

**ASSESSMENT OF THE ENVIRONMENTAL CONDITION
RELATED TO DENGUE AMONG THE PEOPLE OF A
SELECTED COMMUNITY, CHITWAN**

**By
ANJU MARAHATTA**

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RESEARCH APPROVAL SHEET

Research on "Assessment of the Environmental Condition Related to Dengue among The People of a Selected Community, Chitwan" my bonafide work is being submitted for approval to Tribhuvan University, Institute of Medicine, Nursing Campus Birgunj, Parsa to fulfill the requirement of Bachelor in Nursing programme(Hospital)

Student
Anju Marahatta

Research Report Approved By
Campus Chief
Associate Professor: Muna Rana
T.U, IOM,
Nursing Campus Birgunj

Research Advisor
Instructor, Ganga Pant
Nursing Campus Birgunj

BN Programme Co-ordinator
Instructor: Sita Oli
Nursing Campus Birgunj

Date.....

ABSTRACT

Title: "Assessment of the Environmental Condition Related to Dengue among the People of a Selected Community, Chitwan".

Objective: The Study was be intended to "assess the environmental conditions related to dengue."

Background: Dengue is a climate sensitive vector borne diseases, which in recent years has become a public health concern. Dengue is transmitting in tropical and subtropical regions around the world, predominantly in urban and suburban areas (WHO,2006). Domestic dengue virus (DV) infection occurs in more than 100 countries and over 2.5 billions people live in the areas with a risk of dengue virus infection. Up to 100 million cases of Dengue fever (DF) and 500,000 cases of Dengue Hemorrhagic Fever (DHF) and several thousands deaths are estimated to occur annually worldwide.(WHO, 2008).

Methodology: Descriptive Exploration research design was used with the non-probability purposive sampling technique. Total of 50 respondents from Bharatpur-11 Chitwan were selected as sample. Semi-structured interview schedule was used.

Result: Study result shows that the highest (42%) of the respondents were age group of 20-29 years and lowest (8%) were above 49 years of age. Mean age of the respondents was 29.76 with standard deviation 9.29. Highest percent (62%) of were female. Data shows that 86% of the respondents were literate. It is found that cent percent (100%) of the respondents had received information about dengue fever. Among them, highest percent (66%) had received from radio/TV. It is also found that 68% of the respondents' family members had no dengue fever. Almost all (96%) of the respondents respond that dengue fever is the mosquito born disease. Result shows that 74% respond flowering pot is the mosquito breeding place.

Conclusion: : The study concluded that most of the respondents respond for dengue fever is the mosquito born disease. Most of them used mosquito nets for the prevention of disease. Three fourth of the respondents respond for dengue fever as a seasonable disease. Among them, more than half of the respondents respond summer

is the mostly occurring season of dengue fever. Most of respondents used to cover water supplied in household level. All most all household level had Water holding containers and water logged area near by residential .More than two third respondents household level had urban stagnant water filled potholes, covered water container after using it.

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CHAPTER I

INTRODUCTION

1.1 Background

Dengue hemorrhagic fever (DHF) was first recognized in the 1950s during the dengue epidemics in the Philippines and Thailand. By 1970 nine countries had experienced epidemic DHF and now, the number has increased more than fourfold and continues to rise. Today emerging DHF cases are causing increased dengue epidemics in the Americas, and in Asia, where all four dengue viruses are endemic; DHF has become a leading cause of hospitalization and death among children in several countries (World health organization) (WHO, 2009).

Dengue is a climate sensitive vector borne diseases, which in recent years has become a public health concern. Dengue is transmitting in tropical and subtropical regions around the world, predominantly in urban and suburban areas (WHO, 2006).

The principle vector of dengue virus is the mosquito *Aedes Aegypti*, domestic day biting mosquito. It is also found in the periphery of cities breeding in rain water accumulated in tree holes. The disease occurs in epidemic form during late monsoon and post- monsoon season, as an outcome of increase in breeding places and vector population. However, outbreaks of considerable magnitude have also occurred during the summer and pre-monsoon season as a result of water scarcity and consequent storage of water for domestic purposes (WHO, 2008).

Studies suggest that rainfall patterns seem to be a reasonably effective predictor of time of peak dengue transmission which occurs about six or eight weeks after the peak in rainfall. A five year study in Indonesia showed DHF cases started to rise after about 4 weeks of the peak rain fall and within the next 4 weeks the peak dengue transmission was recorded (Nepal Health Research Center) (NHRC, 2009).

Moreover, *A. aegypti* has been identified in five major urban areas of Terai region and

Kathmandu which suggests that DF transmission may occur locally in Terai districts and Kathmandu valley if imported cases are introduced. Climate is an important factor in the epidemiology of dengue as it influences the distribution and densities of vector mosquitoes. Evidences show that season, rainfall, temperature and affects dengue transmission (NHRC, 2009).

In Asia and the Americas, *Aedes aegypti* breeds primarily in man-made containers like earthenware jars, metal drums and concrete cisterns used for domestic water storage, as well as discarded plastic food containers, used automobile tires and other items that collect rainwater. In Africa the mosquito also breeds extensively in natural habitats such as tree holes, and leaves that gather to form "cups" and catch water (WHO, 2009).

Domestic dengue virus (DV) infection occurs in more than 100 countries and over 2.5 billions people live in the areas with a risk of dengue virus infection. Up to 100 million cases of Dengue fever (DF) and 500,000 cases of Dengue Hemorrhagic Fever (DHF) and several thousands deaths are estimated to occur annually worldwide. During the past decades, dengue virus emerged in South Asia and DF/DHF epidemics occurred in Bhutan, India, Bangladesh and Pakistan (WHO, 2008).

Dengue has increased worldwide in recent decades, but little is known about its incidence in Africa. During 1960-2010, a total of 22 countries in Africa reported sporadic cases or outbreaks of dengue; 12 other countries in Africa reported dengue only in travelers. The presence of disease and high prevalence of antibody to dengue virus in limited serologic surveys suggest endemic dengue virus infection in all or many parts of Africa. Dengue is likely under recognized and under reported in Africa because of low awareness by health care providers, other prevalent febrile illnesses and lack of diagnostic testing and systematic surveillance (Amarasinghe, 2011).

Nepal reported dengue first cases for the first time in 2004 from chitwan district. About 15% increase in the number of reported dengue in 2007 as compared to same period last year) (Pandey et al., 2004). Sporadic cases were reported since 1990's in Japanese travellers who visited Nepal and developed DF after returning to Japan (Pandey et al., 2008). EV was identified in 5 major urban areas of terai region bordering with India, i.e. Biratnagar (Morang), Birganj (Parsa), Bharatpur (Chitwan),

Tulsipur (Dang) and Nepalganj (Bake) during the entomological surveillance in Japanese Encephalitis endemic district after the Dengue outbreak in 2006 in Nepal (WHO, 2006).

In 2006, there was report of suspected DF outbreaks in Bake district. A total of 70 serum samples from suspected DF cases were collected from 19 districts. So far, 22 cases of DF had laboratory confirmed and many patients having similar symptoms visited India for treatment and confirmed as DF. Of the total ninety four percent patients were adults and male to female ratio was 4:1 (NHRC, 2009).

Dengue is a major mosquito born viral infection found in tropical and sub-tropical region around the world. Dengue is supported by uncontrolled Urbanization, Increasing demography, climate, Home environment like Housing, water drainage system, urban waste disposal, road, water storage and supply.- In a developing country like Nepal, preventable diseases such as dengue have the potential to cause the greatest mortality so it is important for the find out the Home environment condition.

