

# **Childhood Morbidity Pattern And Health Seeking Behaviors in Jumla District**

Research Report Submitted to

**Nepal Health Research Council**

**(NHRC)**

**Ramshah Path, P.O. Box: 7626, Kathmandu, Nepal**

Submitted by

**Brish Bdr Shahi**

**Lal Bdr Rawal**

# **Childhood Morbidity Pattern And Health Seeking Behaviors in Jumla District**

Research Report Submitted to

**Nepal Health Research Council  
(NHRC)**

**Ramshah Path, P.O. Box: 7626, Kathmandu, Nepal**

**Research Report Submitted By**

**Co-Investigator**

Lal Bdr Rawal, MPH  
National Institute Health Science

**Chief Investigator**

Brish Bdr Shahi, MPH  
Rodikot 5, Humla

# Approval Sheet

This is to certify that Mr Brish Bdr Shahi has prepared this research report entitled "Childhood Morbidity Pattern and Health Seeking Behaviors in Jumla District " with the support of Regional Research Grant Nepal from Mid-Western Region of Nepal for Nepal Health Research Council (NHRC) .

.....

Assoc. Prof. Dr Sharad Onta

Member Secretary

Nepal Health Research Council, Ramshah Path, Kathmandu

## **Acknowledgement**

I am heartily obliged to my research guide Dr Sharad Onta, Member Secretary of NHRC for his constant guidance. Similarly, Dr. Rajendra BC Research Officer of NHRC, Nirvaya Sharma administrative Officer have valuable contribution to this research and other NHRC team provided lots of support during my research work.

I am deeply indebted to Sujan Karki, Research Officer of New Era , Deepak Karki from HIV/ AIDS Global Fund and Dr Badri Chapagain, DHO Jumla, for their constant support and consultancy during this research. In the next step I would like to express my dept of gratitude to all the enumerators and support team in the field who are Archana Shahi from Women Welfare Centre (WWC), AHW Kalika Neupane, Devi Psd Gautam School Teacher of Kundari, Manju Chaulagai ANM of District Hospital, Maya Neupane OJT -ANM student in Jumla Hospital, Padam bdr Mahat, Ram Bdr Basnet from CAID Jumla, Nara Bdr Vandari and Kamal GC -KTS student, Karmendra Neupane JSDC, Govinda Vandari, Belu Rokaya and Rajya Laxmi Mahat- Hospital Volunter, Radhika Malla - WWC Jumla, who accomplished field work instead of difficult terrain.

I would like thanks of vote to the FCHVs and Health Post staffs of research area. Bishnu Thami from Patarasi SHP, Ratan Bdr Rawat from Dillichaur SHP, Tara Sejuwal from Patmara SHP, Guru Psd Chaulagain from Lamra SHP, Manikrisha Upadhaya from Tatopani SHP, Tilak Shahi from Kundari SHP, Ratan Bdr Rawat fromBadki SHP,Netra Bdr Khatri fromPandugupha, Nanda Lal Rawt from Birat SHP and Kulanand Acharya from Bota stretched helping hands during the field works.

I owe to the staffs of District Health Office Jumla, specially Ganga Mahat Public Health Nurse, Prithivinath Yogi SAHW, Bal Bdr Thapa SAHW, Nanda Bdr Bista Nayab Subba, Sarita Rawal Staff Nurse for their kind co-operation.

I am very grateful to community people for their Kind co-operation.

Brish Bdr Shahi  
Chief Investigator

## Summary of the Study

### 3.3 Summary

Jumla is a mountainous District that lies in Karnali Zone. Health status as well as health services in the district are very miserable. To provide preventive, promotive and curative health services for around 89,000 populations, 1 district hospital, 1 PHC, 8 health Posts and 20 Sub Health Posts have been established.

