maintained moderate newborn care practice (Table 24).

5.5.2: Place of Delivery and Newborn Care Practice

Appropriate medical attention during delivery can minimize the risk of newborn health. So, Place of delivery is one the determining factor of newborn care practice. Place of delivery was recoded in five categories i.e. Government hospital, PHC/Health post/Sub-health post, Private sector (Private Clinic and Private Hospital), Non-governmental sector (NGO based hospital and NGOs' clinic) and At home.

The information of thermal care (time and material for dried and wrap neonates after delivery), cord cutting (instrument of cord cutting) and hand washing practice was not asked to the total 122 hospital (G. hospital-77, NGO's hospital/clinic-14, and Private hospital-31) based delivery mothers and it was assumed safe practices.

Figure 23: *Place of Delivery and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

All of the government and NGO's hospital based delivery mothers practiced standard newborn care in all ethnicity. Almost all private clinic delivered mothers to all ethnicity practiced moderate newborn care except one mother of Dalit who implemented standard newborn care. Likewise, PHC based delivery all 20 mothers of all ethnicity maintained moderate newborn care practice. Three in two (67.1%) home delivered mothers maintained moderate newborn care practice and also significant proportion, three in one (32.9%),

home delivered mothers implemented poor newborn care practice but nobody was observed in standard newborn care index (Figure 23).

Among the 31 percent home delivery, majority of Janajati (51.3%) gave birth at home to their last baby followed by Dalit (33.3%) and Khas (19.4%). The single home delivered mother was not observed in any ethnicity for maintaining standard newborn care index. More than two-third of the Khas (76.9%) and Dalit (78.6%) home delivered mothers practiced moderate newborn care whereas slightly more than half of the Janajati (56.4%) cared moderately to their newborn. The largest proportion of Janajati home delivered mothers implemented poor newborn care practice while nearly half of the Janajati by Khas and Dalit practiced poorly to their newborn (Table 25).

Table 25: *Place of Delivery and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Place of Delivery	Newborn Care Index						Total	
		Poor		Moderate		Standard			
Khas		N	Row %	N	Row %	N	Row %	N	Row %
	G. Hospital	0	0.0	0	0.0	48	100.0	48	100.0
	Ngo's Hospital/Clinic	0	0.0	0	0.0	12	100.0	12	100.0
	Private Hospital	0	0.0	0	0.0	22	100.0	22	100.0
	PHC	0	0.0	6	100.0	0	0.0	6	100.0
	Private Clinic	0	0.0	20	100.0	0	0.0	20	100.0
	At home	6	23.1	20	76.9	0	0.0	26	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	G. Hospital	0	0.0	0	0.0	12	100.0	12	100.0
	Ngo's Hospital/Clinic	0	0.0	0	0.0	2	100.0	2	100.0
	Private Hospital	0	0.0	0	0.0	2	100.0	2	100.0
	PHC	0	0.0	3	100.0	0	0.0	3	100.0
	Private Clinic	0	0.0	8	88.9	1	11.1	9	100.0
	At Home	3	21.4	11	78.6	0	0.0	14	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0

Janajati	G. Hospital	0	0.0	0	0.0	17	100.0	17	100.0
	Ngo's Hospital/Clinic	0	0.0	0	0.0	0	0.0	0	0.0
	Private Hospital	0	0.0	0	0.0	7	100.0	7	100.0
	PHC	0	0.0	3	100.0	0	0.0	3	100.0
	Private Clinic	0	0.0	10	100.0	0	0.0	10	100.0
	At Home	17	43.6	22	56.4	0	0.0	39	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

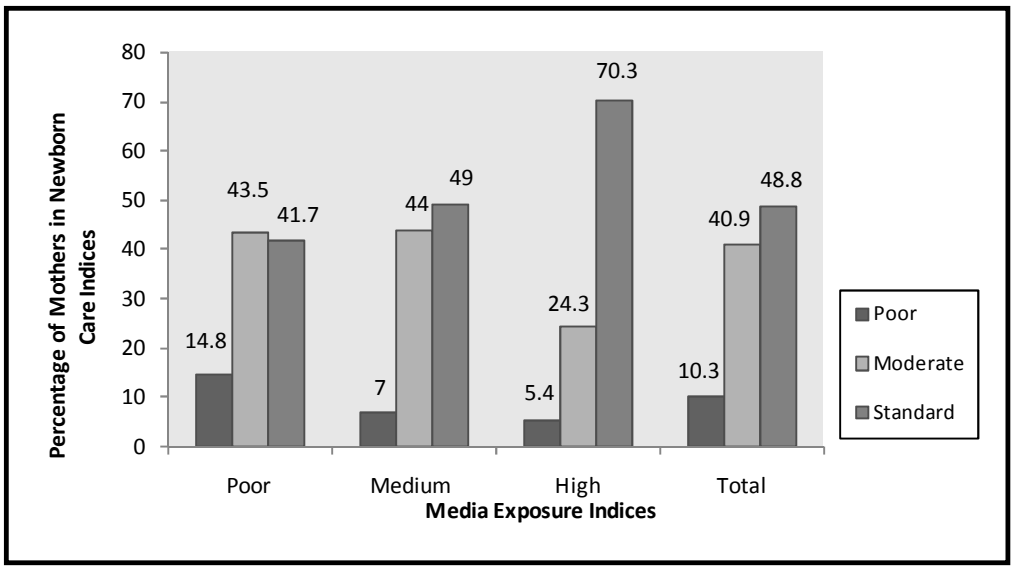
Source: Field Survey 2010

Among the mothers of baby delivered at home, the proportion moderate newborn care index was observed higher than poor newborn care index of all ethnicity but the level of difference between the indexes was differ from one ethnicity to another. The proportion of Janajati was observed the lower difference between the mothers of moderate (56.4%) and poor (43.6%) newborn care practice whereas the proportion of moderate newborn care index of Khas was more than 3 times greater than poor newborn care index. Likewise, the greater proportion of home delivered mothers of Dalit maintained moderate (78.6%) newborn care practice followed by poor newborn care practice (21.4%) (Table 25).

5.5.3: Level of Media Exposure and Newborn Care Practice

Media exposure information is an essential to understand the maternal health and service availability. So, access to media helps to better care for mothers during antenatal period, during delivery and post natal period and also better care for the newborn. The information of the access to electronic media, Radio and Television, and access to print media Newspaper was collected during study time.

Figure 24: *Level of Media Exposure and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

The largest proportions (70.3%) of mothers from high media exposure index were clustered in standard newborn care index and the mothers from medium level of media index were close behind in standard and moderate newborn care index. Likewise, the significant proportion of mothers from low level of media index was grouped in all level of newborn care index (Figure 24).

The proportion of standard newborn care index of Khas was observed in ascending order whereas moderate and poor newborn care index was descending order along with the poor level of media exposure to the high level of media exposure. Similarly, the standard newborn care index of Janajati was also observed in ascending order while descending order in moderate newborn care along with ascending order of media exposure index. But highest proportion of standard newborn care index of Dalit was similar to the Khas and Janajati and moderate newborn care index was observed in descending order in companion with the ascending order of media exposure index. Janajati (28.3%) was the higher proportion in poor newborn care practice belongs to the poor media exposure index followed by Khas (6.5%) and Dalit (4.3%) whereas Dalit was higher proportion in poor newborn care practice in companion with the medium level of media exposure index followed by Janajati (8%) and Khas (5.1%). Only Janajati (40%) was observed in poor newborn care index among the high level of media exposure index (Table 26).

Table 26: *Media Exposure and Newborn Care Practice, Shanishchare PHC Area, Jhapa, Nepal, 2010*

Ethnicity	Media Exposure Index	Newborn Care Index						Total	
		Poor		Moderate		Standard			
		N	Row %	N	Row %	N	Row %	N	Row %
Khas	Poor (≤0.39)	3	6.5	17	37.0	26	56.5	46	100.0
	Medium (0.40-0.74)	3	5.1	21	35.6	35	59.3	59	100.0
	High (0.75+)	0	0.0	8	27.6	21	72.4	29	100.0
	Total	6	4.5	46	34.3	82	61.2	134	100.0
Dalit	Poor (≤0.39)	1	4.3	13	56.5	9	39.1	23	100.0
	Medium (0.40-0.74)	2	12.5	8	50.0	6	37.5	16	100.0
	High (0.75+)	0	0.0	1	33.3	2	66.7	3	100.0
	Total	3	7.1	22	52.4	17	40.5	42	100.0
Janajati	Poor (≤0.39)	13	28.3	20	43.5	13	28.3	46	100.0
	Medium (0.40-0.74)	2	8.0	15	60.0	8	32.0	25	100.0
	High (0.75+)	2	40.0	0	0.0	3	60.0	5	100.0
	Total	17	22.4	35	46.1	24	31.6	76	100.0

Source: Field Survey 2010

The standard newborn care index of Khas was observed the largest proportion followed by moderate and poor newborn care index belongs to all health awareness indexes. In high level of health awareness index, 72 percent Khas maintained standard newborn care practice followed by moderate and poor whereas 67 percent Dalits implement standard newborn care followed by standard and poor. Similarly, 60 percent Janajati exercised standard newborn care practice while 40 percent poor but any one Janajati was not observed in moderate newborn care index in according with high level of health awareness index. In accordance with the medium level of health awareness index, the moderate newborn care index of Janajati (60%) and Dalit (50%) was the highest proportion than standard (32%) (37.5%) and poor (8%) (12.5%) respectively whereas the largest proportion of Khas maintained

the standard newborn care index (59.3%) followed by moderate (35.6%) and poor newborn care index (5.1%) (Table 26).

The caring practice of newborn of the mothers among the poor level of health awareness index was observed the just opposite to medium level where Janajati maintained the largest proportion in moderate newborn care index followed by equal proportion (28% each) in standard and poor newborn care index. Likewise, the largest proportion of Dalit mothers also practiced moderately (56.5%) to their newborn followed by standard (39.1%) and poorly (4.3%) among the mothers belong to the poor health awareness index. Khas was ascending order (poor <moderate <standard) in newborn care index belong to the poor health awareness index (Table 26).

CHAPTER VI

STATISTICAL ANALYSES

Two types of statistical tools were applied to test the association between independent variables and newborn care practice. First, correlation coefficient for interval scale data, and second, chi-square test for categorical variables was used. Besides, the research hypothesis is tested with the help of correlation coefficient.

6.1: Statistical Analysis between Selected Demographic Variables and Newborn Care Index

6.1.1: Current Age of Mother and Newborn Care Index

Figure 8 shows the status of newborn care practice and the current age of mothers. It depicts that newborn care practice was decreases along with the slightly increase of current age of mothers. There was weak negative relation between age of mother and newborn care practice (r = -.131) with minimum level of significance. Based on the proportion of age and newborn care practice, the highest weighted value 6 was given for lower age group of mothers followed by 5 for 20-24 age group, 4 for 25-29 age group, 3 for 30-34 age group, 2 for 35-39 age groups and the least value 1

6.1.2: Age at Marriage and Newborn Care Index

There is weak positive relationship between age at marriage and newborn care index (r = .067).The mothers were observed from the child age at marriage 12 years to the 30 years. The weighted value was used from one to five for lower age of marriage cohort to the highest age of marriage cohort. The maximum weighted value 5 was applied for age at marriage above 25 years due to the perfect physical maturity of women for marriage and it also the gaining age of high degree education. Besides, nearly 64 percent (N=7) of mothers were implemented standard newborn care practice followed by 27 percent (N=3) moderate and only 9 percent (N=1) mother practiced poor newborn care from this age at marriage cohort. Likewise, the second highest weighted value 4 was used for the cohort of marriage age 21 to 25 years, 3 for exact married women in 20 years, 2 for cohort of married women in late adolescence period

16 to 19 years and least value 1 was used for marriage age less than 16 years (early adolescence period) respectively.

6.1.3: Number of CEB and Newborn Care Index

Due to the increasing education level, exposure to the modern media, growing age at marriage, availability of modern health facility and accessibility of modern contraception encourage to declines the fertility along with the number of CEB. If the number of CEB declines, people automatically want to improve the quality of child and also want to perform better newborn care. There is low negative association between number of CEB and newborn care practice (r = -.286). It means that if the mother have lower CEB, she practiced standard newborn care and vice versa. Among the 75 having only one CEB, nearly 76 percent mothers practiced standard newborn care and only 6 percent performed poor newborn care. Just opposite, having CEB 5 mothers, nearly 17 percent mothers implemented standard newborn care practice followed by 58 percent moderate and 25 percent poor newborn care practice. So that, the less number of CEB (one) mothers were weighted by the maximum point 5 and the higher number CEB 5 and above mothers were weighted by less point 1. Similarly, CEB 2 was weighted by 4 points, CEB 3 was weighted by middle points 3 and having CEB 4 mothers were weighted by 2 points.

6.1.4: Previous Child Loss Experience and Newborn Care Index

The child loss is one the heartbreaking condition of mothers. Nevertheless, sometimes it may be facilitate for the better care of newborn to the illiterate and countryside mothers and family. In fact, well being of a child is a dream come true for any mother. The young mothers are most likely to go for medical check-up during their pregnancy period than old aged mothers (Shakya 2006). The trend of declining infant, child and under-five mortality in Nepal indicates better caring practice of both mothers and children and also the growing better caring practice for most vulnerable period zero to seven days of birth. There is no any significant relation between having and not having previous child loss experience with newborn care practice (t value with 250 df=-0.908, P=0.057). Nevertheless, the newborn care practice and the number of child loss was moderately negatively correlated (r = -.373). It means that the mothers having better newborn care practice had no or less

number of child loss experience. Furthermore, Thus, the maximum weighted value 5 was used for those mothers who had no experience of child loss and the least weighted value 1 was implemented for the higher number (3) of child loss mothers. Like wise, the weighted value 4 was given for the single child loss mothers and 3 for the double child loss mothers.

6.2: Statistical Analysis between Selected Social Variables and Newborn Care Index

6.2.1: Education of Mother and Newborn Care Index

Among the three indicator of human development, the education plays a vital role for enhancing the basic capabilities of human. The education affects every aspects of human life like income, living standard and occupation. Education attainment level of the population is an important indicator of social development (Pradhan et.al: 15). Especially, education makes people conscious and helps to obtain new knowledge and skills as well as to update and sharpen existing knowledge and skills (Budhathoki 2007). In almost every country, educated women have healthier children than those who are uneducated. The survival rate of children born to an educated woman is very high and results in a lower desire birth rate (Subedi 2007). There is low positive association between education and newborn care index (r=.112). The weighted value 1 to 6 was implemented for educational level of mother. The increasing level of weighted value from 1 to 6 was provided along with the increasing level of education. The illiterate mother was provided the weighted value1 and bachelor plus educated mother was given 6. Likewise, weighted value 2 was given for primary education level mothers, 3 for lower secondary education mother, 4 for secondary education mother and 5 for those mothers who were higher secondary education. Five in five (100%) mothers of bachelor and above education were practiced standard newborn care. Among the higher education mothers, the largest proportion nearly 56 percent practiced standard newborn care while nearly 46 percent moderate and nobody was observed from poor index. Likewise, in secondary education, 67 percent of mothers implemented standard newborn care practice whereas 29 percent implemented moderate newborn care and nearly 4 percent poor practice. Similarly, decreasing level of standard newborn care was observed in accordance the lower level and illiterate mothers.