1.2 Statement of the Problem

Worldwide, 2.5 billions persons at risk, 60 millions cases per year and 30,000 deaths per year (WHO,2008). There is limited information available on dengue viral infections in Nepal. In Nepal, the first case of dengue was reported in 2004 from Chitwan district (Pandey, 2004). Sporadic cases were reported since 1990's in a Japanese traveler who visited Nepal and develop DF after returning Japan (Pandey, 2008).

Control of dengue is supported by an increasing demography, uncontrolled urbanization and climatic conditions favorable to the vectors. Spread of dengue is primarily caused by modern transportation means, especially the aircraft.

Dengue has high rate of morbidity in the endemic area due to lack of awareness programmed on hygiene and sanitation, uncontrolled urbanization, increasing demography, climate. Home environment like housing, water drainage, urban waste disposal road, water storage and supply. If findout the environmental condition helps

to conduct the awareness programme, easy to provide dengue related information.

1.3 Rational of the Study

Dengue fever (DF/DHF) is now endemic in more than 100 countries and threatens the health of about 40% of the world's population (2.5 billions), particularly in tropical and subtropical regions and predominantly in urban and periurban areas. Over 1.2 million cases reported to WHO, the greatest number ever for a single year. There are an estimated 50 millions infections annually, including 400,000 cases of DHF (WHO, 2008).

In Thailand, the total number of houses visited in 1996. The overall percentage of 'inhabited' shop houses, single houses building and slum were 5-4% and the proportion of houses made of bricks, wood and iron and other materials 2%. Twenty two percent of houses had refuse piled outside and scattered around the sites and fifty one percent of all houses visited with window screens (Thammapalo, 2007).

In 2006, there were reports of suspected DF outbreaks in Banke district. From August through November 2006, the number of febrile patients increased in four major hospitals in the Terai region of Nepal: Nepalgunj Medical College, Bheri Zonal Hospital in Nepalgunj, Tribhuvan Hospital in Dang and Narayani Subregional Hospital in Birgunj. Patients with severe symptoms were referred to Sukraraj Tropical and Infectious Diseases Hospital, Kathmandu for diagnosis and treatment. The clinical features in most patients were consistent with the signs of DF (Pandey et al., 2008).

The positive rate was highest in Mahendranagar (13.3%). The Dengue positive cases were higher in female (10.9%) than males (9.0%), and higher in Brahman/Chhetri (13.1%) as compared to Janajati (5.6 %). The highest positive cases (10.7%) were from age group above 50 years. The highest numbers of dengue positive cases were observed in occupation group of agriculture (18.2%) (Shah, 2012).

Dengue outbreak in 2006 had shown its face with 32 confirmed dengue cases (among the total cases identified, 94 percent were adults; male to female ratio was 4:1), followed by 27 cases in 2007, 10cases in 2008, 30 cases in 2009 and 917 cases in

2010 with major outbreak in Chitwan and Rupandehi districts. (Department of Health Services) (DoHS ,Annual Report,2011)

Chitwan also falls in tropical zone and is one of the urban area and since last year there is high rate of incidence of dengue fever in the district. In a developing country like Nepal, preventable diseases such as dengue have the potential to cause the greatest mortality so it is important for the findout the home environment condition which is favorable for Aedes Aegypti So researcher want to assess the environment condition related to dengue.

1.4 Objectives of the Study

1.4.1 General Objective

To assess the environmental conditions related to dengue.

1.4.2 Specific Objectives

To asses Household and surrounding condition of selected community.

To assess the drainage system of the family.

To identify the urban waste disposal system in urban population.

To assess the water storage and supply system in selected family.

1.5 Significant of the Study

The finding of this study will be helpful as baseline study for further research

It may help for the further researcher to minimize out breaks of dengue by conducting awareness raising programme.

The finding of the study will be helpful for the making policy.

1.6 Conceptual Framework :

The below figure shows the possible factors that influence the environmental condition of dengue fever. The possible factors are the demographic factor age, sex, education, occupation, ethnic groups. Similarly other variables are housing, water drainage, urban waste disposal, urban road, water storage and supply which gives favorable environmental condition for the dengue fever.

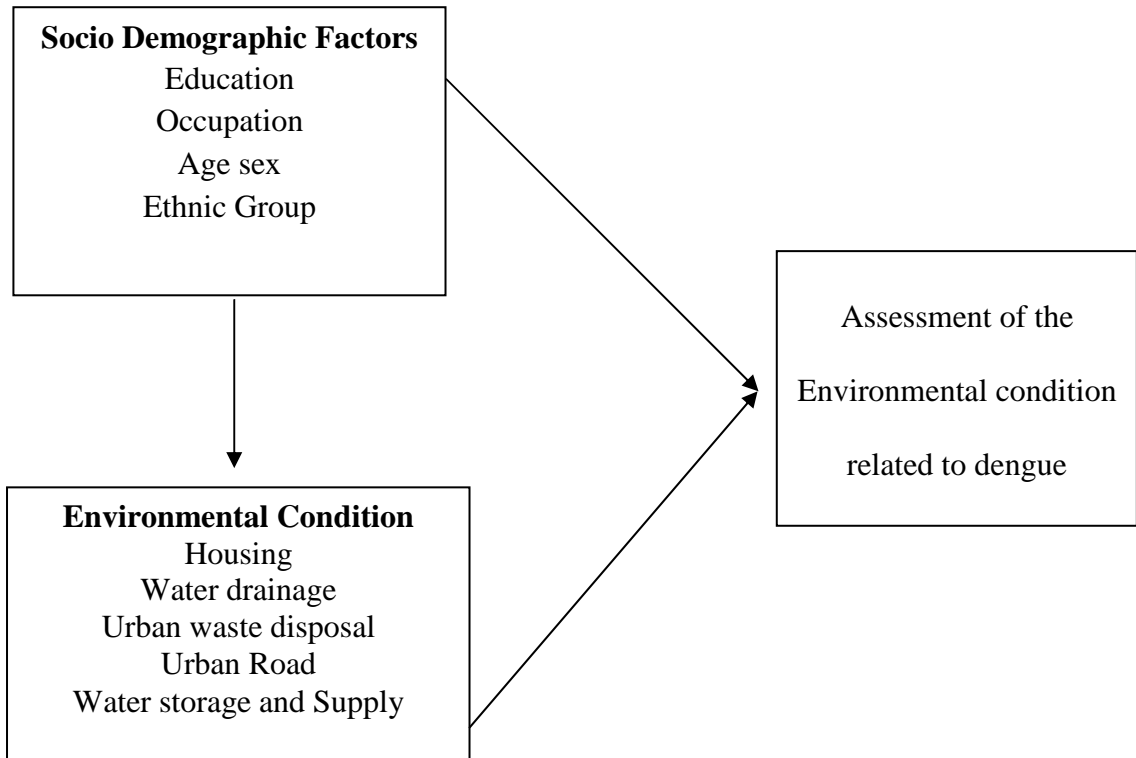


Fig. 1: Conceptual framework on Assessment of the Environmental condition related to dengue.

1.7 Research question

What is the Environmental Conditions related to Dengue among the people of Bharatpur 11 Chitwan ?

1.8 Operational Definition

Environmental condition: The environment which is favorable for Aedes Aegepty which is: Urban waste, water supply and storage, drainage system, urban road, Housing.

Dengue: It is a mosquito borne infection that causes a severe flue like illness and sometimes a potentially lethal complication called dengue hemorrhagic fever.

Education It is operationalized as literate and illiterate people of the Bharatpur -11 Chitwan.