This research aims to explore childhood morbidity pattern and practice of health seeking during illness in the district where virtually no research activities happen. Further, both childhood morbidity and health seeking behaviors are compared with various indigenous and social factors. This research is representative for the whole districts though only 30 wards of 14 VDCs were selected for the sampling. Around 300 children were selected by WHO 30 cluster sampling for the study however only respondent of 278 children were available for the study. Sampling method was of probability type. Data were entered and analyzed in computer program SPSS and statistical inferences is drawn on the basis of percentage, mean and chi-square test. The study period was of around three months. It is a descriptive and cross sectional study and target population is under five children. Study was for the period of 1st Chaitra 2062 to 30th Falgun 2063. To get the inferences, statistical tools like chi-square test and mean are used. Finally the results will be used to improve health service delivery and better service utilizations.

Among the respondents, 54 percent are male and 46 percent are female. Children of under 1 years are 43.9 percent where as above 49 years are only 2.2. Similarly 19.1 percent of children are of birth order 1st. Uneducated respondents are 85.8 percent and 58.4 percent are farmers. Four in five respondents have at least one member smoking in the family. Slightly majority of the respondents were from joint families which reveals culture of living together is strong in Jumla. More than half of respondents have modified Chulo in the household and two in one family are using toilet. Slightly more than half of respondents have access of Health Institution within one hours of walking distance and 37 percent have no access within one Hour of walking distance.

In the period of last two weeks, 60.9 percent children were exposed to any type of illness. Among them, 72.7 percent felt only one type of illness where as 21.8 and 5.5 percent felt illness of two and 3 or more than 3 types of diseases respectively. Cough and cold was the most leading cause of illness with 56 percent of children had its symptoms. Second leading is Diarrhoea and Dysentery with 21.8 percent third is Pneumonia with 9.2 percent. Two weeks incidence of disease is significantly associated with the house hold not using toilet ( $p = 0.017$ ) and living away from one hour of distance from health institution ( $p = 0.036$ ). Two weeks incidence is also higher among uneducated mothers, farmers, laborers and housewives. Similarly Joint families and having traditional house hold are also more likely to be exposed to sickness.

The proportion of mothers who sought modern health care for two weeks incidence is 46.1 percent, Home treatment 26.9 percent, traditional treatment 7.8 and doing nothing is 19.2 percent. Highest proportion of people sought the special care because it was easily available 38.1 percent where as 27.4 percent preferred it. More than two in three mothers take service from either Health Worker or Health Institution and more than one in four visited FCHV first among the people who sought for modern health care. On the other hand more than 50 percent felt lack of time or service unavailable to take service from health care providers. Treatment failure rate was highest among traditional healers 50% and lowest among modern health care seekers 3 percent not (condition worsened and not changed). Treatment success rate is better in home treatment than that of doing traditional treatment or doing nothing. In an average, one child suffered 2.1 episodes of illness during last one year, and maximum episode was 12. They waited in an average 57.2 days in ear infection, 9.3 days in skin infection and 3.0 days for diarrhoea to seek health care. Diarrhoea and Pneumonia are felt most serious disease in Jumla. Feeding practices during diarrhoea is not satisfactory and just one in ten respondent know proper home care of cough and cold. Home treatment of fever and ear infection is horrible and harmful, unfortunately majority are pursuing it.

## **List of Abbreviations**

APD :	Acute Peptic Disease
ARI :	Acute Respiratory Infections
COPD :	Chronic Obstructive Pulmonary Diseases
DDC:	District Development Committees
DHO:	District Health Office
DOHP:	Department of Health and Population
HH :	House Hold
HI :	Health Institution
HMG :	His Majesty the Government
HP :	Health Post
INGO:	International Non – Government Organization
MDG :	Millenium Development Goals
MOHP :	Ministry of health and Populations
MWHSD:	Mid-Western Health Service Directorate
NDHS :	Nepal Demogrphic and Health Survey
NGO:	Non- Government Organization
NHRC :	Nepal Health Research Council
ORS :	Oral Rehydration Solutions
OPD :	Outpatient Department
PHC :	Primary Health Care Centre
RHD :	Rheumatic Heart Diseases
SHP :	Sub Health Post
SPSS :	Statistical Program for Social Science
URTI :	Upper Respiratory Tract Infections
WHO :	World Health Organization
VDC :	Village Development Committees
VHW:	Village Health Worker