6.2.2: Decision Making and Newborn Care Index

There is significant statistical relation between decision makers and newborn care practice (The Chi-square with 80 df = 72.37, P=0.72). It means that decision makers have the significant role in the treatment of new born health. Weighted value 5 to 1 was provided for the higher percentage of standard newborn care to the lower level in accordance with the decision makers. The highest weighted value 5 was provided for the father-in-law decision makers due to the larger proportion (70.6%) of standard newborn care and 4 was provided for mother-in-law decision maker for the second highest proportion of standard newborn care. Similarly, the weighted value 3, 2 and 1 was provided for the decision makers' mother, husband and other members respectively.

6.2.3: Accessibility of Health Service and Newborn Care Index

The recoded 3 category of accessibility of health service was given the weighted value 5, 3 and 1 in accordance with the newborn care index. The weighted value 5 was implemented for the nearest distance (less than 30 minutes) because of the largest proportion (53.1%) of standard newborn care index, 4 for near distance (30-60 minutes) due to the medium proportion in standard newborn care index and 1 for far distance (60+ minutes) owing to the fewer proportion in standard newborn care. The distributed weighted value was supported by the correlation analysis. Distance to health facility and new born care practice are weakly negative correlation (r = -183). On the basis of the correlation, it can be said that the far distance to nearest health facility from home contribute to the poor newborn care practice.

6.2.4: Ethnicity and Newborn Care Index

The broad category of ethnicity Khas was considered as highest rank due to the occupation in compare to Janajati and Dalit. Further, Dalit was ranked lowest hierarchy and untouchable among the ethnicity. The Newar and Tebeto-mongoloid caste, Janajati, was ordered in middle position. Statistical result showed that ethnicity and newborn care practice is statistical significant (chi-square with 40 df = 64.63, p=.008). Hence, it could be concluded that ethnicity and newborn care practice is strongly associated. Nevertheless, the weighted value was implemented based on the achieved newborn born care index in accordance with the ethnicity. The major

concentration of newborn care index of Khas was observed mainly on standard and moderate index. Thus, the highest weighted value 5 was ranked for Khas. Likewise, the second highest weighted value 3 was given for Dalit due the second highest concentration of moderate and standard newborn care index. The lowest score 1 was implemented for Janajati because of its low proportion in moderate and standard newborn care index and also the largest proportion in poor index with compared to the Khas and Dalit

6.2.5: Types of Family and Newborn Care Index

Three types of family were categorized for taking information of types of family, i.e. Nuclear, Joint and Extended. There was significant difference between types of family and newborn care practice (chi-square with 40 df = 49.56, p=0.142). Hence, it could be concluded that family types and the newborn care practice was strongly associated. On the basis of the cross tabulation, the score was granted. The highest score '5' was granted for the extended family in consequence of the largest proportion of mothers concentrated in standard and moderate newborn care index and no one family in poor index. The joint family was ranked by '3' points because of the moderate application of standard and moderate newborn care practice and less proportion in poor newborn care practice. Similarly, the lowest rank '1' was specified for Nuclear family due to its lowest proportion in standard newborn care practice and the sizeable proportion in moderate and poor newborn care practice.

6.3: Analysis of Correlation Coefficient between Selected Economic Variables and Newborn Care Index

6.3.1: Occupation of Household and Newborn Care Index

The statistical results established that household occupation and newborn care practice are strongly associated (Chi-square with 80 df = 92.29, P=0.164). Figure 19 shows the newborn care index in accordance with the household occupational differences. It shows that service holders' family had better position in newborn care index followed by business, foreign labour, farming and wage labour as a major occupation of household. Hence, the highest score 5 applied for the mothers from service holders household, 4 for

business, 3 for foreign labour, 2 for farming and less score for wage labour as a major occupation of the household.

6.3.2: Occupation of Mother and Newborn Care Index

There is significant difference in occupation of mother and newborn care practice (Chi-square with 80 df = 72.22, P=0.66). It could be concluded that the mother's occupation and newborn care practice is strongly associated. Based on the statistical analysis and cross tabulation data between mother's occupation and newborn care practice, the score was assigned. So, the highest score '5' was implemented for the service followed by '4' for business, '3' for housework activities, '2' for farming and less score '1' for wage labour respectively.

6.3.3: Income of Family and Newborn Care Index

The weak positive correlation was observed between newborn care practice and monthly income of family (r = .193) with poor confidence level. It depicted two aspects of relation between income of family and newborn care practice. First, higher income family was some what better caring practice of newborn than lower income family and second, income is not only determining factor for newborn care practice. The concentration of highest income (1200+) family was mainly on standard and moderate newborn care index while the concentration of second highest income (9001-12000) family was also standard and moderate index but the proportion of standard newborn care index was lower than higher income family. The third highest (6001-9000), second lowest (4001-6000) and lowest (Φ4000) income family did somewhat better newborn care practice. Nevertheless, significant proportion of family was also observed in poor newborn care index. Considering these reality, the highest score '5' awarded to the highest income family followed by second highest income family '4', third highest income family '3' second lowest income family '2' and the lowest income family granted the lowest score '1'.

6.3.4: Income of Mother and Newborn Care Index

The contrasting scenario was revealed between income of family and income of mother in relation with the newborn care practice. The nominal positive relation was considered between income of family and newborn care practice but the mother's income is weakly inversely related to the level of newborn

care practice (r = -.006) with strong confidence level. Among the 232 non income mother, the large proportion of none income mother were grouped in standard and moderate newborn care index whereas 2 in 2 mothers from highest income (9000+) were concentrated in moderate newborn care index. Likewise, the second highest (5001-9000) income mothers were equally divided in standard and moderate newborn care index. Similarly, 3 in 2 mothers from second lowest income (3001-5000) were clustered in moderate newborn care index and 3 in 1 mothers in standard newborn care index. The less income (Φ3000) mothers were disproportionately fractioned in three indexes but the largest proportion in standard and also significant proportion in poor newborn care index while the lowest proportion in moderate newborn care index. Thus, the non income mothers were rated by 5 score followed by, nearly two-third income holders mothers group, the lowest income mothers by 4, second highest income mothers by 3, second lowest income mothers by 2 and the highest income mothers by 1 respectively.

6.3.5: Level of Household Amenities and Newborn Care Index

There is noticeable relation between level of household amenities and the newborn care practice. The relationship analysis between level of amenities index and level of newborn care practice shows the low positive relation (r = .310) with perfect level of confidence. It describes that the higher the level of amenities, higher the newborn care practices. The high level of amenities index mothers' were clustered in standard newborn care index whereas more than 50 percent of mothers from medium level of amenities index in standard and more than one-third in moderate index. Likewise, in low level of amenities index, the largest proportion were grouped in moderate newborn care index followed by standard and also sizeable proportion in poor newborn care index. On the basis of the grouped data and correlation analysis between the household amenities and newborn care practice, the high level of amenities index were rated by 5 point followed by medium level by 3 and low level of amenities index by lowest point 1 respectively.

6.3.6: Land Holding By Family and Newborn Care Index

There is weak positive association was observed between size of land holding and newborn care practice (r = .189) with poor level of confidence. It means that, to some extent, land ownership of family also determines the newborn

care practice. The figure 24 of newborn care practice and family land ownership agree with the statistical results. The weighted value was provided for taking general idea of statistical results, the total number of mothers belong to the family land ownership category and its percentage of mothers in newborn care indices. The highest score '6' was implemented for the mothers from the family of highest land ownership, in which 43 mothers were included and most of them clustered in standard newborn care index (58.1%) followed by moderate (39.5%) and only one mother in poor newborn care index (2.3%). The no one mothers in poor newborn care index groups were 0.52 to 0.68 hector and 0.35-0.51 land ownership. Due the higher number of mothers and the highest percentage in standard newborn care index, the second highest score was given to the mothers from the second highest land ownership family. Likewise, the score 4 was applied for the mothers from third highest family in land ownership because of the third highest proportion of mothers in standard newborn care index. The weighted value 3 was awarded to the largest number of mothers (N=90) from lowest land ownership family (<0.17 hector), 2 was granted to the mothers from second lowest land ownership family due to its second lowest proportion in standard newborn care index and also the second lowest proportion in poor newborn care index. The lowest score 1 was awarded to the mothers from land less family because of its lowest proportion in standard newborn care index and highest proportion in poor newborn care index.

6.4: Analysis of Correlation Coefficient between Selected Modernization Variables and Newborn Care Index

6.4.1: Awareness to Health and Newborn Care Index

There is strong positive relation was established between health awareness and newborn care practice (r = .683) with perfect level of significance. It could be concluded that increasing health awareness level of mother positively contribute to enhance the better newborn care practice in rural women. Hence, weighted value 5, 3 and 1 was granted for the mothers due to their level of health awareness. The mothers who were high aware about health of both mothers herself and child were scored by '5', the medium level aware mothers by '3' and low level awareness to health by '1'.

6.4.2: Place of Delivery and Newborn Care Index

There is statistical significant association was observed between place of delivery and newborn care practice (Chi-square with 80 df= 281.73, P=0.000). In addition, the nominal scale data of place of delivery (Hospital-1, PHC/Sub-health post-2, Private clinic-3, Home delivery-4) and the newborn care index explained the strong inverse relation between the place of delivery and newborn care practice (r = -.907). It means that the home delivery mothers were more cared poorly to the newborn than the health institution based delivery mothers. All of the hospital based delivery mothers were concentrated in the standard newborn care index and almost all of PHC/Sub-health post and Private Clinic based delivery mothers were clustered in moderate newborn care index. But only home base delivery mothers were grouped in poor and moderate newborn care index (figure 23). Based on the statistical analysis and the presented data, the hospital based delivered mothers were scored by maximum points '5', PHC/Sub-health post and Private clinic based delivered mothers by 3 and home delivery mothers by least point 1.

6.4.3: Media Exposure and Newborn Care Index

The largest proportion of mothers from high media exposure index was clustered in standard newborn care index and the mothers from medium level of media index were close behind in standard and moderate newborn care index. Likewise, the significant proportion of mothers from low level of media index was grouped in all level of newborn care index. There is weak positive association between media exposure and newborn care practice (r = .247) with perfect level of significance. Based on this fact, it could be generalized that the mothers who exposed in modern media have better newborn care practice. Thus, highest score 5 was implied for the mothers belong to the high level of media exposure index. Similarly, the weighted value 3 was used for the mothers owned by the medium level of media exposure index and the least value 1 for the low level of media exposure index.

6.5: Introduction to Development Indices and Data Presentation with Newborn Care Indices

6.5.1: Social Development Index and Newborn Care Practice

The research hypothesis "Better the Newborn Care Practice depends upon the improved social variables" was stressed for making the composite index of social variables. The composite index of social variables were categorised in five groups i.e. Poor, Moderate, Fair, Good and Very Good for the analysis with the newborn care practice. The mothers who achieved the index value greater than 0.80 was belong to the 'Very Good' category in social development index. Likewise, the mothers represented the index value between 0.60 to 0.80 was classified in 'Good' category, 0.40-0.60 was ordered in 'Fair' category, 0.20 to 0.40 was in Moderate and less than .20 was grouped in 'Poor' category in social development index. But the 'Poor' category was not observed in all ethnicity. To make easy comparison of newborn care practice with the social development indices in accordance with the ethnicity, the separate figures were presented according to the ethnicity.

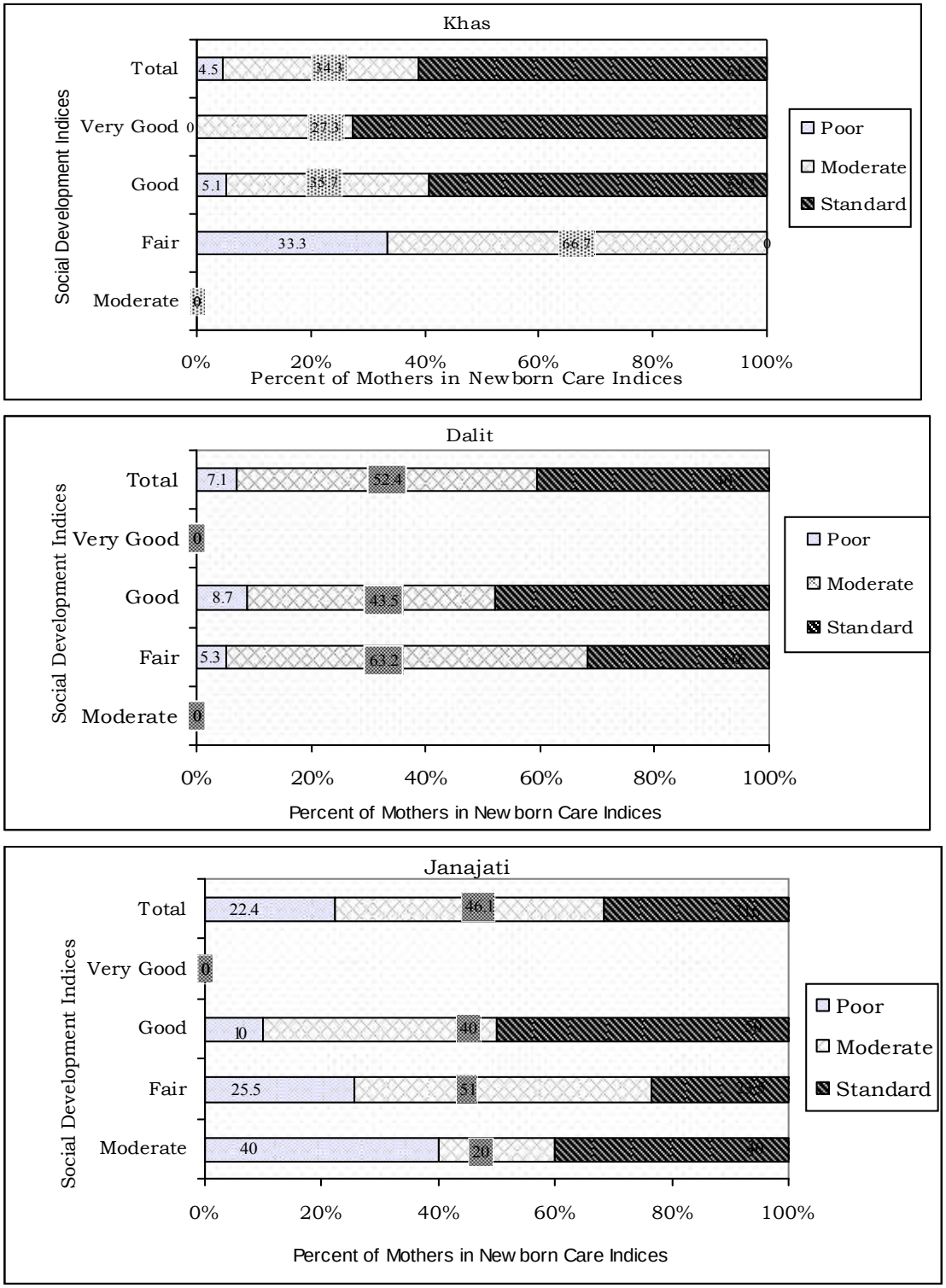
Top two levels in social development indices of Khas mothers were clustered in standard newborn care index but the proportion was different between these top two levels (Very Good-72.7%, & Good-59.2%). Two-third of Khas mothers were grouped in moderate newborn care index belong to the second lowest level 'Fair' while one-third in top second level ' Good' in social development index . The total 33 percent of Khas were focused in Poor newborn care index in 'Fair' while only 5 percent in 'Good' belong to the social development index (Figure 25).