1.9 Delimitation of the Study

The study was carried out only in one setting and sample size is small (50). So that sample size and time is limited.

CHAPTER II

REVIEW OF LITERATURE

2.1 Introduction

Literature review is concerned with the review of related literature that could be both electronic and manual areas such as journals, articles, abstract from the internet, etc. The purpose of literature review is to develop a thorough understanding and insight in to the previous research that relates to the present study.

2.2 Overview of the Related Literature

The anti dengue IGM positively was 14.4% sero positively in males was 10.7% of total and that in female was 3.7% among different age group the highest positive cases 11.8% were from age group 15-50 year and found least among the age groups above 50 years 0.4% (Shah et al. 2012).

A cross-sectional study was conducted to determine anti-Dengue IgM positive rate in Mahendranagar, Dhangadi and Dang between August 2008 and November 2009. Serum samples were collected from 283 patients visiting hospitals with history of fever, headache and suspected DF. The samples were examined by ELISA. The positive rate was highest in Mahendranagar (13.3 %). The Dengue positive cases were higher in female (10.9 %) than males (9.0 %). The positivity was higher in Ethnic group Brahman/Chherti (13.1%) as compared to Janajati (5.6 %). The highest positive cases (10.7 %) were from age group above 50 years. The highest numbers of Dengue positive cases were observed in occupation group of agriculture 18.2% (Shah, 2012).

A study done in Nalgonda district, South India revealed that common preventive practices that were prevalent in the community were use of mosquito, repellents (46.57%), prevent water stagnation (13.01%), cleaning the house (34.93%). Very few of them practiced weekly emptying of containers (9.58%) and use of mosquito nets (11.64%) (Naik and Nirgude, 2011).

About thirty five percent of the sample had adequate knowledge about dengue fever and its vector. Knowledge had significant association with education and socioeconomic status. The high socioeconomic group showed better preventive practice (Syed et al., 2010).

A study in Chennai, India revealed that majority (60%) of HHs used small containers (plastic/metal pot) for water storage and 2% of HHS used large containers (plastic/metal drums and cemented tank). Nearly 39% of HHS expressed that they stored water more than five days. Nearly 65% of HHs informed that they did not follow any measure towards mosquito breeding. Around 35% of the HHs stated that they followed some measures (frequently cleaned the containers and covered all container tightly) to control dengue mosquito breeding (Ashok et al., 2010).

Two hundred seventeen (94%) respondents had a positive attitude that DF can be treated and that 222 (96.5%) knew they should visit a doctor when they suffer from it. About 196 (85.2%) people stored water at home but infrequently changed it. The community was quite familiar with Dengue, but that there was some confusion about vaccination and water storage for domestic use (Nalongsack et al., 2009).

According to National Urban policy at least 50% of urban population above 10 years of age are involved in non-agriculture. There are 58 Municipalities in Nepal. It has been found that 55% urban population lack waste management facility, 46% lack sanitation facility, 47% are deprived of piped drinking water supply (Dhimal et al., 2009).

Cross-sectional study was to assess the knowledge, attitude and practice of people regarding dengue disease in 9 villages of the Pakse district from July to September 2006. Purposive sampling was done to collect data from 230 subjects. They had a fair knowledge about the vector 163 (70.9%). For 101 (43.9%) respondents, their main sources of information about dengue was their friends or relatives. It is encouraging that 217 (94%) respondents had a positive attitude that DF can be treated and that 222 (96.5%) knew they should visit a doctor when they suffer from it. About 196 (85.2%) people stored water at home but infrequently changed it. The study indicated that the community was quite familiar with Dengue, but that there was some confusion about vaccination and water storage for domestic use (Nalongsack et al., 2009).

A total 161 individuals 60% of the respondents belonging to the lower socio economic class and 58.6% of the upper lower class. Only 39.1% had knowledge about breeding places of *Aedes aegypti*. The main source of information was found to be mass media (65%) and 7% of the respondents did not get any information about Dengue (Haldar, 2008).

A study conducted on dengue fever among the Adult Population of Dengue Hit Cosmopolitan. The study revealed that about 89.9% of individuals interviewed had heard of dengue fever. Sufficient knowledge about dengue was found to be in 38.5% of the sample, with 66% of these in Aga Khan University Hospital and 33% in Civil Hospital Karachi. Literate individuals were relatively more well- informed about dengue fever as compared to the illiterate people (Itrat, 2008).

A study in Karachi, Pakistan revealed that majority (47.2%) of the respondents belonged to the age group of 26-40 years. Considerable majority (21%) of respondents were graduates. Majority (84%) of the respondents believed that the disease was infectious and transmissible. Fever was the most consistent response (81.5%). About one-half (51.1%) of the respondents were cognizant that the dengue mosquito breeds in clean standing water. Most of them knew that the mosquito usually bites at sunset/dusk (57.5%) or at sunrise/dawn (44%). Mosquito sprays (54.9%) and mosquito mats (50.1%) (Itrat et al., 2008).

The total number of houses visited was 1996. The overall percentage of 'inhabited' shop houses, single houses building and slum were 5-4% and the proportion of houses made of bricks, wood and iron and other materials 2%. Twenty two percent of houses had refuse piled outside and scattered around the sites and fifty one percent of all houses visited with window screens . (Thammapalo, 2007)

A study done in New Delhi revealed that 326 (65.2%) respondents were having redundant tires, plastic pots and flower pots on rooftops or their houses, and they accepted the fact, that they were checking them for mosquito breeding. Out of 178 (35.6%) persons having cooler in their house, 98 (55%) said that they never check cooler for mosquito breeding. only 42 (23.5%) persons were correctly checking cooler in the weekly basis. A total of 744 respondents said that they check the coolers. They included 31 (41.0%) who changed the water. 12 (16.2%) who cleaned the cooler

thoroughly and 32 (43.2%) who add kerosene oil (Matta et al., 2006).

A total of 181 (90.5%) knew water was needed for *Aedes* mosquito to breed. Majority 177 (88.5%) knew that stagnant water was required for the mosquito to breed. Two (1.0%) incorrectly answered 'running water'. Most of the respondents (94.0%) had knowledge on ways to prevent *Aedes* breeding. Two most popular prevention methods named were 'not storing water' (64.0%) and 'environmental cleanliness'. A study in Westmoreland, Jamaica revealed that majority (77%) of respondents did not use effective dengue preventive methods such as screening of homes and 51% did not use bed nets. For instance, 61.0% used insecticide sprays; 56.4% employed professionals' pest control services, 22.9% screened their windows from mosquitoes and 4.8% used bed nets during the night. Regarding the practice scores, 28.5% of participants obtained 80% on the preventive practices scale. No significant correlation was found between preventive practices and socio-demographic characteristics of the participants. There is no correlation between knowledge about dengue and preventive practices (Hairi et al., 2003).

More than 90% of the people interviewed perceived mosquitoes as a problem. However this perception was with regard to the nuisance value of mosquitoes bites rather than disease-causing potential. Quite a large numbers of people did not know where the mosquitoes bred. More than one third of the interviewees did not know of any preventive measures against mosquitoes at the community level. Approaches based on social mobilization and communities aimed at bringing behavior change in the communities are stressed (Kumar and Gururaj, 2000).

Four hundred seventeen households selected by a systematic cluster sampling method, were interviewed. They found that more indicated water jars and water retention in the house as the common breeding places. However, the other two common breeding places and traps and cement baths were less frequently mentioned (Jun Swaddiwudhipong et al., 1992).