# Contents

1. Approval Sheet.....	i
2. Acknowledgements.....	ii
3. Summary .....	iii
4. Abbreviations.....	v
6. Contents.....	vi
5. Tables.....	ix
<b>Chapter one: Study District overview .....</b>	<b>1</b>
1.1 Introduction .....	1
1.1.1 General introduction .....	1
1.1.2 Educational status/ institution.....	1
1.1.3 Target population.....	1
1.1.4 Major health related indicators.....	2
1.1.5 Health institutions in Jumla Districts.....	2
1.1.6 Map of Jumla.....	3
1.2 Secondary data analysis.....	4
<b>Chapter Two: Introduction .....</b>	<b>6</b>
2.1 Background.....	6
2.2 Statement of problem.....	7
2.3 Literature review.....	7
2.4 Rationale / Justification.....	9
2.5 Research question .....	10
2.6 Objective of the study.....	10
2.7 Research Design and Methodology.....	11
2.7.1 Research Method.....	11
2.7.2 Study Variables.....	11
2.7.3 Type of study.....	11
2.7.4 Study site and its Justification.....	11
2.7.5 Target population .....	12



2.8 Sampling Methods.....	12
2.8.1 Sample size.....	12
2.8.2 Sampling frame.....	12
2.8.3 Tools and techniques for data collection.....	12
2.8.4 Pretesting the data collection tools.....	13
2.8.9 Validity and reliability of research.....	13
2.8. Biases .....	13
2.11 Limitation of study.....	14
2.12 Plans for supervision and monitoring .....	15
2.13 Plans for data management .....	16
2.14 Plans for data analysis.....	17
2.15 Outcome of the research.....	18
2.16 Dissemination of Research Results.....	19
2.17 Plan for utilization of research findings.....	20
2.18 Work Plan.....	21
<b>Chapter Three: Ethical considerations.....</b>	<b>15</b>
3.1 Regarding the human participants.....	15
3.2 Informed consent form/ ethical issues.....	15
<b>Chapter four: Findings .....</b>	<b>17</b>
4.1 Socio-demographic characteristics of respondent.....	17
4.2 Incidence of diseases among children in last two weeks.....	20
4.2.1 Incidence pattern in last two weeks.....	20
4.2.2 Incidence of diseases in last two weeks by socio-demographic characteristics..	21
4.2.3 Incidence of diseases by environmental situations.....	23
4.3 Health seeking behaviors during illness.....	25
4.3.1 Health seeking behaviors during illness.....	25
4.3.2 Reason for pursuing the special care .....	26
4.3.3 Choice of modern health care services.....	26
4.3.4 Reason for not seeking the modern health care services.....	27
4.3.5 Result of the first hand care and next step taken.....	27
4.4 One years incidence of disease.....	28

4.4.1 Incidence of disease in last one years.....	28
4.4.2 Episodes of diseases and days of seeking care .....	30
4.4.3 Service sought from a health care provider including FCHV.....	31
4.5 Felt severity of the diseases.....	33
4.6 Feeding during diarrhea .....	34
4.7 Feeding pattern during ARI.....	35
4.8 Home care of children during illness.....	35
4.8.1 Home care of Cough, Cold , Pneumonia.....	35
4.8.2 Home care of fever.....	36
4.8.3 Home care of ear infection.....	37
<b>Chapter Five : Discussion, Conclusion and Recommendation.....</b>	<b>38</b>
<b>Chapter Six : Annexes .....</b>	<b>41</b>
6.1 References.....	41
6.2 Data collection tools –Questionnaire.....	41