The Dalit mothers from the second lowest level 'Fair' in social development index were grouped in moderate newborn care index followed by standard and poor newborn care index. The figures clearly shows that the low proportional difference between standard and moderate newborn care indices of Dalit from the 'Good' in social development indices. The slight difference of proportion in poor newborn care index of Dalit was observed in accordance with the social development indices. The proportion of Dalit in poor newborn care index belong to the 'Good' was slightly greater than 'Fair' in social development indices (Figure 25).

The graphical presentation of Janajati showed the poor newborn care index was decreased along with the upper level of social development indices. But the variation of standard and moderate newborn care index was found in accordance with the social development indices. Fifty percent mothers of Janajati were clustered in standard newborn care index belong to the 'Good' followed by 40 percent ' Moderate' and nearly 24 percent' Fair' in social development indices (Figure 25).

The Dalit was centralized in middle classes i.e. 'Fair and Good' only in social development index. The Janajati were not observed in 'Very Good' class. Likewise, Khas levelled in top ordered classes and nobody was found in Moderate category in social development index. Khas concentrated mostly on standard newborn care index while Dalit in moderate newborn care index and respectable percentage of Janajati were clustered in all newborn care indices (Figure 25).

Figure 25: *Percentage of Mothers in Newborn Care Indices with Respect to Social Development Indices, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

6.5.2: Economic Development Index and Newborn Care Practice

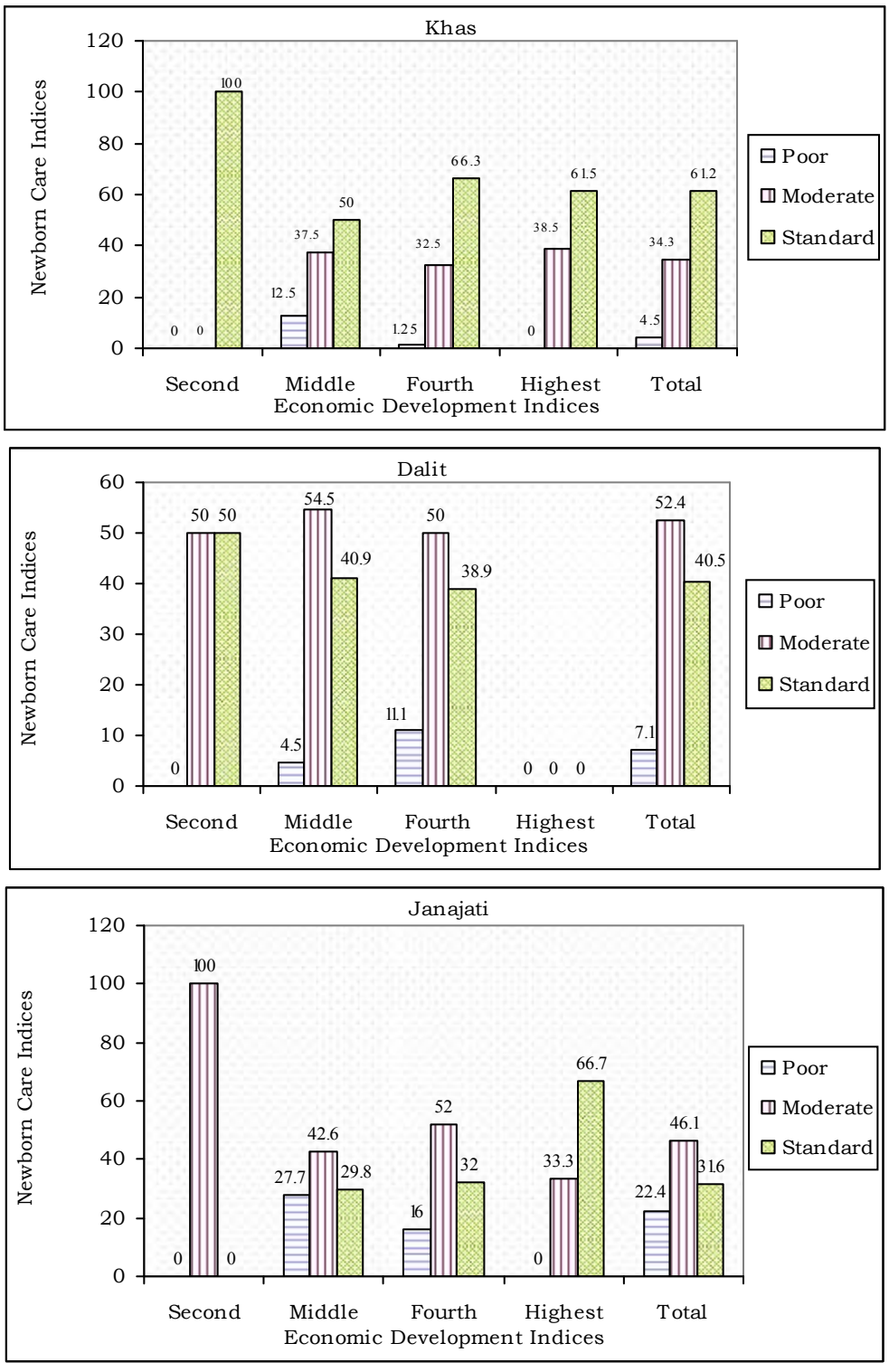
Economic development index, to some extent, exemplifies the economic condition of a mother and family too. The composite index of economic aspect makes comfortable to understand the relationship between economic condition and newborn care practice.

Like social development index, economic development index also categorized in five groups i.e. Lowest, Moderate, Middle, Fourth and Highest. Dalit lag in highest level of economic indices. More than 50 percent Khas mothers were concentrated mostly in standard newborn care index belong to all economic development indices. Thirty to forty percent of Khas mothers were focused in moderate newborn care index from top three (middle, fourth and highest) levels of economic development indices. Nearly 13 percent Khas mothers were clustered in poor newborn care index from middle level of economic development index and nobody was found in moderate and poor newborn care index from second level of economic development index (Figure 26).

Majority of Dalit mothers were clustered in moderate newborn care index from second to forth level of economic development indices. Likewise, near about 40 percent Dalit mothers from middle and fourth level and one out of two from second level of economic development indices focused in standard newborn care index. The lowest proportion of Dalit mothers was found in poor newborn care index. The fourth level mothers of economic development index belong to the poor newborn care index was nearly 3 times higher than middle level of economic index of same newborn care index. Single Dalit mother from highest level was not found in poor newborn care index (Figure 26).

Three in two Janajati mothers from highest levels of economic development index were grouped in standard newborn care index while the second level of Janajati mothers was clustered in moderate newborn care index. Significant proportion of Janajati mothers from middle level of economic development index was concentrated on all newborn care indices but the proportion was high in moderate newborn care index followed by standard and poor newborn care indices. Only one mother of second level obtained standard newborn care index (Figure 26).

Figure 26: *Percentage of Mothers in Newborn Care Indices with Respect to Economic Development Indices, Shanishchare PHC Area, Jhapa, Nepal, 2010*



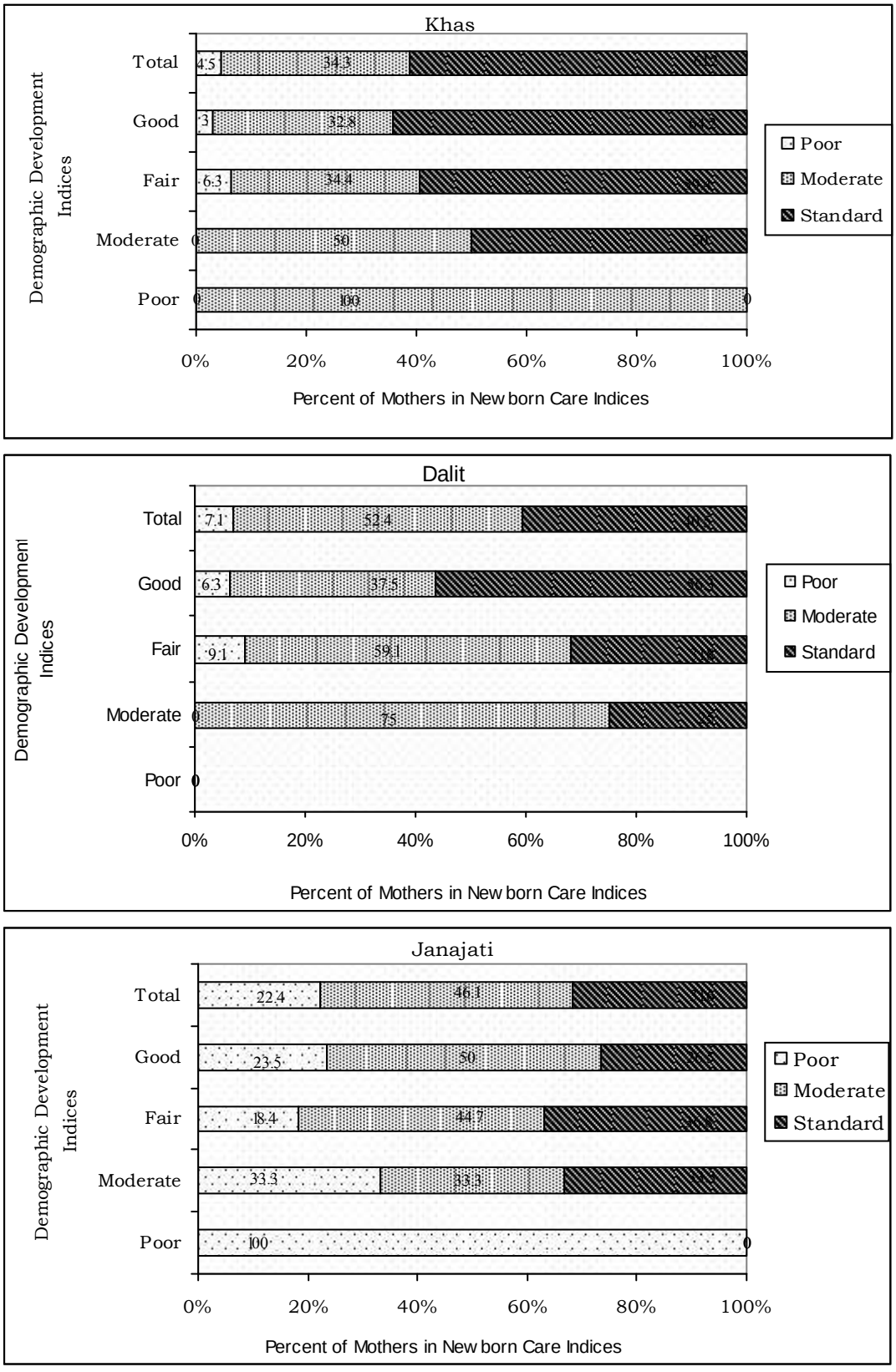
Source: Field Survey 2010

6.5.3: Demographic Development Index and Newborn Care Practice

Demographic Development Index is one of the composite indexes of the four individual demographic variables i.e. current age of mother, age at marriage, experience of number of child loss and total number of CEB. Demographic Development index was further classified on five groups such as- Poor (0.00-0.20), Moderate (0.21-0.40), Fair (0.41-0.60), Good (0.61-0.80) and Very Good (0.80+). But single mothers from all ethnic groups cannot represent to the 'Very Good' category. Each one mothers were observed in Poor level of economic development indices from Khas, obtained moderate newborn care index, and Janajati obtained poor newborn care index. Likewise, each one mothers from Khas represented to the standard and moderate newborn care index, four in three Dalit mothers were stands for moderate and four in one for standard newborn care index who owned 'Moderate' level of economic development index. Similarly, each one out of three Janajati mothers gained all newborn care indexes who were achieved 'Moderate' level of economic development index (Figure 27).

The top level classes in figure 'Good' and 'Fair' in economic development index of Khas were concentrated in standard newborn care index followed by moderate and poor newborn care index respectively. The Dalit mothers belong to the 'Good' in economic development index were clustered in standard newborn care index followed by moderate and poor newborn care index but the 'Fair' level mothers were focused in moderate newborn care index followed by standard and poor newborn care index. On the contrary, Janajati mothers were centralised in moderate newborn care index while nearly equal proportion in standard and poor newborn care index from the 'Good' level of economic development index. The significant proportion of mothers were found in all newborn care index having 'Fair' level of economic development index but the proportion was higher in moderate newborn care index followed by standard and poor newborn care index (Figure 27).

Figure 27: *Newborn Care Indices by Ethnicity With Respect to Demographic Development Indices, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

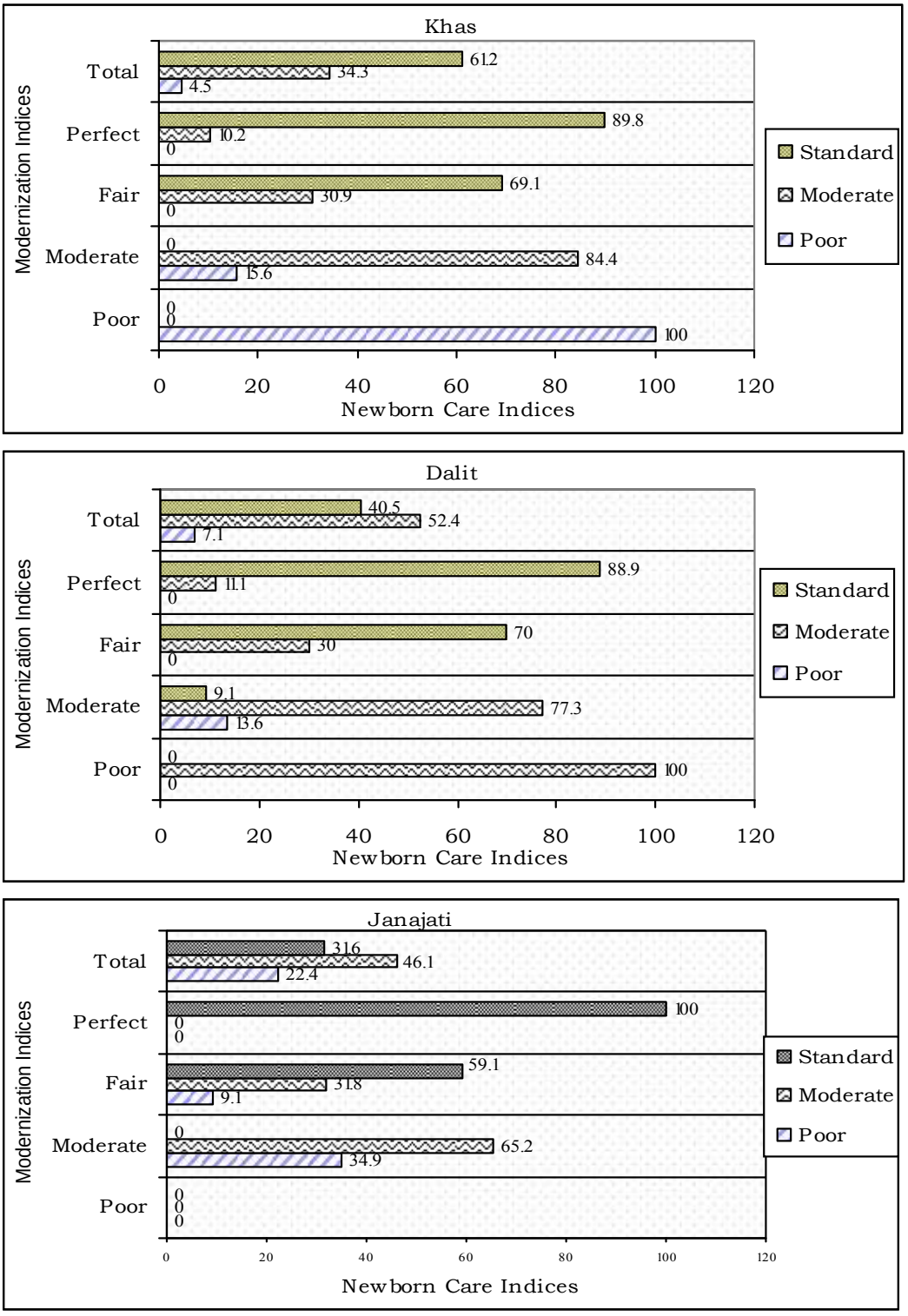
If we compare the figure in accordance with the ethnicity by economic development index, Khas has the better position in newborn care practice followed by Dalit and Janajati respectively. More than 60 percent Khas mothers were grouped in standard newborn care index followed by 34 percent moderate and nearly 5 percent in poor newborn care index. Dalit occupied the second position in newborn care index. In total, 52 percent Dalit mothers were clustered in moderate newborn care index followed by 40 percent in standard and 7 percent in poor newborn index. Janajati occupies the least position in newborn care index in accordance with the economic development index. Significant proportion of mothers was clustered in all newborn care indices. The proportion of mothers in poor newborn care index of Janajati was the higher than Dalit and Janajati (Figure 27).