2.3 Summary of the Literature Review

Different books, journals, national and international research reports from the internet were reviewed to Assessment of the environmental condition related to dengue among

the people of the selected community. Dengue is a climate sensitive vector borne diseases, which in recent years has become a public health concern. Dengue is transmitting in tropical and subtropical regions around the world, predominantly in urban and suburban areas. The principle vector of dengue virus is the mosquito *Aedes Aegypti*, domestic day biting mosquito. It is also found in the periphery of cities breeding in rain water accumulated in tree holes. The disease occurs in epidemic form during late monsoon and post- monsoon season, as an outcome of increase in breeding places and vector population.

The findings of reviewed literature shows that knowledge on clinical features and familiarity on *Aedes* mosquito were significantly higher among urban communities compared to the rural communities. Hence preventive practice were adopted by higher socio-economic class. Significantly high percentage of rural respondents wanted dengue education.

It is projected that the urban population will be 18% by 2015 will minimum expansion and development of physical infrastructure. It has been found that 55% urban population lacks waste management, 46% lack sanitation and 47% are deprived of piped drinking water supply. Due to small opening there are dark common walkways, corridors and corners as well as dark rooms in the houses especially ground floor is damp and dark that favors situation to houses for Dengue. Leakage from old pipes and poorly maintained pipe lines, storage of water in plastic and buckets, use of untreated and uncovered wells, inadequate drainage and dilapidated situation of paved area in common space.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

Descriptive cross sectional study design was used for the study.

3.2 Research setting and Population

The setting of the study was in Community people of Bharatpur 11 Chitwan, Bharatpur Municipality ward no-11 Basantapur. Sample population was 50.

3.3 Sampling

Non-probability purposive sampling technique was used. Total respondents were 50. Head of the family of the selected household of the study area. Other member of the family beside the head of the household was excluded in the study.

3.4 Instrumentation

Semi-Structured questionnaire was developed by reviewing the literature and consulting the research advisor .Part I related to demographic Part II related to environmental condition ,and part III related to the observation check list and interview technique was used as the research instrument. : The tool for data collection was checked by the research expertise, concerned teacher and colleagues to ensure the validity of tool. Necessary modification was done on the basis of their comments: The reliability of the instrument was maintained by pretesting the instrument of 10% of total sample in similar setting Birgung municipality ward no.4 Birgunj Parsa other than the study population. Questionnaire was translated into simple Nepali language and was back translated into English language. The questions were modified after the pretesting and advice to the research committee

3.5 Data collection procedure

Carryout after approval of the research proposal from the research committee of the Nursing Campus Birgunj .A written permission was given from the nursing campus Birgunj to concern Municipality for data collection. The recommended letter from Birgunj Nursing Campus was submitted in Bharatpur municipality and ward no 11 office. The study was At first, request letter from the college was submitted and administrative approval was taken from the authorities..Administrative approval was obtained from Bharatpur municipality and ward office . Self introduction was given explain the objective of the research to the respondents. A verbal informed consent was obtained from the subject. Relevant data were collected by the researcher herself thought face to face interview method with explaining the objectives of the study. The subjects were assured for the privacy and confidentiality of the information given by them. Participation of the respondents in this study was voluntary and confidentiality was maintained by coding the subject. Researcher explained the purpose of the study. They could leave any time they can want. They were not forced for the participate .During the study period the ethical consideration was taken into account to respect human dignity by following ways .Verbal and written consent was taken from the respondents. Purpose of data collection was explained clearly to the respondents prior to intervention. Privacy and confidentiality was maintained in the study. Avoid force to participate in the test and terminate any time.

3.6 Data Analysis Procedure

Collected data were checked daily for its completeness. All data were kept in order for editing and coding. Data processing was done by using SPSS version 20. The findings were analyzed by using different statistical techniques such as mean, frequency tables and percentage. Interpretation of data was done on the basis of research objectives. The findings are presented on the relevant tables.

CHAPTER IV

FINDINGS OF THE STUDY

This chapter deals with the analysis and interpretation of data regarding Assessment of the environmental condition related to dengue among the people of a selected community. All the data obtained was analyzed and interpreted on the basis of research objectives and are presented in different tables.

1. Socio-demographic Characteristics
2. Having Information about Dengue Fever
3. Family Members having Dengue Infection and Place of Treatment
4. Knowledge regarding Meaning, Similarity with Other Fever and Way of Transmitting Dengue Fever
5. Household and Surrounding Condition regarding Dengue Transmitting Mosquito
6. Management of Urban Waste, Way of Preventing Dengue and Mosquito Breeding Place
7. Knowledge regarding Dengue as a Seasonable Disease, Mostly Occurring Season, Mosquito Breeding Place and Biting Time of Dengue Transmitting Mosquito
8. Observation Checklist

TABLE 1
Socio-demographic Characteristics

Variable	Frequency	Percent
n=50		
Age in years		
20-29	21	42.0
30-39	18	36.0
40-49	7	14.0
> 49	4	8.0
Mean \pm SD = 29.76 \pm 9.29		
Caste		
Brahmin	18	36.0
Kumal	13	26.0
Chhetri	8	16.0
Others	7	14.0
Newar	4	8.0
Sex		
Female	31	62.0
Male	19	38.0
Religion		
Hindu	45	90.0
Buddhist	4	8.0
Kristian	1	2.0
Marital Status		
Married	46	92.0
Single	3	6.0
Widow	1	2.0
Level of education		
Literate	43	86.0
Illiterate	7	14.0
Employment status		
Housewife	25	50.0
Service	9	18.0
Business	9	18.0
Agriculture	7	14.0
Total family members		
4-5	20	40.0
6-7	16	32.0
> 7	8	16.0
2-3	6	12.0

Table 1 shows that,42% of the respondents were age group of 20-29 years, and minimum 8% of the respondents were age group of >49. Mean age of the respondents was 29.76 with standard deviation 9.29. Regarding caste, 36% were Brahmin, and 14% were other. Regarding Sex, 62% of the respondents were female and 38% were

male .Regarding religion most of the respondent 90% were similarly most of the respondent 92% were married .Regarding education most of the 86% of the respondents were literate. Regarding employment status, 48% were housewife, 14%were farmer. Regarding total family members, 40% of the respondents had 4-5 members in their family, and very lest 12% had 2-3 members in their family.

TABLE 2
Having Information about Dengue Fever

Having Information	Frequency	Percent
n=50		
Received information about dengue fever		
Yes	50	100.0
If yes, source of information**		
Radio/TV	33	66.0
Health personnel	20	40.0
Magazine/Book	19	38.0
Friend	9	18.0
Others	2	4.0

** Multiple responses

Table 3 shows that cent percent 100% of the respondents had received information about dengue fever. Among them, the highest 66% had received from radio/TV and The minimum percentage 4% had received from others.

TABLE 3
Family Members having Dengue Infection and Place of Treatment
n=50

Infection and Treatment	Frequency	Percent
Family member having dengue infection (n=50)		
Yes	16	32.0
No	34	68.0
Place of treatment (n=16)		
Hospital	16	100.0

Table 4 shows that 68% of the respondents' family members had no dengue fever. Among them, cent percent had gone hospital for treatment.

TABLE 4
Knowledge regarding Meaning, Similarity with Other Fever and Way of Transmitting Dengue Fever

Variables	Frequency	Percent
n=50		
Meaning of dengue fever		
Mosquito born disease*	48	96.0
Communicable disease	2	4.0
Dengue fever is similar to other fever		
No*	44	88.0
Yes	6	12.0
Way of transmitting dengue fever**		
By mosquito	44	89.8
By sick person	6	12.2
By flies	2	4.1

** Multiple responses

*Correct answer

Table 5 despite that , almost all 96% of the respondents respond dengue fever is the mosquito born disease and 4% respond communicable disease .Regarding dengue fever is similar to other fever, 88% respond no .Regarding the way of transmitting dengue fever, most of the respondents 88% respond by mosquito, 12% respond by sick person and 4.1% respond by flies.