6.5.4: Modernization Development Index and Newborn Care Practice

The modernization Development Index represents to the exposure in three media (media exposure index), Awareness to the Health of mothers (Health Awareness Index) and Place of Last Delivery. Modernization Development Index was also categorised in five groups i.e. Slightly Exposed (0.00-0.20), Poor (0.21-0.400), Moderate (0.41-0.60), Fair (0.61-0.80) and Perfect (0.80+) but nobody was found in Slightly Exposed Category. The positive aspect is that each one mother only from Khas and Dalit obtained the poor category in Modernization Development Index and single mother did not acquire by Janajati (Figure 28).

Khas and Dalit mothers had the upgraded proportion in newborn care indices along with the higher level of modernization development indices. Mothers (Khas and Dalit) had the lack of standard newborn care in moderate level; and also the lack of poor newborn care in fair and perfect level of modernization development index. The proportion of moderate newborn care was significantly descending order in company with the ascending order of modernization development indices. Likewise, standard newborn care index of Khas and Dalit in perfect level had the better position than the fair level of modernization index. Each one mother from Khas and Dalit consist of Poor level of modernization development index but Khas observed in poor newborn care and Dalit observed in moderate newborn care index (Figure 28).

Figure 28: *Newborn Care Indices by Ethnicity With Respect to Modernization Development Indices, Shanishchare PHC Area, Jhapa, Nepal, 2010*



Source: Field Survey 2010

The proportion of moderate level (N=43) of Janajati was 2 times higher than fair level (N=22) and 4 times higher than perfect level (N=11) of modernization development indices. Like Khas, nobody Janajati maintained standard

newborn care in moderate level of modernization index and all mothers from perfect level applied standard newborn care. The mothers from fair level of Janajati mostly concentrated on standard newborn care index followed by moderate and poor newborn care index respectively (Figure 28).

Khas had the better position in Newborn care indices followed by Dalit and Janajati respectively. The 61 percent of Khas mothers practiced standard newborn care while Dalit 41 percent and Janajati only 32 percent. The Dalit mothers were clustered in moderate newborn index. And significant proportion of Janajati mothers were focused in all newborn care indices, however the proportion slightly greater in moderate newborn care index followed by standard and poor newborn care index (Figure 28).

6.6: Test of Research Hypothesis

Hypothesis 1: Better Newborn Care Practice depends upon the Improved Social Variables

The Social Development Index indicates the analysed four social variables with newborn care index i.e. Education of Mothers, Decision Making, Types of Family and Ethnicity of Mothers. Like wise, the interval scale newborn care index represents all of the related variables of newborn care. There is moderate positive association between social development index and newborn care practice with 100 percent confidence level ($r = .436$). It means that the status of mothers in social variables, to some extent, determines the newborn care practice. The analysis of correlation coefficient resulted that if the mother's status in social variables is high, the mothers' practices better newborn care. Nineteen percent positive contribution of social variables in newborn care practice was observed from the analysis of correlation of coefficient. Hence, the formulated hypothesis is true in overall cases.

Hypothesis 2: Enhanced economic condition determines the better the Newborn Care practice

Exact six cross tabulated economic variables with newborn care index represents to the economic condition of a mother. The economic development index makes comfortable to notice the association of economic condition with newborn care index.

The association between economic development index and newborn care index was not so strong. The coefficients value (r =.212) indicated that there is weak positive association between the economic condition and the newborn care practice with almost 100 percent confidence level. The analysis cleared that the mothers having higher level of economic condition practices better newborn care than the lower level of economic condition. The correlation coefficient value resulted that economic condition contributes nearly 5 percent positive role in newborn care practice.

Hypothesis 3: Higher the Modernization Variables Better the Newborn Care Practice

Regarding the composite modernization index, couple of indices (health awareness index and media exposure index) and place of delivery was used to construct the index. The results of correlation coefficient have already shown that independently two modernization variables viz. health awareness index and media exposure index are positively associated with newborn care index while place of delivery is negatively associated. But the impact of negative association was not shown by the analysis correlation coefficient between modernization development index and newborn care index.

There is strong positive association between modernization development index and newborn care practice (r=.749) having perfect significance association. The coefficient result depicted that the higher level of modernization variables decides the newborn care practice. It means that mothers from higher level modernization index had better newborn care practice and lower level mothers had lower level of newborn care practice. Total 56 percent contribution of modernization variables in newborn care practice was observed.

Hypothesis 4: Better the Demographic Variables Improvement in Newborn Care Practice

The composite index of demographic development index represents to four demographic variables viz. Current Age of Mother, Age at Marriage, Total Number of CEB and Previous Child Loss Experience. The test result (r=.251) found weak positive relationship with perfect significance of the association between the variables demographic development index and newborn care index.

On the basis of the analysis of correlation coefficient it could be established that with the increment in demographic development index, the newborn care practice significantly increases. Thus, the hypotheses that better the demographic variables improvement in newborn care practice are justified.

Table 27: *Examination of Association between Individual Variables and computed Development indices with Newborn Care Practice*

SN	Selected Variables	Correlation Coefficient with New Born Care Practice (NBINDEX1)	Level of Significance
A	**Demographic Variables**		
1	Current Age of Mother	-.131	.037
2	Age at Marriage	.068	.279
3	Number of CEB	-.286	.000
4	No. of Child Loss Experience	-.373	.035
B	**Social Variables**		
1	Education of Mothers	.112	.101
3	Ethnicity	-.319	.000
5.	Health Accessibility		
C	**Economic Variables**		
1	Monthly Income of Family	.193	.002
2	Monthly Income of Mother (N=20)	-.006	.980
3	Level of Household Amenities	.310	.000
4	Land Holding by Family (N= 211)	.189	.004
D	**Modernization Variables**		
1	Level of Health Awareness	.683	.000
2	Level of Media Exposure	.247	.000
E	**Computed Development Indices**		
1	Demographic Development Index	.251	.000
2	Social Development Index	.436	.000
3	Economic Development Index	.212	.001
4	Modernization Development Index	.749	.000
	Chi-square test between selected variables and newborn care practice		
		Chi-square value	Degree of freedom	P value

1	Decision Making and newborn care			72.37	80	0.72
2	Ethnicity and newborn care			64.63	40	0.008
3	Types of family and newborn care			49.59	40	0.142
4	Household occupation and newborn care			92.23	80	0.164
5	Mother's occupation and newborn care			72.22	80	0.661
6	Place of delivery and newborn care			281.72	80	0.000
	t-test for Equality of Means- Previous child loss experience (Yes/No) and newborn care					
		t-value	d.f.	Sig. (2 tailed)	Mean difference	Std. error of difference
	Equal variance assumed	-1.908	250	0.057	-.0839	0.04394
	Equal variance not assumed	-1.817	39.33	0.077	-.0839	0.04615
	N=252					

CHAPTER VII

ANALYSIS OF QUALITATIVE INFORMATION

7.1: Case Studies

Case Study 1: Khudunabari VDC-7

Mother's Name: Indira Subba (Janajati) Age: 25 years
Education: Completed 10th grade Age at marriage: 23 years

The first order baby was normally delivered in Mechi Zone Hospital in Poush 21, 2065 but the baby did not cry immediately after birth till ten minutes. The newborn cried after the use of resuscitation method by SBA. After the fourth day of birth, the bluish colouration was seen around the ear of newborn. The entire family member informed that the bluish colour is the lack of cleanliness *(Phohor Uchhreko)* but it expanded from fifth day. The baby was given heath check up within the PHC of Khudunabari Bhutanese Refugee Camp in sixth days and gave some medicine and also informed to take the baby to hospital if the problem did not heal. But also it again expanded in the face. The whole family member and neighbours said that baby was continuously breastfed, so it will automatically heal. In fact, still nobody was acquainted with the real problem of newborn. In ninth day, the blue colouration expanded all over the body and the baby died.

Case Study 2: Budhabare VDC-2

Mother's Name: Jhuma Dargi (Dalit) Age: 18 years
Education: Completed 4th grade Age at Marriage: 14 years

The second baby was born normally in Budhabare Community Health Centre dated Jestha 14, 2066. Around half an hour, baby was given oxygen and also used resuscitation method to cry immediately after birth. Due to the low birth weight, baby did not breastfed immediately and the honey was made to lick by baby as soon as the baby was born. The glucose water was recommended by delivery service providers to feed the baby until secretion of milk from mothers. Furthermore, due to the lack of sufficient breast milk, the mashed food *(Jaulo)* was fed to the baby just after fifteen days of birth. The baby was frail and used to have rashes in tongue accompanied by fever for eighteenth days. Limbs used get cold like snow. We took the baby to nearest pharmacist, located in the lower storey of Bohora's house in Jayapur Chock,

and give medicine. Fever was cured. However, rashes in tongue were still not cured. The mixture of serial and pulses was grinded and cooked into a paste like food to fed and also fed to the baby from first month to fifth month of birth. Now the baby completed six month and the weight was only 5 kg. We also took to baby to Dr. Shankar Upreti around the third month of birth. Dr. gave some medicine and suggested to exclusive breastfeeding.

Case Study 3: Arjundhara VDC- 6

Mother's Name: Deo Kumari Prashain (Khas) Age: 30 years
Education: 7th grade completed Age at Marriage: 14 years

During the short arrival time of husband from foreign labour, couple planned to give birth to another baby to fulfil the need of another son besides the 7 years of live one son and 12 years of one live daughter leaving with them. Moreover, the couple was already experienced the loss of previous two daughters. The recommended number of times of ANC service received from ANM in Phoolbari Outreach Clinic. The iron tablet was taken around 150 days and received 2 vaccination of tetanus of this fifth order Pregnancy.

Sister-in-law (Jethani) advised for taking Ultrasound to know the situation of foetus in the last month of pregnancy. The video x-ray was done in private clinic at Birtamod, Jhapa. The pharmacist of clinic gave information of pregnancy status after the report of video x-ray. Mother wondered by the notice of twins' which will be delivered after 2 or 3 days. Pharmacist also suggested visiting hospital to delivered babies. But at 9 pm of same day, the labor pain started. Due to the nuclear family, no any adult member was present at home at the time of labor pain. Only two children were present at home and they also were already slept. Husband had previously backed to the foreign labour migration in the third month of pregnancy. Mother did not inform to other relatives and neighbours because of the time of midnight and also if she called relatives they certainly took her to the hospital. She also believed that all other babies were easily born at home. Mother informed me the tragic but interesting fact was that she did not want to visit hospital to delivered babies because most of the nurses (sisters) were learning students and they does not cared properly to the women in hospital.

Sister-in-law (*Jethani*) came early at around 5 the next morning once she had discovered that I had twins. In the meantime, sister-in-law called AHW in a rush at the clinic of Charpane after she noticed the labor pain. Labor pain

already at evening resulted normal delivery at 5:25 am with the assistance of sister-in-law at home. One of the twins, the daughter died just after the delivery. The daughter was very small and tied in mesh of placenta. However, baby boy is still alive. The boy baby was covered by the cloths till the arrival of AHW. After one and half hour of delivery, the AHW arrived and cut the umbilical cord. The boy baby was wrapped by the old but washed cotton cloth and bathed after around 30 hour of delivery.

7.2: Thematic Areas for FGD and In-depth Interview Analysis

Themes identification is the heart of qualitative data analysis. Themes present the abstract of overall qualitative information. It comes from the either literature review or the information collected through qualitative technique. Thematic areas were identified based on the collected information. The main themes were: practice of Age at marriage, place of delivery (home vs. health centre), delivery assistance, instrument of curd cutting, material used in cord stump or not, material for tying the placenta, thermal care practice (material for wrapping baby immediately after birth, drying baby after birth, bathing practice of newborn), time for initiate to breast feed, practice of colostrums feeding, knowledge and practice on maternity care scheme and free delivery service provided, health seeking practice in case of sickness of newborn born baby and mother during postpartum period (traditional healer vs. health person).

7.3: Results of Focus Group Discussion

The age at marriage and age of mother at the time of delivery may affect the newborn care practice. Majority of participants informed that the traditional system of arrange marriage is declining and the trend of love marriage in low age is increasing in rural community because of access to mobile and foreign labour migration of male. One participant opined "we better buy our daughter a mobile phone if we are to marry her off at early age*" (Chhori Ko Bibaha Kalilai Umerma Garnu Chha bhane mobile kinidiya hunchha).* The other participant presented his view as "parents ready themselves to marry their daughters at a small age if they come across a boy who has served in the foreign employment." (*Baidesik rojgar ma gayeko keto bhane pachhi aama babule chhori kalilai bhaye pani biha garidina tayar bhaihalchhan)* in most of the family of poor and low level of education in all ethnicity.

The common consensus of all participants was the trend of home delivery is significantly decreasing due to the role of media and FCHV before 5 to 6 years in all ethnicity. The FCHVs were suggested mostly in poor and uneducated family about the maternity care scheme of government (NRs. 500 for transportation facility) and now a day free delivery service in government health centre. The Dalit participant said "I have to pay no penny for the ceasuring out my baby rather I was provided five hundred rupees in Mechi zone hospital, Bhadrapur" (*Mero ta delivery ko ceasuring garda pani ek paisa pani kharcha bhayena bhadrapur hospital ma ulto 500 diyeka thiya".*

Again the questions raise by the researcher that "is home delivery completely remove from the society?" majority of the participants agreed with still a number of family from low access to health facility, economically vulnerable, the mothers who have delivered first or second baby in home, the mothers from low level of education, and "who believes if someone visits hospital based delivery, there have trainee nurses and doctor operates even if the normal condition" is delivering baby at home.

The newborn care practice in home delivery is the key concern of the study. Almost all of the participants have the same opinion that most of the family used new blade for cutting umbilical cord and old but washed cloths for wrapping the baby. Nobody mother or family prepared SDK before delivery and only TBA or FCHV brought it to use if they informed for delivery assistance or they said to buy SDK immediately for family. The neighbours or the family members were the key delivery assistance among home delivered mothers and low proportion of FCHV, MCHW or AHW within the study area. Majority of participants have responded that still significant number of home delivered family bath baby immediately after birth but the trend is decreasing continuously. Still some Chaudhari family used oil and turmeric at cord stump in their last baby.

The participants' consensus about the practice of initiation of breastfeeding within an hour of delivery was that only feeding baby later than the bathing of mother after delivery but nobody feeding to baby if they have to breastfeed within an hour. The time of feeding baby may be or may not be crossing an hour of delivery. Most of the delivered mothers practiced colostrums feeding and it also growing trend in most of the study area but the harmful practice of pre lacteal feeding to the newborn is almost universal in rural community

even the baby is delivered in hospital or home. The licking culture of honey or ghee or honey and ghee to the baby is almost universal in the study area. The mother-in-law takes honey or ghee in hospital together with the mother in labor condition.

The MCHW, AHW and ANM also delivered baby in private clinic at local level. Most of them used SDK for conducting delivery and dried baby immediately after birth by using oil and cotton and they informed for bathing baby after 24 hours of birth. They put forward for the family member to buy oil. But nobody participants asked about detailed practice of newborn care due to delivery conducted at separate delivery room. Participants notified that now a days some ANM at private clinic used curd clamp in place of rope for tying the cord. They sometimes also applied yellow coloured medicine (Betadin) at the cord stump.

Most of the economically backwarded, uneducated or poorly educated, and the family who resided far distance from health facility first to informed to the traditional healer and later visit to the nearest pharmacists at the time of newborn sickness. Majority of the participants put in the picture that economically sound and educated family did not believe the local medical practitioner for the newborn treatment.

7.4: Results of In-depth Interviewing with Key Informants

The comprehensive responses of key informants were triangulate after identifying the thematic areas of study. The total 18th in-depth interviews were conducted during study. The in-depth interviews were conducted with various individuals including- FCHV, AHW, ANM, MCHW, Mother-in-law and TBA. The in-depth interview was conducted using in-depth interview guideline. In-depth interview guidelines included the maintained newborn care practices by the key informants, Villagers common practice of newborn care, Attitude towards available existing health service and maternity care scheme and its impact on newborn care practice. The principal investigator used assistance to note the information.

The two out of four FCHVs were involved in two or three conducting delivery within a year while two FCHVs were called for conducting delivery but they referred for delivering women to the hospital. Although government has already eliminated the TBAs program from the community and promoted the

FCHVs program. Nevertheless, still community people were calling the TBA at the emergency of delivery. All four TBAs were also conducted three to four delivery within a year. Mother-in-law was selected based on those mothers who were delivered their baby at home and mother-in-law assisted to the delivery. Only one AHW involved in around 50 deliveries within a year and about 2000 delivery in his lifetime including home delivery and delivery conducted in health centers.

All key informants agreed that they used SDK if available or boiled blade and coin for cutting umbilical cord, boiled thread for tying the placenta, clean plastic to keep the baby at the time of delivery and sitting mothers while conducting delivery except three mothers-in-law. These mother-in-laws used new blade, using thread of home and used bed cover was covered to mattress of straw while conducting delivery. All of the key informants working in health institution and taken minimum level health training applied betadin on the cord stump dressing till last year. Now a days nobody was applied any substance on cord stump rather it did dry and leave it. The chaudhary mother informed that in her community still turmeric was applied on cord stump. The hand washing practice with soap and water was the common practice of all key informants before and after conducting delivery and cord cutting. All of the TBAs and two FCHVs added that they cut their nail while conducting delivery.

The practice of bathing immediately after birth to the newborn was significantly decreased in rural community. Almost all FCHVs and TBAs used mustard oil and soft washed cloths; and ANM, AHW and MCHW only used soft cloth for drying baby immediately after birth instead of bath. The two mother-in-law were bathed their grand newborn immediately after birth and they also advocated that the home delivered family from poor and uneducated were bath their baby within an hour. Chaudhari and Muslim were most common for bathing within an hour of birth.

Initiation of breastfeeding within an hour of delivery is growing scenario in study area. All of the key informants informed to the mothers to feed the colostrums within an hour of delivery. But the given information of initiation of breastfeeding by mother-in-laws was differing from other key informants. Most of the mother-in-law informed that home delivered mothers from poor and uneducated family did not breastfeed within an hour. In general, around

half an hour takes for delivering placenta and then more than other half an hour takes to clean the mother. Further, due to the poor knowledge of time of breastfeeding, home delivered mothers did not hurry for feeding to the newborn.

Almost all of the key informants had the same opinion of "universal in received BCG Immunization" in study area. The common view among the key informants, "neither the mothers nor family Knows danger sign of baby nor do they recognize it", was observed in the interview except few educated mothers and family. One AHW further gave opinion that "cyanosis, if seen in baby, is considered due to a kind of witch crafting and they are come often treated by wizards. This practice is common among uneducated Mongolian and Dalit communities and also among people who have just descended from hilly regions. Applying wizards should be before medicine otherwise it will not give intended result is the general belief". Like the practice of traditional healer, almost all of the key informants supported for taking home made fried alcohol *(Jhaneko Jaad)* during post natal period, the practice is common to few illiterate and uneducated family of Mongolian community.

Regarding the attitudes towards existing available health service, the attitude of FCHVs and Mother-in-law was differing from other key informants. The FCHVs and Mother-in-law gave information on the view of common villagers that "the high level of economic and educated person did not visit in local level government health service centre". The poor, illiterate and lower level of educated people visits for taking maternal health service in PHC and Sub-health post.

7.5: Findings of Overall Qualitative Results

Economy and modern means of communication plays a vital role in the health of human. Study findings have informed that the age at marriage of girl is decreasing due to foreign labour migration of male. Furthermore, the role of availability of modern means of communication such as mobile in the hands of young male and female, the trend of love marriage in young age is increasing, contributing to the low age at marriage in rural community.

The traditional practice of home delivery in rural community is decreasing but the practice is not completely removed from the rural areas. The family and mothers from distant to health facility, economically vulnerable and the

mother or family who delivered their previous baby at home do not visit to health institution for conducting delivery.

Still majority of the home delivery was assisted by neighbours or family members. But the increasing trend of informed to semi skilled health personal (AHW, MCHW and FCHV) for conducting delivery, to some extent , contributing to the safe delivery resulting improving health condition of both mother and baby.

Both result of FGD and In-depth interview with different personnel proved that almost all of home delivered mothers used new blade for cutting the umbilical curd. Similarly, health personnel used safe delivery kit to conduct delivery and other process. If not available SDK, semi-skilled health personnel used boiled new blade for cutting curd and boiled thread for tying the placenta. But the entire mother in law practiced used thread to tie the placenta.

Still some home delivered mothers did not dry their newborn but almost all mother who delivered by semi-skilled health personnel dried the newborn by using mustard oil and soft cotton. Home delivered mothers and family used old but washed cloths for wrapping the newborn.

All of the semi-skilled health personnel informed to the family and mothers that the baby will bath after 24 hours of delivery if they conducted delivery. Nevertheless, still some home delivered family bath their newborn immediately after birth or within 24 hours. The practice is common in poor, uneducated and some Chaudhari and Muslim family. However, bathing practice immediately after birth is significantly decreasing.

Breast feeding practice is universal in study area. But the initiation of breastfeeding is differently practiced. It has depended upon the delivery assistance. Initiation of breastfeeding within an hour of delivery practiced if the delivery assistance were AHW/MCHW/FCHV but the time is crossed if the neighbour or family members are delivery assistance. Colostrums feeding is almost universal either the baby born at home or health center. The pre-lacteal feeding is almost universal in study area. The practice is common in licking Honey/Ghee as a pre-lacteal feeding either the baby born in hospital or home.

The family or mothers having economically vulnerable, uneducated or poorly educated, and who resided distant to health facility first to informed traditional healer for the treatment of newborn baby and then visit local pharmacist. The uneducated Mongolian, Dalit and recently migrated family from hilly region considered cyanosis as a witch crafting and treated by wizard. They believe that applying wizards before medicine, otherwise it will not give the intended result. But, economically sound and educated family did not believe traditional healer and local pharmacist.

Some of the illiterate Mongolian family still practiced home made fried alcohol (*Jhaneko Jaad*) for the sickness condition of mother during post natal period which is considered harmful for newborn and mother too.

CHAPTER VIII

SUMMARY, CONCLUSION AND RECOMMENDATION

8.1: Summary of Findings

8.1.1: Findings of Household Characteristics

Among the 252 sample mothers, Khas (53.2%) was double than the Janajati (30.2%) and more than three times greater the Dalit (16.7%).

The economically active population (59%) was the highest proportion followed by child population (35%), under 5 population (23%), youth (19%), adolescence (11%) and old age population (7%) respectively among the household total household populations.

The dependency ratio of Khas and Dalit was slightly lower than overall dependency ratio while Janajati found higher. On the contrary, Janajati was the lowest index of ageing than Khas and Dalit.

The female population was higher than the male household population. The Janajati (99.0) was the low difference in sex ratio in overall population while Dalit was the higher difference. The Khas was the balance of sex ratio in under one year of children.

Nearly 70 percent of household population were married followed by unmarried (26.2%), widow/widower (3.8%), separated (0.5%) and divorced (0.1%) respectively among the 10 years and above population. The Khas was the highest proportion in widow/widower followed by Dalit and Janajati.

Nearly 90 percent populations were Hindu while 7 percent Buddha, 2 percent Kirat, 1 percent Ishai and less than 1 percent was Islam. Seventy percent Janajati populations were Hindu and nobody from Khas and Dalit were Kirat.

Seventy nine percent 5 years and above populations were literate. Khas was the highest proportion in literate and lowest proportion in illiterate population. Nearly same status of Dalit and Janajati in both literate and illiterate were observed.

Male proportion was higher than female in literate population. The female were more literate than male in Khas and Dalit while Janajati was the low proportion.

The female proportion was more than double than male within illiterate population. The huge gap in illiteracy status was found in Khas population and comparatively lower gap was observed in Dalit.

The agricultural depended populations (29.4%) were significantly decreased from the national average. More than 14 percent populations migrated to foreign labour. Nearly 25 percent were involved in service. Khas was largest percentage in service compared to Janajati and Dalit respectively.

The average income of family was 9871.5. Khas was the greater average income from the total average while Janajati and Dalit were the lower average income.

The average landholding size was 0.46 hector per family. However, Khas occupied higher size of landholding than the total average landholding with higher standard deviation while Janajati less than double from average size and Dalit nearly 4 times less than average landholding size with lower standard deviation.

More than 60 percent of household belongs to medium level of household amenities index. Seventy nine percent of Khas represented to the medium level of amenities index and more than 55 percent Dalit and Janajati occupied low level of amenities index.

7.1.2: Findings of the Characteristics of Sample Population

The mean ages of mothers were 24.58 years. Nineteen percent mothers were adolescence. Khas was less than the Dalit and Janajati in adolescent mothers. Dalit mothers were comparatively low mean age at marriage i.e. 23.74 years.

The findings decreasing trend of age at marriage obtained from the qualitative analysis, by and large, consistent with the quantitative one. The Dalit (17.3 years) and Janajati (18.5) were the low mean age at marriage compared to total mean age at marriage (18.9 years) while Khas (19.6 years) was the higher. Two third (64.3%) of the mothers were married in adolescent period. More than 80 percent Dalit mothers were married in adolescent period followed by Janajati (67.1%) and Khas (57%) respectively.

The average CEB was found lower than the 2 (1.96). Janajati (2.17) and Dalit (2.12) were the higher number of average CEB than the total CEB while Khas (1.79) was lower. More than 70 percent of mothers were 1 and 2 CEB.

Nearly 13 percent mothers were experienced the previous child loss (one to three numbers). Khas mothers were less than the total percentage of previous child loss experience while Dalit and Janajati were higher.

Fourteen percent mothers were Illiterate. The Janajati (30.3%) mothers occupied higher proportion in illiteracy status followed by Dalit (23.8%) and Khas (2.2%). Around 6 percent mothers were completed higher secondary level of education. Khas (10.4%) mothers occupied highest position in higher secondary and above education while Dalit (2.4%) second position and Janajati (1.3%) least. Thirty four percent completed secondary level.

More than 50 percent family were Joint and Janajati (42.1%) was the lowest proportion in joint family while Khas (59.7%) was the largest proportion. On the contrary, Khas (35.1%) were the least proportion in Nuclear family whereas Janajati was the highest but the Dalit (50%) and Janajati (52.6%) were nearly equal proportion in nuclear family.

The average distance was 37.4 minutes from the home to nearest health facility. The average distance of Dalit was more than the total average time compare to Janajati while Khas was lower. More than 55 percent of mothers were less than distance from their nearest health facility while 38 percent 30 to 60 minutes and around 5 percent more than 60 minutes far from their nearest health facility.

Khas (21.6%) was the highest percentage in access all three media such Radio, TV and Newspaper followed by Dalit (7.1%) and Janajati (6.6%) respectively.

In the medium and high level of antenatal care index, Khas were the higher proportion followed by Janajati and Dalit respectively while nobody Khas mothers practiced low level of antenatal care and around 24 Dalit and around 15 percent Janajati mothers practiced low level of antenatal care.

Still 31 percent mothers gave birth to baby at home. More than 50 percent Janajati mothers delivered to baby at home followed by 33 percent Dalit and 19 percent Khas respectively. Likewise, thirty five mothers' percent delivered in government health facility and 33 percent in private sectors.

Around 70 percent delivery was assisted by SBA (Doctor/Nurse/ANM) followed by 20 percent untrained friends/relatives/neighbours, around 6 percent HA/AHW and around 5 percent TBA. Among the home delivered mothers, Janajati (34.2%) occupied largest proportion compared to Dalit (16.7%) and Khas (12.7%).

Around 80 percent of mothers involved in housework activities to all ethnicity. Dalit (7.1%) and Janajati (6.6%) mothers were higher proportion in business than Khas (3.0%). Only 2 mothers were found in Service from Khas. Around 8 percent mothers were monthly income while 65 percent had lowest income i.e. ≤3000.

The average landholding of the family was 0.46 hector with 0.58 hector standard deviation. Khas family was the highest average land holding with maximum (0.67 hector) standard deviation followed by Janajati (0.21 average hector of land holding with 0.26 deviation) and Dalit (0.12 average hector of land with minimum deviation-0.19 hector) respectively.