TABLE 5
Household and Surrounding Condition regarding Dengue Transmitting Mosquito

Variables	Frequency	Percent
n=50		
Have you seen mosquito larvae in water container around the house		
No	42	84.0
Yes	8	16.0
Having discarded things around the house that can hold water		
No	30	60.0
Yes	20	40.0
Type of house		
Cemented houses	40	80.0
Mud houses	5	10.0
Brick houses	5	10.0
Condition of road around the house		
Paved	37	74.0
Unpaved with potholes	13	26.0
Keeping of supplied water in household level		
Covered	48	96.0
Uncovered	2	4.0

Table 6 shows that, 84% of the respondents had not seen mosquito larvae in water container around the house .Regarding having discarded things around the house that can hold water, 60% of the respondents respond no .Regarding the type of house, 80% of the respondents had cemented house and 10% of each had brick and mud house. Regarding the condition of road around the house, 74% of the respondents had paved and 26% had unpaved with potholes road around the house .Regarding keeping of supplied water in household level, almost all 96% of respondents used to cover and only a few 4% used to uncover the water in their house.

TABLE 6
Management of Urban Waste, Way of Preventing Dengue and Mosquito Breeding Place

Variables	Frequency	Percent
n=50		
Management of urban waste**		
Place in a container	40	80.0
Scatter around the road	10	20.0
Recycle	4	8.0
Knowledge on way of preventing dengue**		
Use mosquito net	38	76.0
Improving sanitation	20	40.0
Spraying insecticides	8	16.0
Wearing long sleeved clothes	8	16.0
Practice on preventing dengue fever**		
Use mosquito net	40	80.0
Wear long sleeved clothes	15	30.0
Use mosquito repellent	8	16.0
Isolation from Dengue infected person	1	2.0
Knowledge on mosquito breeding place**		
Flowering pot	37	74.0
Tank	15	30.0
Bucket	12	24.0
Others	1	2.0

** Multiple responses

Table 7 display that , Most of the respondents 80% respond place in a container as the management of urban waste and 8% respond recycle .Regarding the knowledge on way of preventing dengue Majority of the respondents 76% respond use mosquito net and 16% respond each for spraying insecticides and wearing long sleeved clothes .Regarding the practice on preventing dengue fever, Most of the respondents 80% respond use mosquito net, 30% respond wear long sleeved clothes and 2% respond isolation from Dengue infected person. Regarding knowledge on mosquito breeding place ,majority of the respondents 74% respond flowering pot and lest of the respondents2%respondsothers

TABLE 7**Knowledge regarding Dengue as a Seasonable Disease, Mostly Occurring Season, Mosquito Breeding Place and Biting Time of Dengue Transmitting Mosquito**

n=50

Information	Frequency	Percent
Knowledge on dengue fever as a seasonable disease		
Yes*	38	76.0
No	12	24.0
Mostly occurring season of dengue fever (n=38)		
Summer	20	52.6
Rainy*	18	47.4
Way of water should be changed on the flowering pot		
Daily	30	60.0
Twice a week*	13	26.0
Weekly	7	14.0
Place that mosquito breeding takes place		
Dirty stagnant area	22	44.0
Clean stagnant area*	20	40.0
Dirty surrounding area	8	16.0
Most common biting time of dengue transmitting mosquito		
At day time*	22	44.0
At any time	14	28.0
At evening	9	18.0
At night	8	16.0
At morning	7	14.0

*Correct answer

Table 8 shows, three fourth 76% of the respondents respond dengue fever is a seasonable disease. Among them, 52.6% respond summer is the mostly occurring season of dengue fever and 36% respond rainy. Regarding the way of water should be changed on the flowering pot, 60% of the respondents respond daily and 14% respond weekly. Regarding the place that mosquito breeding takes place, less than half 44% of the respondents respond dirty stagnant area and 16% respond dirty surrounding area. Regarding most common biting time of dengue transmitting mosquito, 28% respond at any time, and 14% respond at morning.

TABLE 8
Observation Checklist

Response	Yes	%	No	%
n=50				
Housing and surrounding condition related				
Adequate light and ventilation in the houses	30	60.0	20	40.0
Urban road are paved and repair	30	60.0	20	40.0
Old types and unused vehicles kept in garages	6	12.0	44	88.0
Damage Pedestrian facilities paved and covered manholes	38	68.0	12	24.0
Open tar drums at road construction sites	9	18.0		82.0
Water storage and supply				
Urban stagnant water filled potholes with sand/soils	34	68.0	16	32.0
Covered water supply distribution at neighborhood	45	90.0	5	10.0
Collection rain water	49	98.0	1	2.0
Cover the water container after using it	38	76.0	12	24.0
Huge water storing container without tight fitting and damaged lids	32	64.0	18	36.0
Water holding container around the home which cause water Collect there	48	96.0	2	4.0
Water logged area near by residential	45	90.0	5	10.0
Urban waste related				
Collection of wastage on regular basis	47	94.0	3	6.0
Clean Bushes around home	38	76.0	12	24.0
Drainage system				
Adequate slope and side drains in urban road	50	100		

Table 9 shows that, 98% of the respondents collected rain water, 96% had water holding container around the home which cause water collect there, 94% had adequate slope and side drains in urban road, 94% collected wastage on regular basis, 90% covered water supply distribution at neighborhood, 90% had water logged area near by residential, 76% had damaged pedestrian facilities paved and covered manholes, 76% covered water container after using it, 76% had clean bushes around home, 68% had urban stagnant water filled potholes with sand/soils, 64% had huge water storing container without tight fitting and damaged lids, 60% had adequate light and ventilation in the houses and 60% had paved and repaired urban road. Likewise, 82% of the respondents did not have open tar drums at road construction sites and 88% had no old types and unused vehicles kept in garages.

CHAPTER V

DISCUSSION, CONCLUSION, LIMITATION IMPLICATION AND RECOMMENDATIONS

This chapter deals with discussion of the findings, conclusion and recommendation for the future studies. This study was designed to explore the assessment of the environmental condition related to dengue among the people of a selected community of Bharatpur-11, Basantpur, Chitwan. The major finding of this study was discussed in this chapter with comparison of finding of relevant studies and documented literatures.

5.1 Discussion

Study result shows that highest percent (42%) of the respondents were age group of 20-29 years and lowest percent (8%) were above 49 years of age. Mean age of the respondents was 29.76 with standard deviation 9.29. It is found that 36% of the respondents were Brahmin, 16% were Chhetri, 8% were Newar and 2% were Gurung. Likewise, 62% of the respondents were female. It is also found that most (90%) of the respondents were Hindu. Likewise, 92% of the respondents were married. Data shows that most (86%) of the respondents were literate. Forty-eight percent of the respondents were housewife.

Among them, majority 66% had received from radio/TV,. A study done by Hairi et al.,(2003) A study in Kuala Kangsar, Malaysia revealed that the main source of information about dengue was from television/radio 82.0%.

Study result shows that majority 68% of the respondents' family members had no dengue fever. Among them, cent percent had gone hospital for treatment. Among the district wise dengue positive cases in percentage of Nepal, the highest rate was found in Chitwan which 62.5% were male and 37.5% were female. In Chitwan in 2067 all

together 721 cases were reported and among them death was 23 (DPHO, Cchitwan 2068).