7.1.3: Findings of Newborn Care Practice

More than 76 percent of home delivered mothers from Khas and Dalit cared moderately to their newborn baby and nearly 24 percent practiced poor newborn care whereas the low difference of moderate (56.4%) and poor (44.6%) newborn care practice was found among the home delivered mothers of Janajati.

The moderate newborn care practice was found among PHC delivered mothers in all ethnicity. The practice of private clinic delivered mothers was not exception to the PHC delivered mothers except 11 percent standard practice.

The total 19 percent of mother was observed within adolescence period. The newborn care practice of adolescence mothers was better than the other age group of mothers. The having CEB 1 mothers performed standard and moderate newborn care practice than above CEB 1 but more Janajati mothers concentrated in moderate newborn care than standard newborn care practice. Those mothers who had not any child loss mother have the better newborn care practice in compare to having child loss mothers.

The newborn care practice depends upon the income of mother and family and also household amenities. The foreign employment families were the

better newborn care practice than the family involved in agriculture, wage labour and business in all ethnicity. The Dalit family who involve in farming was the better newborn care in compare to Khas and Janajati family. The income less mother of Khas has the better newborn care practice than Dalit and Janajati.

Both qualitative and quantitative have similar result of newborn care practice in accordance with the education of mother. Educated mother have better newborn care practice than illiterate. Above secondary level of mothers was the improved newborn care practice than under secondary level.

Almost the entire health service provider used SDK for conducting delivery at local level and no body family and mother prepared SDK before delivery. Likewise, the traditional practice of bathing baby immediately after birth was also declining in all ethnicity. The practice of licking honey and ghee as a pre lacteal feeding to the newborn was universal within the study area.

Some mothers and family still first to informed traditional healer in case of the sick baby. The practice was common among the illiterate, poor and the family who resided in far distance from health facility. Still mothers and family consulted with the local pharmacists for the treatment of newborn.

More than 95 percent of mothers were aware about the maternal and child health. Among the mothers belong to high level of health awareness index, around 61 percent Khas maintained standard newborn care followed by Dalit (40.0%) and Janajati (32.0%).

Forty nine percent of mothers themselves were decided the newborn treatment followed by husband, mother-in-law and father-in-law respectively. Father-in-law decided family was observed better newborn care practice in all ethnicity.

8.2: Conclusions

The composite index of newborn care practice indicates the improving newborn care situation (standard-48.8%, moderate-40.9%, poor-10.3%) similar to the qualitative findings obtained from the study. Nevertheless, there are some harmful socio-cultural practices, informs traditional healer for the treatment of sick newborn and using alcohol *(Jhaneko Jaad)* in case of sickness of mother in postpartum period, remained in the rural areas. The

Khas is better practiced newborn care followed by Dalit and Janajati respectively.

The demographic variables- age of mother, number of CEB and previous child loss experience are negatively associated and age at marriage is positively associated with newborn care practice. Likewise, the composite index of demographic variables is perfectly associated positively with newborn care practice. Based on this fact, it could be believed that the mother with better demographic variables has improved newborn care practice. Hence, if the program launched for improving the demographic characteristics, it certainly helps to improve the newborn care practice in rural community.

The examined social variables i.e. the education of mother, the decision makers for the treatment of newborn baby and types of family are positively associated with the newborn care practice but the ethnicity (Khas-1, Janajati-2 and Dalit-3) is associated negatively. Moreover, the composite index of social variables is associated positively with newborn care practice. Based on these facts, it could be concluded that if the mothers and family having high social status has better newborn care practice in rural community.

The economic development index is associated positively with newborn care index. The statistically examined economic variables, i.e. economic development index, with newborn care index made understandable to the researcher that if the mother and family will make economically sound, the poor caring practice of newborn baby, to some extent, will also be decline.

The modernization variables (exposure with modern media and health facilities) are highly associated positively with newborn care practice. Thus, it could be concluded that the better newborn care practice depends upon the improved modernization variables.

8.3: Recommendation

On the strength of test results and the explanation of the information obtained from the study, several recommendations are made. The overall recommendations are segregated in two broad categories i.e. recommendation for future area of research and recommendation for policy implications.

7.3.1: Recommendation for Future Area of Research

- The findings of this study are generalized based on small area of research and small sample size. The macro level study gives the glimpse of national scenario of newborn care practice. On the other hand, the micro level studies in various parts, rural and urban, hill, mountain and tarai, of nations gives the trends, pattern and cultural issues related to newborn care practice.

- The place of delivery is one of the directly associated variables with newborn care practice. The MOH/N implemented the free delivery service and the maternity care scheme for government health service centre based delivery mothers. Nevertheless, only 35 percent of mother visit government health service centre. Still 33 percent of mother visit private sector/NGO, s centre, where they have to pay high charge for the delivery and 31 percent do not visit in any health centre for the delivery. Thus, I would recommend for further researcher to identify the quality and behaviour aspect of delivery provider of government health service centre.

7.3.2: Recommendation for Policy Implications

- The qualitative findings identified some harmful socio-cultural practices, i.e. practice of traditional healer for the treatment of newborn and using alcohol *(Jhaneko Jaad)* in case of sickness of mother in postpartum period. The poor practice is most common in some of the economically vulnerable family, illiterates, illiterate Mongolian family and the family recently migrated from hilly areas. Hence, the governmental and non-governmental efforts are to be made for awareness program to such groups.

- Nearly 21 percent mothers in adolescence, the risky period for both mother and baby, were interviewed in study. The education of mother directly associated with the newborn's health. The declining trend of age at marriage in study area contributing to drop out from the higher education level. Thus, governmental and non-governmental efforts are to be made for increasing the age at marriage above 20 years.

- The test result showed that the newborn care practice decreases along with the increasing number of CEB of women. The presented data shows that 26 percent of Dalit and Janajati, and 21 percent Khas mothers have more than 2 CEB; therefore, the efforts of ensuring newborn's health, the number of CEB should be decrease. It could be success not only through women, but it also increasing awareness

level of male partner too. Thus, the programs focusing both male and female should be launched to decrease the number of CEB.

- Nearly 13 percent mothers have previous child loss experience. Janajati mothers have highest proportion (16.9%) in child loss experience followed by Dalit (14.3%) and Khas (11.2%). The test results indicates that not having previous child loss mothers have better newborn care practice than having child loss experience. Hence, efforts should be made to control the mortality of baby by considering the ethnicity.

- The study proved that improved modernization variables helps to practiced better newborn care in rural community. Hence, the efforts should be made for improving the modernization related variables (Awareness to health-knowledge and practice of ANC, Delivery care, post natal care, immunization to the baby, rest during pregnancy, nutritional food during pregnancy). If the modern health facilities will extensively extended in rural community along with the broadcasting newborn related program from the media, the perfect recommended newborn care practice will performed by the community which directly helps to decrease neonatal mortality.

- Place of delivery has directly associated with the newborn care practice. Study shows that still 31 percent of mothers giving birth to baby without any health facilities. The Janajati mothers have the highest proportion in delivering baby without any health facility (51.3%) followed by Dalit (33.3%) and Khas (19.4%). Almost 35 percent of family have lowest monthly income i.e. ≤4000. Hence, the recommendations have 3 aspects. First, the fact depicted the need of some advertising program of free delivery service in government health service centre along with the free ambulance service for hospital based delivery. Second, the need of maternity fund in local women's group. Therefore, the concerned I/NGOs may be the helpful mechanism for developing maternity fund raising program through participatory contributing model (by women's group and by concerned organizations). The training should be needed for carrying out to the maternity fund. Third, the need of income generating activities to the women and family.

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APPENDIX I

Questionnaires for Household Survey

Serial No. :

Informed Consent

Namaste! My name is.....I am a student of MA second year of population study. Here I have come to conduct the field survey in the topic community based newborn care practices having those mothers who have less than 12 months of baby for academic (thesis) purposes. We would very much appreciate your participation in this survey. The survey usually takes between 20 to 30 minutes to complete.

Your participation in this survey is voluntary. Whatever information you provide will be kept strictly confidential and will not be shown to other person and other purposes. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

May I begin the interview now?

Yes.....1 No.....2 → End.

Name of Interviewer: .....
Date of Interview:...../...../.....Record the time: ...../.....Signature:
Interviewer Visits: 1 2 3
Result:
Completed 1 Incapacitated at home 2 Refused 3
If any comment: .....
Name of Supervisor: .....
Date of Editing: ...../...../.....

A1. District	2. VDC:	A3. Ward: .....
A4.Caste of Household Head		
A5. Religion of Household Head Buddha 1 Hindu 2 Muslim 3 Ishai 4 Kirat 5 Jain 6 Others.....7 Don't Know 8 Not Stated 9		
A6. Mother Tongue of Household Head ..... Don't Know 8 Not Stated 9		
A7. Mother Tongue of Respondent		
A8. Caste of Respondent		
A9. Religion of Respondent Buddha 1 Hindu 2 Muslim 3 Ishai 4 Kirat 5 Jain 6 Others.....7 Don't Know 8 Not Stated 9		

Did your Household have newly born live baby within 12 months? Yes 1 No 2⟶End.

Part A: House Hold Roster

S.N. No.	Name of usual Residents (Starting with the household head)	Relationship to the head of the household	Sex		Age	Ask if more than 5 years					Migration Status	Survey Status
			M	F		Education: Can s/he read and write?		What is the highest grade s/e has completed?	Marital Status	Occupation		Respondent 1, HH Head 2, Other 3
						Can	Can't					
01	***02***	***03***	***04***		***05***	***06***		***07***	***08***	***09***	***10***	***11***
01			1	2		1	2					
02			1	2		1	2					
03			1	2		1	2					
04			1	2		1	2					
05			1	2		1	2					
06			1	2		1	2					
07			1	2		1	2					
08			1	2		1	2					
09			1	2		1	2					
10			1	2		1	2					
11			1	2		1	2					
12			1	2		1	2					
13			1	2		1	2					
14			1	2		1	2					
15			1	2		1	2					

Index:

Index of Column 3:	***Index of Column 7:***	***Index of Column 8:***	***Index of Column 9:***
01=household head 02=husband/wife 03=son/daughter 04=daughter-in-law 05=grand son/daughter 06=father/mother	00=failed/running in 1 class 1-9=grade1 to grade 9 completed 10= test pass 11= SLC pass 12=CL pass or equivalent 13=Bachelor or plus	1=unmarried 2=Currently married 3=Widow/widower 4=Separated 5=Divorce	1=Farming 2= 3=Job/Service 4=Business 5=Agricultural Labor 6=Non Agri. Labor 7=Domestic Work 8= Physical Disabilities 9= Student 10= Do not work 11= Dependent 12= Other_____ **(specify)**
Index of Column 10:			
1=Same VDC 2=Other VDC 3=Other District 4=Other Country			

Part B: General background of Respondent

G_1.	Sex of Baby	Male 1 Female 2	
G_2.	Age of baby in completed months	_____Months	
G_3.	How old are you?	_____Age in completed years	
G_4.	Age at Marriage	_____Completed Years	
G_5.	Caste/Ethnicity	_____ Caste/Ethnicity ☐☐	

Part C: Economic Information

G_6.	Does your household have own land?	Yes 1 No 2→ G_8 Don't know 8→ G_8 Not Stated 9→ G_8	
G_7.	If yes, how much area of land has in your household?	.....In Kattha	
G_8.	Does your household's women member have the ownership of land?	Yes 1 No 2→ G_10 Don't know 8→ G_10 Not Stated 9→ G_10	
G_9.	If yes, how much area of land has female member in your household?	.....In Kattha	
G_10.	What is your Occupation?	Housework 1→ G_12 Agriculture 2→ G_12 Wage Labour in Agriculture 3 Wage Labour in Other Sector 4 Business 5 Service 6 Foreign Labour 7 Others_____96 **(Specify)**	
G_11.	How much monthly income do you have?	_____NRS.	
G_12.	How much monthly income do you have in your household?	_____NRS.	
G_13.	How much income did your household achieved in last month from the following sources? Salary? Shop/Rent/Machine Rent? Rent of transport/Transport Income? Sale of Agricultural Products? Service Charge? Remittance? Caste based Professions? Business? Others_____? **(Specify)**	 _____NRS. _____NRS. _____NRS. _____NRS. _____NRS. _____NRS. _____NRS. _____NRS. _____NRS.	

G_14.	Does your household have:	Yes	No	Don't Know	Not Stated	
	Electricity?	1	2	8	9	
	A Radio?	1	2	8	9	
	A Television?	1	2	8	9	
	A Mobile telephone?	1	2	8	9	
	A Non-mobile telephone?	1	2	8	9	
	A Refrigerator?	1	2	8	9	
	A Table?	1	2	8	9	
	A Chair?	1	2	8	9	
	A Bed?	1	2	8	9	
	A Sofa?	1	2	8	9	
	A Cupboard?	1	2	8	9	
	A Computer?	1	2	8	9	
	A Watch/Clock?	1	2	8	9	
	A Fan?	1	2	8	9	
	A Dhiki/Jato?	1	2	8	9	

G_15.	Does any member of this household own: A bicycle/Rickshaw? A Motorcycle or motor scooter? A tempo? An animal-drawn Cart? A car or truck or tractor?	Yes No Don't Know Not Stated 1 2 8 9 1 2 8 9 1 2 8 9 1 2 8 9 1 2 8 9	

Part D: Access to Media

G_16.	Do you listen to the radio?	Every day 1 Three/Four days a week 2 One/Two days a week 3 One/Two days a two weeks 4 One/Two days a month 5 Once a month 6 Not at all 7	
G_17.	What do you mostly listens in the Radio?	News 1 Health related program 2 Musical Program 3 Others_____96 **(Specify)**	
G_18.	Do you watch television?	Every day 1 Three/Four days a week 2 One/Two days a week 3 One/Two days a two weeks 4 One/Two days a month 5 Once a month 6 Not at all 7	
G_19.	What do you mostly watch on Television?	News 1 Health related program 2 Musical Program 3 Others_____96 **(Specify)**	
G_20.	How often do you read newspaper/magazine?	Every day 1 Mostly 2 Sometimes 3 Rarely 4 Never 5	
G_21.	In the last months, did you read news paper/magazine?	Yes 1 No 2	

Part E: Demographic Information

G_22.	How old were you at the time of marriage?	_____Age at marriage in completed years	
G_23.	How many children did you give birth in your life time? (include the live birth but dead soon after birth)	No. of Live Birth ☐☐	
G_24.	Do you have any sons or daughters to whom you have given birth who are now living with you?	Yes 1 No 2 → G_ 26	
G_25.	How many sons live with you? How many daughters live with you?	_____No. of Sons _____No. of Daughters	
G_26.	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	Yes 1 No 2→ G_ 28	
G_27.	How many sons are alive but do not live with you?	_____No. of Sons Elsewhere _____No. of Daughters Elsewhere	

	How many daughters are alive but do not live with you?		
G_28.	Have you ever given birth to a boy or girl who was born alive but later died?	Yes 1 No 2→ G_ 30	
G_29.	How many boys have died? How many daughters have died?	_____No. of Sons Died _____No. of Daughters Died	
G_30.	Add the no. of sons and daughters in Q.N. G_25, G_27, G_29 and placed the total no. of CEB of a woman.	Total no. of CEB ☐☐	
G_31.	Do you know about contraception?	Yes 1 No 2→G_ 34	
G_32.	Did you ever use contraception?	Yes 1 No 2→ G_ 34	
G_33.	Are you currently using any method of contraception for birth spacing?	Yes 1 No 2	

Part F: New born care practice related Information

G_34.	Who assisted your last delivery?	Doctor/Nurse 1 ANM 2 TBA 3 Relatives/Neighbours/Friends 4 FCHV 5 HA/AHW/MCH 6 Others_____X **(Specify)**	
G_35.	Where did you give birth to the last baby?	Hospital 1 PHC 2 Health post/Sub-health post 3 Own home 4 Medical shop 5 NGOs Hospital/Clinic 6 Private Hospital 7 Private Clinic 8 Others_____96 **(Specify)**	
G_36.	How much cost did you pay for the deliver service provider while delivery conduct at home?	_____ In NRs Total	
G_37.	How much cost expended for your last delivery including medicinal expenses?	_____ In NRs Total	
G_38.	Did your last baby was weighted at the time of delivery?	Yes 1 No 2 →G_40	
G_39.	What was the weight at the time of delivery?	Weight in KG ☐.☐ Don't Know 8	
G_40.	Did your attendant wash their hands before conducting the delivery?	Yes 1 No 2 →G_42 Don't know 8	
G_41.	If yes what material did they use for washing the hand?	Soap and water 1 Ash and water 2 Only water 3 Other_____96 **(Specify)**	

G_42.	Did your attendant use CHDK during your delivery?	Yes 1 No 2 Don't know 9	
G_43.	Did your baby cry immediately after birth?	Yes 1→G_45 No 2	
G_44.	If no, what measures had been adopted? (**Probe)**	_____ _____	
G_45.	Did your baby breathe immediately after birth?	Yes 1 No 2→G_47	
G_46.	If no, what measure had been done? **(Probe)**	Resuscitation 1 Used oxyzen 2 Others_____96 **(Specify)**	
G_47.	When did you cut the cord?	Before the expulsion- Of plancenta 1 After the expulsion- Of plancenta 2	
G_48.	Approximately how long it took to deliver the placenta?	_____Minutes	
G_49.	Which instrument was used to cut the umbilical cord?	Sterilized Ceasure 1 CHDK Blade 2 New boiled blade 3 Used boiled blade 4 New not boiled Blade 5 Used blade 6 Knife/khukuri/Hasiya 7 Bamboo blade 8 Other _____96 **(Specify)**	
G_50.	Which material was used for tying cord?	Cord Clamp 1 CHDK thread 2 Boiled thread 3 Used thread 4 Other_____96 **(Specify)**	
G_51.	Did you apply any material on the stump of umbilical cord?	Yes 1 No 2 Don't know 8→G_53	
G_52.	If yes, which material was used on the stump of umbilical cord?	Oil/Ghee/Butter 1 Turmeric powder 2 Ointment/Medicine 3 Others_____96 **(Specify)**	
G_53.	Did you use any material for cord stump dressing?	Yes 1 No 2→G_55	
G_54.	If yes, which material was used for cord stump dressing?	Cotton 1 New and washed Cloth 2 Used but washed Cloth 3 New but unwashed cloth 4 Used unwashed Cloth 5 Don't know 8 Others_____96 **(Specify)**	
G_55.	Did you dry baby immediately after birth?	Yes 1 No 2→G_58	
G_56.	If yes, When did you dry baby after birth?	Before the expulsion of Placenta 1	

		After the expulsion of placenta 2 Other_____96 **(Specify)**	
G_57.	Which material was used for drying baby?	Cotton 1 New and washed Cloth 2 Used but washed Cloth 3 New but unwashed cloth 4 Used unwashed Cloth 5 Don't know 8 Others_____96 **(Specify)**	
G_58.	When did you wrap the baby after delivery?	Before delivering Placenta 1 After immediate delivering Pla. 2 After some an hour 3 Don't Know 8	
G_59.	Did you wrap the baby before placenta was delivered?	Yes 1 No 2→ G_64	
G_60.	Estimated time for wrapping the baby	_____Minutes	
G_61.	Which material was used for wrapping the baby?	New and washed Cloth 1 Used but washed Cloth 2 New but unwashed cloth 3 Used unwashed Cloth 4 Don't know 8 Others_____96 **(Specify)**	
G_62.	Did you wrap the baby head to toe (whole length)?	Yes 1 No 2→ G_64	
G_63.	If yes, which part of the baby was wrapped?	Whole body with Head 1 Body only 2	
G_64.	How long after birth you bath your baby?	_____Minutes(if less than one hour) _____Hours(if less than 24 hours) _____Day(if more than 24 hours)	
G_65.	How long after birth your baby was given to you?	_____minutes	
G_66.	How did you keep your baby after given to you?	Kangaroo method 1 On the same bed 2 On the different Bed 3 Other_____96 **(Specify)**	
G_67.	How long after birth you attempted baby for breastfeeding?	_____Minutes(if less than one hours) _____hours(if less than 24 hours) _____Day (if more than 24 hours)	
G_68.	Did you make pre-lacteal feeding for the newborn baby?	Yes 1 No 2→ G_70	
G_69.	If yes, what material did you use for pre-lacteal feeding?	Ghee 1 Honey 2 Cow Milk 3 Lacto Zen 4 Glucose Water 5 Don't know 8 Other_____96 **(Specify)**	
G_70.	Did you feed colostrums to the baby?	Yes 1 No 2	
G_71.	Did you visit post-natal clinic?	Yes 1 No 2→ G_76	
G_72.	If yes when did you visit first	_____hours(if less than 24 hours; and if	

	post-natal clinic?	less than 1 hours, write '00') _____days(if more than 24 hours) _____weeks(if more than 7 days)	
G_73.	How many times did you visit to post natal check up?	_____No. of times	
G_74.	Who Provided the PNC service?	Doctor 1 Nurse 2 ANM 3 HA/AHW/MCH 4 TBA 5 Relative/Neighbour 6 Others_____96 **(Specify)** Don't know 8	
G_75.	Where did you visit for post natal check up?	Hospital (Govt/private/NGOs) 1 PHC 2 Health Post 3 Private Clinic 4 TBA/MCHW/VHW 5 Traditional Healer 6 At Home 7 Others_____96 **(Specify)**	
G_76.	Did your baby immunize for BCG?	Yes 1 No 2→ G_79	
G_77.	When did you immunize for BCG to the newborn baby after delivery?	_____No. of days (If less than 1 day, write '00')	
G_78.	Check the Immunization card and write the growth rate of baby	_____	
G_79.	Did you heard about danger signs of newborn?	Yes 1 No 2→ G_81	
G_80.	If yes, what are those signs?	Do not Sucking 1 Drowsy 2 Cyanosis 3 Birth Asphyxia 4 Cord Bleeding 5 Hypothermia 6 Apnoea 7 Convulsion 8 Others_____96 **(Specify)**	
G_81.	Did you see following danger signs?	Yes / No / Don't Know	
	Do not Sucking?	1 / 2 / 8	
	Drowsy?	1 / 2 / 8	
	Cyanosis?	1 / 2 / 8	
	Birth Asphyxia?	1 / 2 / 8	
	Cord Bleeding?	1 / 2 / 8	
	Hypothermia?	1 / 2 / 8	
	Apnoea?	1 / 2 / 8	
	Convulsion?	1 / 2 / 8	

G_82.	Check G_81, if circle at 1 in any danger sign, please asked Where did you take your newborn baby for the treatment?	Hospital/PHC/HP/SHP 1→ G_84 Private Clinic/Hospital 2→ G_84 Pharmacists 3 At Traditional Healer 4 Care at Home 5 (Home Made Remedy) Other_____ 96 **(Specify)**	
G_83.	Why the baby hadn't taken to the health institution?	Distant to health facility 1 Expensive health Service 2 Not custom for Check up 3 Lack of Transportation 4 Not Necessary 5 Other_____ 96 **(Specify)**	
G_84.	Who used to decide about treatment of newborn?	Self 1 Husband 2 Mother-in-law 3 Father-in-law 4 Others_____96 **(Specify)**	
G_85.	Had you visited ante-natal clinic during this pregnancy?	Yes 1 No 2→ G_94	
G_86.	If yes, where did you visit for ANC**?**	Hospital 1 PHC 2 Health Post/Sub-Health Post 3 Private Clinic 4 Outreach Clinic 5 Pharmacist 6 TBA 7 Others_____96 **(Specify)**	
G_87.	Who provided for ANC Service?	Doctor 1 Nurse 2 ANM 3 HA/AHW/MCHW 4 VHW/FCHV 5 Pharmacists 6 TBA 7 Others _____ 96 **(Specify)** Don't Know 8	
G_88.	How frequently you visited ANC during this pregnancy?	No. of times_____	
G_89.	Which ANC Services did you receive in your last pregnancy?	Pregnancy Check up 1 TT vaccine 2 Iron Tablets 3 Folic Tablets 4 Intestinal Parasitic Drugs 5 Others _____ 96 **(Specify)**	
G_90.	How many times did you visit for Pregnancy check up?	_____No. of times	
G_91.	How many times did you receive TT vaccine?	_____No. of times	
G_92.	How many days did you receive Iron tablets? (Including Post delivery)	_____No. of days	

G_93.	How many days before the delivery did you visit for last pregnancy check up?	_____No. of last visit for delivery check up	
G_94.	Did you get extra rest time, other than regular rest time, in your last pregnancy?	Yes 1 No 2→ G_96	
G_95.	If yes, how much hours a day?	_____No. of rest hours	
G_96.	What are the works did you perform in the last pregnancy?	Do not work 1 Works within Kitchen 2 Carrying water 3 Carrying Firewood/Grass 4 Washing Cloths 5 Others _____ 96 **(Specify)**	
G_97.	Did you have a extra nutritional food, other than regular food, in your last pregnancy?	Yes 1 No 2→ G_100	
G_98.	If yes, what are those foods?	Meat/Fish/Lever 1 Milk 2 Vegetable Leaf 3 Yellow Pumpkin/Carrot 4 Cereals/Beans 5 Fruits 6 Others _____ 96 **(Specify)**	
G_99.	How frequently did you eat these extra nutritional foods?	Every Day 1 Three/Four Days a Week 2 One/Two Days a Week 3 Others _____ 96 **(Specify)**	

Part G: Service Related Questions

G_100.	Do you know about free health service of government?	Yes 1 No 2	
G_101.	If yes, which facilities are free of cost?	Free Ticket 1 Free Drugs 2 Free Pathology 3 Others _____ 96 **(Specify)** Don't know 8	
G_102.	Have you ever gone to health service centre for the health check up of newborn after implementation of free health program?	Yes 1 No 2	
G_103.	Which facilities did you get free of cost?	Free Ticket 1 Free Drugs 2 Free Pathology 3 Others _____ 96 **(Specify)** Nothing 4 Don't know 8	
G_104.	If not the free health program, where did you take the sick baby for the health check up first?	Government Health Centre 1 Private Hospital 2 Private Clinic 3 FCHV 4 TBA 5 Others _____ 96 **(Specify)** No where 6	

G_105.	Do you know about the maternity care scheme?	Yes 1 No 2	
G_106.	Check Q.N. 35 If circle in 1-3 ↓ If other → 110		
G_107.	If yes, how much money did you get for the delivery in health service centre?	_____NRs.	
G_108.	For which purposes, the maternity scheme has provided?	Transportation Cost 1 Motivation to hospital delivery 2 For Nutritional food 3 Others _____ 96 **(Specify)** Don't know 8	
G_109.	If not the maternity care scheme, where did you give birth to the baby?	Govt. Hospital 1 PHC/HP/SHP 2 Private/NGOs Hospital 3 Private Clinic 4 TBA/ FCHV 5 Pharmacists 6 At Home 7 Others _____ 96 **(Specify)** Don't know 8	
G_110.	Why did you not given the birth of baby at health institution?	Lack of knowledge 1 Far Distance to Health centre 2 Lack of transportation 3 Too cost 4 Not Necessary 5 Lack of female service provider 6 No custom 7 Others _____ 96 **(Specify)**	
G_111.	Check G_28 If circle in 1 ↓ If other → 115		
G_112.	How old was the baby at the time of death?	_____ month completed (If less than 1 month, write '00')	
G_113.	What were the causes behind that death of baby?	Do not cry at birth 1 Late Delivery from date 2 Birth Asphyxia 3 Low Birth Weight 4 Long Labour Pain 5 Convulsion 6 Typhoid 7 Pneumonia 8 Diarrhoea 9 Jaundice 10 Accident 11 Others _____ 96 **(Specify)** Don't know 15	
G_114.	How far is the health care facility from your home (in time)?	_____minutes	

Thanking you very much for your generous cooperation.

APPENDIX II

IN-DEPTH INTERVIEW GUIDELINE

Informed Consent

Namaste! My name is.....I am a student of MA second year of population study. Here I have come to conduct the field study in the topic newborn care practices among Khas, Dalit and Janajati having those mothers who have less than 12 months of baby for academic (thesis) purposes. The added information, obtained from the mothers, is also required for the analysis of my academic research which information have expected from you. We would very much appreciate your participation in this survey. The survey usually takes between 45 to 60 minutes to complete.

Your participation in this survey is voluntary. Whatever information you provide will be kept strictly confidential and will not be shown to other person and other purposes. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

May I begin the interview now?

Yes.....1 *No.....2* → *End.*

Type of delivery attendant:

Health personnel ☐ Post: .....

Name of health institution: .....

FCHV ☐ TBA ☐ Mother-in-law ☐

VDC: ..... Ward: .....

Name of respondent: ..... Ethnic group: .....

Age ..... Education: .....

Date of Interview: .....

a. Interview guideline regarding the practice of delivery attendants

1. How frequently villagers call you to attend a delivery?

2. What materials are you using during the delivery? Could you say to us?

List all the items that the participants are using:

.....

3. Please describe the steps you took during delivery (last couple of deliveries)?

Probing questions

How long you have to visit to attend delivery (In general)?

When you have been there where was the mother and what was she doing?

Who (else) was/were present at that time what were they doing?

(Please mark the following: ACTIVITY YES NO)	Yes	No
Washes hands with water and soap before starting the delivery:	1	2
Cleanness of the area where pregnant was placed:	1	2
Wiping of baby with dry cloth:	1	2
Wrapping of newly delivered baby in cloth:	1	2
Washing of hands with water and soap before tying the cord:	1	2

Tying of umbilical cord with clean material: 1 2

Cutting of umbilical cord with boiled/clean sharp tool: 1 2

Application of any material on stump: 1 2

(For extra detailed information and general practices)

4. How was the mother prepared just before delivering the baby?

Probing questions

Where was the delivery done and how was that place prepared?

Was it cleaned? 1 2

Was anything put on the floor? 1 2

Which material was used to cut the cord? .....

Which material was used to tie the cord? .....

What preparation (if any) was done to the instrument used to cut the cord? .....

At what time was the cord cut (before or after the placenta has delivered)? Why? .....