Result shows that almost all 96% of the respondents respond dengue fever is the mosquito born disease and only a few 4% respond communicable disease. This finding is supported by a study of Hairi et al. (2003) conducted in Kuala kangsar ,malaysia in which 77.4% knew that dengue was transmitted by mosquitoes.

Regarding the way of transmitting dengue fever, most 88% of the respondents respond by mosquito, 12% respond by sick person and 4.1% respond by flies. This finding is supported by research conducted by Kumar, et al. (2010) 18.3% of respondents were aware that dengue was transmitted by mosquito bite, 3.9% respondent respond dengue was transmitted by man to man contacts.

Data shows that , 42 (84%) of the respondents had not seen mosquito larvae in water container around the house.

Regarding having discarded things around the house that can hold water, 30 (60%) of the respondents respond no.

Regarding the type of house, most (80%) of the respondents had cemented house and few (10%) of each had brick and mud house. A study done by Thammapalo (2007) shows that the overall percentage of 'inhabited' shop houses, single houses building and slum were 5-4% and the proportion of houses made of bricks, wood and iron and other materials 2%. Twenty two percent of houses had refuse piled outside and scattered around the sites and fifty one percent of all houses visited with window screens.

Regarding the condition of road around the house, nearly three-fourth (74%) of the respondents had paved and rest (26%) had unpaved with potholes road around the house. Almost all (96%) of respondents used to cover. It is found that most (80%) of the respondents respond place in a container as the management of urban waste.

Regarding the knowledge on way of preventing dengue, more than three-fourth (76%) of the respondents respond use mosquito net, 40% respond improving sanitation and 16% respond each for spraying insecticides and wearing long sleeved clothes. This

study contradicted by Naik and Nirgude (2011) in Nalgonda district of South India revealed that common preventive practices that were prevalent in the community were use of mosquito repellents (46.57%), prevent water stagnation (13.01%), cleaning the house (34.93%). Very few of them practiced weekly emptying of containers (9.58%) and use of mosquito nets (11.64%).

Regarding the practice on preventing dengue fever, most (80%) of the respondents respond use mosquito net. Likewise, 74% respond flowering pot, 30% respond tank, 24% respond bucket and 2% respond others. A study done by (Matta et al. (2006) in New Delhi revealed that 326 (65.2%) respondents were having redundant tires, plastic pots and flower pots on rooftops or in their houses.

The researcher found that more than three-fourth (76%) of the respondents respond dengue fever is a seasonable disease. Among them, 52.6% respond summer is the mostly occurring season of dengue fever and 36% respond rainy.

Regarding the way of water should be changed on the flowering pot 60% of the respondents respond daily, 26% respond twice a week and 14% respond weekly.

Regarding the place that mosquito breeding takes place, 44% of the respondents respond dirty stagnant area, 40% respond clean stagnant area and 16% respond dirty surrounding area. A study done by Itrat et al. (2008) in Karachi, Pakistan revealed About one-half (51.1%) of the respondents were cognizant that the dengue mosquito breeds in clean standing water.

Regarding most common biting time of dengue transmitting mosquito, 22% of the respondents respond at day time, 28% respond at any time, 18% respond at evening, 16% respond at night and 14% respond at morning. The similar findings are present in study done by Kumar, et al. (2010) this study contradicted by, total of 257 (40%) knew that dengue transmitting mosquitoes bite at day-time while 60% of them did not know.

Study result shows that among 50, 98% of the respondents collected rain water, 96% had water holding container around the home which cause water collect there, 94% had adequate slope and side drains in urban road, 94% collected wastage on regular

basis, 90% covered water supply distribution at neighborhood, 90% had water logged area near by residential, 76% had damage pedestrian facilities paved and covered manholes, 76% covered water container after using it, 76% had clean bushes around home, 68% had urban stagnant water filled potholes with sand/soils, 64% had huge water storing container without tight fitting and damaged lids, 60% had adequate light and ventilation in the houses and 60% had paved and repaired urban road. Likewise, 82% of the respondents did not have open tar drums at road construction sites and 88% had no old types and unused vehicles kept in garages. A study done by Ashok et al. in Chennai, India revealed that majority 60% of HHs used small containers(plastic/metal pot) for water storage and 2% of HHS used large containers(plastic/metal drums and cemented tank).Nearly 39% of HHS expressed that they stored water more than five days. Nearly 65% of HHs informed that they did not follow any measure towards mosquito breeding .Around 35% of the HHs stated that they followed some measures(frequently cleaned the containers and covered all container tightly to control dengue mosquito breeding.A similar study done by Syed et al. (2010) in Karachi, Pakistan revealed that among the people who reported that the presence of open water storage containers in or around the house, people belonging to the high socioeconomic status (SES) changed the water in these items more frequently than people of low SES (once a week versus twice a month). Similarly, garbage disposal was a more frequently undertaken practice in the high SES as compared to the 2010.

5.2 Conclusion

patients of dengue and people of all age groups should be educated about the mode of disease transmission and prevention. Today there is huge development in science and technology aiding in development of different means of communication. As a result of this, majority of the respondents have listed television as their source of information .Cent percent are known about Dengue but they still need proper knowledge so as become aware about it and follow preventive measures . Most of the respondents respond for dengue fever is the mosquito born disease and most of the respondents used mosquito nets for preventive measures. Three fourth of the respondents had knowledge on mosquito breeding place. Three fourth of the respondents respond dengue fever was a seasonable disease among them more than

half of the respondents respond summer is the mostly occurring season of dengue fever. Majority of the respondents responds water should be changed on the flower pots daily. Most of respondents used to cover water supplied in household level. All most all household level had Water holding containers which cause collected rain water, collected wastage on regular basis. Adequate slope side in urban road. Most of the respondents household level had water logged area near by residential. Most of the household level had no old tyres and unused vehicles kept in garages. More then Two third respondents household level had urban stagnant water filled potholes, covered water container after using it. Most of the respondents household level had water logged area near by residential, damage pedestrian facilities paved and covered manholes, huge water storing container without tight fitting and damaged lids.

5.3 Limitation

The study is limited up to community people of Bharatpur Municipality .Study was limited to 50 respondents so it will be difficult to generalize the findings .study time is limit for depth study .Only 50 samples was taken for the study .Total time for this study was 2 weeks.

5.4 Implication

The study although conducted in small scale, has several implications which are listed below:

The finding of the study might help in drawing concern towards the growing problems of Dengue fever. This finding may help in planning for further formal and informal education for Dengue prevention .The finding of the study will be helpful on policy making for dengue prevention in community. The finding of the study will be beneficial to the municipality for assessing the environmental condition of the community which is favorable for dengue fever. The finding of the study can be used to health care personnel to plan and implement awareness programme

5.5 Recommendation for Further Study

My research study done in very small community so that similar type of research can be done in various community. Collection of wastage by municipality on regular

basis. Government should convey information through Radio, TV, local FM by using local language. Municipality should conduct mosquito control programme like environmental sanitation. Knowledge can be developed not only to risk community but also to other communities to increase their knowledge .Awareness programme can be conducted to verify the presence of mosquito breeding place like collection rain water, water holding container around the home etc. which is favorable for aedes aegypti.

5.6 Plan For Dissemination

Research Committee, Library of Birgunj Nursing Campus, Bharatpur Municipality, ward no 12.

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APPENDIX

Appendix: A
TRIBHUVAN UNIVERSITY,
INSTITUTE OF MEDICINE
NURSING CAMPUS,
BIRGUNJ, PARSA

Consent form

Study Title : "Assessment of the Environmental Condition Related to Dengue among the people of selected Community, Chitwan".

Investigator :Anju Marahatta

Namaskar! I am Anju Marahatta student studying in BN, 2nd year in Nursing Campus Birgunj, Parsa. I am going to do a research study for the partial fulfillment on "Assessment of the environmental condition related to dengue among the selected community"

I would like to ask you to participate as a subject in my research .If you agree to participate, I will ask you some question, it will take 10-15 min of your time. You will be entirely anonymous and your name won't be linked in any answer. Your participation will be entirely volunteer. You will not be forced to participate in the study. There will not be any direct benefits to you from this study but it will help to understand environmental condition related it dengue.

I understand what this research is about. I will participate in your study voluntarily.

.

Name of the respondents:

Date:

Signature:

APPENDIX B

**TRIBHUVAN UNIVERSITY,
INSTITUTE OF MEDICINE
NURSING CAMPUS,
BIRGUNJ, PARSA**

Structure Questionnaire for Data Collection

Research Topics: "Assessment of the Environment Conditions related to Dengue among the people of selected community, Chitwan".

Direction: Researcher will tick(√) the correct answer in the box given by the respondent at the time of interview.

Code No:

Date:

PART-I

Demographic information

1. Age.....(completed years)

2. Caste

i.Brahamin

ii.chetri

iii.Gurung

iv.Magar

v.Others

2. Sex

i.Male

ii.Female

3. Religion

i.Hindu

ii.Buddhist

iii.Christian

iv.Muslim

v.others

4. Marital Status

i.Married

ii.Divorced

iii.Single

iv.Widow

5. Educational level

i.Illiterate

ii.literate

6. Employment Status

i.Bussiness

ii.Service

iii.Agriculture

iv.Housewife

v.others

7. How many members are there in your house?

PART II

Questions related on Dengue Fever and Environmental Conditions

1. Have you received any information about Dengue fever?

i. Yes

ii. No

If yes ,from where did you get the information

i.T.V/Radio

iii.Newapaper

iv.Healthworker

v.Friends

vi.others

2. Is your family member infected with Dengue?

i.yes

ii.No

If yes, where did you get the treatment?

i.Home

ii.Hospital

iii.Faith healer

3. What do you mean by Dengue fever?
- i. Mosquito- borne disease
 - ii. Evil spirit of God
 - iii. Communicable disease.
 - iv. Others
4. Is Dengue fever and other fever similar?
- i. Yes
 - ii. No
5. How is Dengue fever transmitted?
- i. By Sick person
 - ii. By Mosquito
 - iii. flies
 - iv. Polluted environment
 - v. others
6. Have you seen the mosquito larvae in water container around your house?
- i. yes
 - ii. No
7. Do you any discarded things that can hold water around your house?
- i. yes
 - ii. No
8. Type of housing..
- i. Brick houses
 - ii. Mud houses
 - iii. Cemented houses
 - iv. Others
9. Road around the family are found..
- i. Paved
 - ii. Unpaved with potholes
 - iii. Open drainage manholes
10. Water supply distribution in household level are usually left...
- i. Uncovered
 - ii. Cover

11. Urban waste (tin, bottle can etc) ready made food are.

- i. Recycle
- ii. Place in a container
- iii. Scatter around the road

13 How can be Dengue prevented?

- i. Spraying insecticides
- ii. Improving sanitation
- iii. Use mosquito net
- iv. Wearing long sleeved clothes

14. What do you do to prevent Dengue fever?

- i. use mosquito net
- ii. wear long sleeved clothes
- iii. use mosquito repellent
- iv. Isolation from Dengue infected person

15 In which of the open water containers the mosquito breeding place?

- i. Bucket
- ii. tank
- iii. Flower pot
- iv. others

16. Do you think that DF is seasonal disease?

- i. Yes
- ii. No

If yes.....

17. In which season does the dengue fever mostly occur?

- i. Winter
- ii. Rainy
- iii. Summer
- iv. spring

17. How frequently you should change the water of the flower pot and container?

- i. Daily
- ii. Twice a week
- iii. Weekly
- iv. every 15 days

18. In which place the mosquito breeding takes place?

i. clean stagnant area

ii. Dirty stagnant area

iii. Dirty surrounding area

iv. others

19. At what time does the mosquito bite to transmit DF?

i. At morning

ii. At day time

iii. At evening

iv. At night

v. At any time

PART III
OBSERVATION CHECKLIST

SN	STATEMENT	CHECKLIST	
		YES	NO
1.	Adequate light and ventilation in the houses.		
2.	Adequate slope and side drains in urban road.		
3.	Urban road are paved and repair.		
4.	Old tyres and unused vehicles kept in garages.		
5.	Damage Pedestrian facilities paved and covered manholes.		
6.	Urban stagnant water filled potholes with sand/soils.		
7.	Covered water supply distribution at neighborhood.		
8.	Collection rain water.		
9.	Cover the water container after using it.		
10.	Huge water storing container without tight fitting and damaged lids.		
11.	Open tar drums at road construction sites.		
12.	Water logged area near by residential.		
13.	Collection of wastage on regular basis.		
14.	Clean Bushes around home.		
15.	Water holding container around the home which cause water collect there.		

Appendix-C

मन्जुरीनामा पत्र

विषय : डेङ्गु ज्वरो सम्बन्धित सामुदायिक वातावरणको मुल्यांकन ।

उद्देश्य : डेङ्गु ज्वरो सम्बन्धित सामुदायिक वातावरणको मुल्यांकन गर्नु हो ।

नमस्कार, म अन्जु मरहट्टा ब्याचलर इन नर्सिङ्गमा दोस्रो वर्षमा अध्ययनरत छान्ना हुँ । मैले डेङ्गु ज्वरो सम्बन्धित सामुदायिक वातावरणको मुल्यांकनमा अनुसन्धान गरिरहेको छु । यस अध्ययनले तपाइलाई कुनै पनि हानि तथा क्षति पुऱ्याउने छैन । यस अध्ययनले तपाइलाई प्रत्यक्ष फाइदा नपुऱ्यता पनि बेफाइदा पनि गर्दैन । यस अध्ययनमा लिइसके पछि, तपाइले यस बारेमा जानकारी पाउनु हुनेछ । यो अध्ययन तथा यसको प्रक्रिया नर्सिङ्ग बीरगंज क्याम्पसको रिसर्च कमिटी द्वारा पारित गरि ल्याइएको छ । यस अध्ययनको प्रक्रिया उद्देश्य अनुरूप समुदाय छानि त्यहाँ भएको बासिन्दाहरु लाई अध्ययनमा सहभागी गराउने छु । यसको प्रश्नावलीहरु निम्न रहेको छ जस्तै : जनसंख्यायिक विवरण, डेङ्गु ज्वरो र वातावरणीय अवस्था सँग सम्बन्धित प्रश्नहरु र चेकलिस्ट । यसले तपाइको आधा घण्टा जति समय लिनेछु । यसमा तपाइको स्वैच्छिक सहभागी हुनेछ र तपाइले चाहेको बेला छोडन सक्नु हुनेछ । यस अध्ययनले तपाइको पहिचानलाई खुलाउने छैन । यो केवल एक अनुसन्धानात्मक खोज मात्र हो ।

मलाई यस अध्ययनको विषयमा अवगत गराइएको छ । मैले यस सहमति पत्र पढेको र बुझेको छु, मेरा सबै प्रश्नहरु उत्तरित छन् र म आफ्नै स्वेच्छाले यस खोजको कार्यत्रममा भाग लिने कुरामा मन्जुर भएको जानकारी गराउदछु ।