How long did it take for the placenta to deliver? (Also related to wrapping of baby) .....

If a coin was used as cutting surface, probe:

Did you boil the coin before using it? Yes 1 No 2

5. At what time do you wash your hands? Why?

Probing questions

Is washing your hands during delivery important? If so, why? When is most important?

Do you use soap when washing your hands during delivery? Why?

6. How is the newborn baby taken care of?

Probing questions

After the birth of the baby, what did you do?

Where did you put baby to wait for the placenta?

Who wrapped the baby? When?

When is breastfeeding started? Why? Does the baby suckle?

Are any other kinds of food/drink given to the newborn baby?

7. Do you have any experience that baby do not cry or breath immediately after birth?

Yes 1 No 2

If yes, what measures have you done?

<u>b. Interview guideline regarding common practice of villagers.</u>

1. Do the villagers do any preparation for delivery? If yes, what do they do? If not why?

(Probe about preparation of food, materials needed, transport, contacted with SBA/TBA, money during delivery etc.)

Do People plan for any emergency?

2. What is the common practice for delivery in your village?

Where do they deliver the baby?

Who assist during delivery?

3. What is the common practice regarding essential newborn care?

Probing questions

What is done for newborn immediately after delivery (probe about Practice of wipe baby, wrap baby?)

What material use for curd cutting and tie it?

Is there practice of applying some material on the stump? If yes,

What material do they commonly use? Why? Do you have any experience of its benefit/harm?

What is the common practice regarding baby bathing (probe about duration between baby birth and baby bath, using water-warm or not)

When do mother start feeding to baby? (Probe about practice of colostrums feeding, pre-lacteal feeding)

Is their any problem regarding breast-feeding? If yes what will be the solution?

4. On your experience what type of health problems are the villagers consider as danger signs of newborn?

What will be done if those signs seen in the newborn? Why?

C. Interview guidelines regarding the socio-cultural practices of newborn and maternal health; and free health service/maternity care scheme.

1. Is there any such practices exists which influence the newborn care?

If yes, what are those? How can be improving? If can't improve, why?

2. Is there any practice of social norms, values, culture regarding the new born care in the society?

3. Generally who decides the ANC Visit, place of delivery, delivery attendance, sick new born for treatment and PNC?

4. Is the present health service affordable to the people?

5. Impact on new born care practice due to the free health service.

Probe:

Health centre attendance of sick new born baby before and after free health program.

Quality of free health program.

6. Impact of maternity care scheme on health centre based delivery and newborn care.

'Thank the respondent for the information and time that s/he has dedicated to us.

Reassure the respondent on absolute confidentiality of the information'

APPENDIX III

FGD GUIDELINE

1. Please shared me the trends of age at marriage of women in your community in general.
2. Do the women visit for Antenatal check up? If yes, where are they visits for ANC Check up? If not, why?
3. What are the materials that mothers and family have prepared for the delivery?
4. How frequently do the women give birth to the baby at home? Please give me the socio-economic status and demographic status of the home delivered mothers and family in your community.
5. Have you seen any specific reasons for home delivery? If yes, what are they?
6. What are materials does the mothers/family used for cutting umbilical cord and for tying placenta?
7. What are the materials does the mothers/family used for wrapping the baby immediately after birth?
8. How long after birth the baby is breastfed for the first time?
9. Generally who assist for the home delivering mothers?
10. Do the community people use other food for newborn within one month of birth?
11. Where does the mothers/family visit for the treatment of newborn baby? Why?
12. Could you share me the causes of visit private health service center for the delivery? What are the practice of delivery did you get in private center?
13. What are the newborn care practice did you get in private clinic? What are the materials they used for cord cutting, tying the cord, drying and wrapping the baby?
14. Do the women and family heard about the maternity incentives for Government health center based delivery? If yes, how many of them?
15. Do the women and family heard about the free health service in government health center?
16. What are the socio-cultural practices of newborn care do you observed in your community?

THANK YOU VERY MUCH FOR YOUR VALUABLE TIME AND INFORMATION!

APPENDIX IV

UN AGE-SEX ACCURACY INDEX

Age Group	Population		Sex Ratio	Successive Difference in Sex Ratio	Age Ratio for Male	Deviation From 100	Age Ratio for Female	Deviation From 100
	Male	Female						
0-4	149	175	85.14	-	-	-	-	-
5-9	50	49	102.04	-16.9	56.5	43.5	44.95	55.05
10-14	22	43	51.16	50.88	37.61	63.39	74.14	25.86
15-19	25	67	37.31	13.85	48.54	51.46	87.58	12.42
20-24	81	110	73.64	-36.33	128.57	-28.57	141.03	-41.03
25-29	101	89	113.48	-39.84	124.69	-24.69	114.10	-14.10
30-34	81	46	176.09	-62.61	119.12	-19.12	86.79	13.21
35-39	35	17	205.88	-29.79	71.43	28.57	54.83	45.17
40-44	17	16	106.25	99.63	61.18	38.32	80.00	20.00
45-49	20	23	86.96	19.29	105.26	-5.26	115.00	-15.00
50-54	21	24	87.50	-0.54	89.36	10.64	104.35	-4.35
55-59	27	23	117.39	-29.89	145.95	-45.95	117.95	-17.95
60-64	16	15	106.67	10.72	86.94	13.51	83.33	16.67
65-69	10	13	76.92	29.75	71.42	28.58	113.04	-13.04
70-74	12	8	150.00	-73.08	114.26	-14.26	114.26	-14.26
75+	11	11	100.00	50.0	-	-	-	-
Total				-14.86		140.12		68.65
Mean				14.86/15=0.99		140.12/14=10.0		68.65/14= 4.90

UN Age-Sex Accuracy Index=3×Mean Difference in Sex Ratio + Mean Difference in Age Ratio for Male +Mean Difference in Age Ratio for Female

$= 3 \times 0.99 + 10.0 + 4.9$

$=17.87$

APPENDIX V

IMPLEMENTED WEIGHTED SCORE

Social Variables					
Age of Mothers	**Education**	**Decision Making**	**Health Accessibility** (in minute)	**Family Type**	**Score**
15-19	Illiterate	Others	Near (>30)	Nuclear	1
20-24	Primary	Husband	x	x	2
25-29	L.S*	Mother	Nearer (30-60)	Joint	3
30-34	Secondary	Mother-in-Law	x	x	4
35-39	H. S.**	Father-in-Law	Far (60+)	Extended	5
40-44	Bachelor +	x	x	x	6

* Lower Secondary ** Higher Secondary

Demographic Variables				
Age of Mothers	**Age at Marriage**	**Number of CEB**	**Previous Child Loss Experience**	**Score**
40+	<16	5	3+ Child Loss	1
35-39	16-19	4	x	2
30-34	20	3	Double Child Loss	3
25-29	20-24	2	Single Child Loss	4
20-24	25+	1	Not Experience	5
15-19	x	x	x	6

Economic Variables						
Occupation of HHs	**Occupation Of Mothers**	**Income of Family**	**Income of Mothers**	**Level of HH Amenities**	**Land Holding***	**Score**
Farming	Housework	≤4000	None	Low **	None	1
Wage Labour	Farming	4001-6000	≤3000	x	<0.17	2
Business	Wage Labour	6001-9000	3001-5000	Medium***	0.18-0.34	3
Service	Business	9001-12000	5001-9000	x	0.35-0.51	4
Foreign	Service	12000+	9000+	High****	0.52-0.68	5
x	x	x	x	x	0.68+	6

* **In Hector** **≤0.39 *** **0.40-0.74** ****0.74+**

Modernization Variables

Awareness to Health	**Place of Delivery**	**Media Exposure Level**	**Score**
Low (≤0.39)	At Home	Low(≤0.39)	1
Medium (0.40-0.74)	Private Clinic/ PHC/ Sub-Health Post	Medium (0.40-0.74)	3
High (0.74+)	Hospital	High (0.74+)	5

ANNEX VI

DISTRIBUTION OF AGE AND SEX OF HOUSEHOLD POPULATION BY ETHNICITY

	Male		Female			Total	
Khas	Age Group	N	Percent	N	Percent	N	Percent
	0-4	82	49.4	84	50.6	166	22.8
	5-9	22	47.8	24	52.2	46	6.3
	10-14	10	38.5	16	61.5	26	3.6
	15-19	6	17.1	29	82.9	35	4.8
	20-24	36	39.6	55	60.4	91	12.5
	25-29	51	49.5	52	50.5	103	14.1
	30-34	54	65.9	28	34.1	82	11.3
	35-39	23	76.7	7	23.3	30	4.1
	40-44	9	56.3	7	43.8	16	2.2
	45-49	7	36.8	12	63.2	19	2.6
	50-54	11	42.3	15	57.7	26	3.6
	55-59	13	43.3	17	56.7	30	4.1
	60-64	8	50.0	8	50.0	16	2.2
	65-69	8	53.3	7	46.7	15	2.1
	70-74	7	53.8	6	46.2	13	1.8
	75-79	4	66.7	2	33.3	6	0.8
	80+	3	37.5	5	62.5	8	1.1
	Total	354	48.6	374	51.4	728	100.0
Dalit	0-4	22	38.6	35	61.4	57	20.4
	5-9	11	52.4	10	47.6	21	7.5
	10-14	3	16.7	15	83.3	18	6.5
	15-19	7	30.4	16	69.6	23	8.2
	20-24	20	40.0	30	60.0	50	17.9
	25-29	17	60.7	11	39.3	28	10.0
	30-34	11	61.1	7	38.9	18	6.5
	35-39	7	58.3	5	41.7	12	4.3
	40-44	2	25.0	6	75.0	8	2.9
	45-49	9	75.0	3	25.0	12	4.3
	50-54	3	33.3	6	66.7	9	3.2
	55-59	6	85.7	1	14.3	7	2.5
	60-64	2	50.0	2	50.0	4	1.4
	65-69	0	0.0	4	100.0	4	1.4
	70-74	3	75.0	1	25.0	4	1.4
	75-79	1	33.3	2	66.7	3	1.1
	80+	1	100.0	0	0.0	1	0.4
	Total	125	44.8	154	55.2	279	100.0
Janajati	0-4	45	44.6	56	55.4	101	25.3
	5-9	17	53.1	15	46.9	32	8.0
	10-14	9	42.9	12	57.1	21	5.3

	15-19	12	35.3	22	64.7	34	8.5
	20-24	25	50.0	25	50.0	50	12.5
	25-29	33	56.9	25	43.1	58	14.5
	30-34	16	59.3	11	40.7	27	6.8
	35-39	5	50.0	5	50.0	10	2.5
	40-44	6	66.7	3	33.3	9	2.3
	45-49	4	33.3	8	66.7	12	3.0
	50-54	7	70.0	3	30.0	10	2.5
	55-59	8	61.5	5	38.5	13	3.3
	60-64	6	54.5	5	45.5	11	2.8
	65-69	2	50.0	2	50.0	4	1.0
	70-74	2	66.7	1	33.3	3	0.8
	75-79	1	33.3	2	66.7	3	0.8
	80+	1	100.0	0	0.0	1	0.3
	Total	199	49.9	200	50.1	399	100.0
Overall	0-4	149	46.0	175	54.0	324	23.0
	5-9	50	50.5	49	49.5	99	7.0
	10-14	22	33.8	43	66.2	65	4.6
	15-19	25	27.2	67	72.8	92	6.5
	20-24	81	42.4	110	57.6	191	13.6
	25-29	101	53.4	88	46.6	189	13.4
	30-34	81	63.8	46	36.2	127	9.0
	35-39	35	67.3	17	32.7	52	3.7
	40-44	17	51.5	16	48.5	33	2.3
	45-49	20	46.5	23	53.5	43	3.1
	50-54	21	46.7	24	53.3	45	3.2
	55-59	27	54.0	23	46.0	50	3.6
	60-64	16	51.6	15	48.4	31	2.2
	65-69	10	43.5	13	56.5	23	1.6
	70-74	12	60.0	8	40.0	20	1.4
	75-79	6	50.0	6	50.0	12	0.9
	80+	5	50.0	5	50.0	10	0.7
	Total	678	48.2	728	51.8	1406	100.0

APPENDIX VII

PROFILE OF FGD PARTICIPANT

FGD	Caste/Ethnicity	Age of	Education	Age of Baby	Place of
1	Tamang (J*)	27	12	1	Shanishchare-3
	Rajbanshi(J)	20	8	3	Shanishchare-6
	Brahmin	22	10	1	Shanishchare-5
	Brahmin	17	6	4	Shanishchare-9
	Mukhiya(J)	19	10	4	Shanishchare-6
	Chaudhari(J)	23	9	11	Shanishchare-6
	Rai(J)	25	Illiterate	10	Shanishchare-9
	Chaudhari(J)	26	Literate	3	Shanishchare-5
2	Brahmin/Chhetri	20	SLC	1	Budhabare-4
	Brahmin/Chhetri	28	SLC	8	Budhabare-3
	Rai(J)	32	8	3	Budhabare-2
	Newar	20	10	6	Budhabare-2
	Brahmin/Chhetri	27	5	4	Budhabare-2
	Brahmin/Chhetri	25	10	0	Budhabare-4
	Brahmin/Chhetri	26	10	3	Budhabare-2
	Brahmin/Chhetri	28	B.A.	3	Budhabare-2
3	Limbu(J)	33	Literate	0	Arjundhara-3
	Brahmin	21	8	1	Arjundhara-4
	Danuwar(J)	19	Illiterate	3	Arjundhara-3
	Chhetri	32	8	3	Arjundhara-3
	Danuwar(J)	18	6	9	Arjundhara-3
	Mahato(TC**)	19	7	2	Arjundhara-3
	Chaudhari(J)	17	7	4	Arjundhara-3
	Bhujel(J)	25	Illiterate	1	Arjundhara-3
	Rishi(Dalit)	17	5	2	Arjundhara-3
	Danuwar(J)	20	2	1	Arjundhara-3
4	Baraili(Dalit)	40	Illiterate	11	Khudunabari-8
	Brahmin	21	SLC	1	Khudunabari-8
	Brahmin	20	10+2	5	Khudunabari-8
	Tamang(J)	23	SLC	2	Khudunabari-8
	Brahmin	28	9	1	Khudunabari-8
	Brahmin	24	7	1	Khudunabari-8
	Chhetri	21	8	3	Khudunabari-8

APPENDIX VIII

PROFILE OF KEY INFORMANTS

Category	Frequency	Age	Ethnicity	Education
Mother-in-law	1	53	Janajati	Illiterate
	1	56	Dalit	Literate
	1	48	Khas	5th grade
	1	51	Khas	Literate
TBA	1	50	Janajati	Literate
	1	54	Khas	Literate
	1	41	Khas	7th grade
	1	51	Khas	8th grade
FCHV	1	50	Khas	6th grade
	1	48	Khas	8th grade
	1	46	Khas	Literate
	1	36	Janajati	8th grade
MCHW	1	35	Janajati	S.L.C.
	1	42	Khas	S.L.C.
AHW	1	40	Khas	PCL*
	1	48	Khas	Bachelor
	1	34	Khas	PCL*
ANM	1	55	Khas	PCL*
Total	18			

* Proficiency Certificate Level (Completed grade 12th)