नाम :

सहि:

मिती :

Appendix-D

त्रिभुवन विश्वविद्यालय

चिकित्सा शास्त्र अध्ययन संस्थान

नर्सिङ्ग क्याम्पस वीरगंज

२०७१

शिर्षक : डेङ्गु ज्वरो सम्बन्धित सामुदायिक वातावरणको मूल्यांकन ।

अनुसन्धानकर्ता वीरगंज नर्सिङ्ग क्याम्पस वी.एन. दोस्रो वर्षमा अध्ययनरत छात्रा हो । यो अध्ययन वी.एन. दोस्रो वर्षको पाठ्यक्रमको आंशिक परिपूर्तिको लागि गर्न लागिएको हो, यो अध्ययनको उद्देश्य डेङ्गु सँग सम्बन्धित सामुदायिक वातावरणको मूल्यांकन गर्नु हो ।

प्रश्नावलीमा ३ भाग रहेको छ ।

यो प्रश्नावलीबाट संकलित सूचना (विवरणहरु) लाई गोप्य राखिने छ र यस अनुसन्धानको लागि प्रयोग गरिनेछ ।

निर्देशन : अध्ययन कर्ताले तपाईंहरुले दिएको उत्तर अनुसार ठिक(√) चिन्ह लगाइने वा खाली ठाउँ भरिने छ ।

मिति :.....

भाग १

जनसांख्यिकीय विवरण

१. तपाईंको उमेर.....वर्ष

२. लिंग

क) पुरुष

ख) महिला

३. कुन धर्म मान्नुहुन्छ ?

क) हिन्दु

ख) बौद्ध

ग) क्रिश्चियन

घ) मुस्लिम

ड) अन्य..

४. वैवाहिक स्थिती

क) विवाहित

ख) छोडपत्र

ग) एकल

घ) विधुवा

५. तपाईंको शैक्षिक स्तर
- क) अशिक्षित ख) शिक्षित
६. पेशा
- क) व्यापार ख) जागिर
- ग) कृषि घ) गृहिणी
- ड) अन्य...
७. तपाईंको पारिवार कति जना सदस्य हुनुहुन्छ ?
-

भाग २

डेङ्गु ज्वरो र वातावरणीय अवस्था सँग सम्बन्धित प्रश्नहरू

१. तपाईंले डेङ्गु ज्वरोको बारेमा सुन्नु भएको छ ?
- क) छ ख) छैन
- यदि छ, भने तपाईंले कहाँबाट सुन्नुभएको हो ?
- क) रेडियो/टि.भी. ख) पत्रपत्रिका/किताब
- ग) स्वास्थ्यकर्मी घ) साथी
- ड) अन्य...
२. तपाईंको परिवारको सदस्यलाई डेङ्गु संक्रमण भएको छ ?
- क) छ ख) छैन
- यदि छ भने, कहाँ उपचार गर्नुभयो ?
- क) घर ख) हस्पिटल
- ग) वैद्य घ) अन्य....
३. डेङ्गु ज्वरो भन्नाले के बुझ्नुहुन्छ ?
- क) लामखुट्टेले टोक्ने रोग ख) सरुवा रोग
- ग) भगुवान रिसाएर हुने रोग घ) अन्य...
४. डेङ्गु ज्वरो र अन्य ज्वरो उस्तै हो ?
- क) हो ख) होइन

५. डेङ्गु ज्वरो कसरी सछ ?
- क) डेङ्गु लागेको मानिसबाट ख) लामखुटे बाट
- ग) किराबाट घ) वातावरण प्रदुषण भएर
- ड) अन्य...
६. तपाईंले लामखुटेको फूल घर वरीपरीको पानीको भाडामा देख्नुभएका छ ?
- क) छ ख) छैन
७. तपाईंको घर वरीपरी त्यस्तो फालिएको वस्तु छ जहाँ पानी जम्मा हुन्छ ?
- क) छ ख) छैन
८. कस्तो प्रकारको घर छ ?
- क) ईट्टाको घर ख) माटोको घर
- ग) सिमेन्टको घर घ) अन्य...
९. घर वरीपरीको वाटो कस्तो छ ?
- क) सिमेन्ट लगाएको वाटो ख) कच्ची खाल्डो परेको वाटो
- ग) खुल्ला ढल
१०. घरमा वितरण गरीएको पानीलाई कसरी राख्नुहुन्छ ?
- क) छोपिएर ख) नछोपिएर
११. शहरी फोहोर (टिन, वोतल आदि) तयारी खानाहरु
- क) पुन निर्माण ख) कन्टेनरमा राख्छौ
- ग) बाटो वरीपरी फाल्छौ
१२. डेङ्गु ज्वरो कसरी नियन्त्रण गर्न सकिन्छ ?
- क) किरा मार्ने औषधि छरेर ख) सरसफाई गरेर
- ग) भुल प्रयोग गरेर घ) लामो वाहुला कपडा लगाएर
- ड) अन्य...
१३. तपाईंले डेङ्गु नियन्त्रणको लागि के गर्नुहुन्छ ?
- क) भुल प्रयोग गरेर ख) लामो वाहुला कपडा लगाएर
- ग) लामखुटे मार्ने औषधि प्रयोग गरेर घ) डेङ्गु संक्रमित विरामीबाट भिन्दै राखेर

१४. कुन खुल्ला पानीको भाँडामा डेगुको लामखुट्टे उत्पन्न हुन्छ ?
- क) बाल्टी ख) ट्याङ्की
- ग) गमला घ) अन्य
१५. तपाईंको विचारमा डेङ्गु ज्वरो मौसम अनुकूल लाग्ने रोग हो ?
- क) हो ख) होइन
- यदि हो भने, धेरैजसो कुन मौसममा डेङ्गु ज्वरो सुरु हुन्छ ?
- क) जाडो ख) वर्षा
- ग) गर्मी घ) वसन्त
१६. गमला र भाडामा कति समयमा पानी परिवर्तन गर्नुपर्छ ?
- क) दिनदिनै ख) हप्तामा दुई पटक
- ग) प्रत्येक हप्तामा घ) हरेक १५ दिनमा
१७. कुन ठाउँमा डेङ्गुको लामखुट्टे उत्पन्न हुन्छ ?
- क) सफा पानी जम्मा हुने ख) फोहोर पानी जम्मा हुने ठाउँमा
- ग) फोहोर ठाउँमा घ) अन्य
१८. कुन समयमा लामखुट्टेले टोकदा डेङ्गु ज्वरो सर्छ ?
- क) विहान ख) दिउँसो
- ग) सन्ध्या कालीन घ) राती
- ड) जुन सुकै समय

धन्यवाद ॥

PART III
OBSERVATION CHECKLIST

SN	STATEMENT	CHECKLIST	
		YES	NO
1.	Adequate light and ventilation in the houses.		
2.	Adequate slope and side drains in urban road.		
3.	Urban road are paved and repair.		
4.	Old tyres and unused vehicles kept in garages.		
5.	Damage Pedestrian facilities paved and covered manholes.		
6.	Urban stagnant water filled potholes with sand/soils.		
7.	Covered water supply distribution at neighborhood.		
8.	Collection rain water.		
9.	Cover the water container after using it.		
10.	Huge water storing container without tight fitting and damaged lids.		
11	Open tar drums at road construction sites.		
12.	Water logged area near by residential.		
13	Collection of wastage on regular basis.		
14	Clean Bushes around home.		
15.	Water holding container around the home which cause water collect there.		