## List of Tables

1. Socio- demographic characteristics of respondent .....	18
2. Family and household environment of the children.....	19
3. Incidence pattern of disease in last two weeks.....	20
4. Incidence of diseases in last two weeks by socio-demographic characteristics..	21
5. Disease incidence by type of environmental factors.....	24
6. Health seeking behaviors during illness.....	25
7. Reason for pursuing the special care	26
8. Place or person contacted first...	26
9. Reason for not seeking the modern health care services.....	27
10.Result of the first hand care and next step taken.....	27
11.Incidence of disease in last one years.....	28
12. Episodes of diseases and days of seeking care	30
13. Prevalence of service taken from health care providers for different diseases...	32
14. Felt severity of the diseases.....	33
15. Feeding practices during diarrhea .....	34
16. Feeding pattern during ARI.....	35

# Chapter One: Study District Overview

## 1.1 Introduction

### 1.1.1 General Introduction

Geographical features:	- 28. 58" to 29.30" North latitude 81.18 to 82.18 East
Topographical features:	- 2531 sq. km
Estimated total population (2062 B. S.):	- 97511
Sex Ratio (M: F)	
Climatic condition:	- Cold (snow fall - Marga to Falgun)
Socio-economic status:	- (70 \$) Poor
Political divisions:	- One constituency
Transportation:	- Foot/32 KM Motorable
Communication:	- Total 19 V-Sat Telephone line in the district
Agriculture:	- 14743 hector
Industries:	- Candle factory and toast factory
Tourism area:	-Tatopani, Kankasundari, Patarasi and Pandavgupha, Kartikswamii and Guthichour VDCs
Religious places:	-Chandannath temple, Bhairavnath temple, Thakurji and Kanakasundari temple

### 1.1.2 Educational status/institutions

Literacy rate:	- 28.61percent
Campus:	-1 (Running B.Ed. programme)
High school:	-13
Lower secondary school:	- 22
Primary school:	- 95
Technical School	-1

### 1.1.3 Target population (Estimated for FY 061/62)

<1 year population:	-3519
---------------------	-------

<3 year population:	-9871
< 5 year population:	-15589
15 to 44 years female population:	-22958
15 to 49 years female population:	-25020
15 to 49 years married population:	-20065
Expected number of pregnancies:	-4373
Adolescent population (10 -19 years):	-19708
Malaria risk population:	-20495
Population growth rate:	-1.64
Population density:	-35 per square K. M.
Number of households:	-15850
No of VDCs:	-30

#### **1.1.4 Major Health Related Indicators**

Human development index	- 0.218
Population per hospital bed	- 4615
Household with access to toilet facilities	- 51.74 percent
Household with access to tap water	- 40.11 percent

#### **1.1.5 Health institutions in Jumla districts**

No. of Hospital:	-1 Govt.
PHC:	-1 Kalikakhetu VDC
HP:	-8
SHP:	-20
Private clinic/Medical hall:	-6 medical halls
Ayurvedic Ausadhalaya:	-1
Primary Eye Care Center	-1
TB Leprosy Referral Center (INF)	-1
PHC/ORC:	-105
EPI Clinic:	-93
FCHV:	-533



## 1.2 Secondary Data Analysis of DHO Jumla in Last 3 Years

Indicators	FY 060/061 2003/04	FY 061/062 2004/05	FY 062/063 2005/06	Rem arks
<b>Expanded Programme on Immunization (EPI)</b>				
BCG Coverage	102.7	90	104.2	
DPT 3 Coverage	99.3	62	115.4	
Polio 3 Coverage	98.4	62.5	115.4	
Measles Coverage	92.0	61.6	97.8	
TT 2 Coverage	25.9	16	37.9	
<b>Acute Respiratory Infection (ARI)</b>				
Reported Incidence of ARI/1000 <5 Children New Visits	282	331	510.6	
Annual Reported Incidence of Pneumonia (Mild + Severe)/1000 among <5 Children visits	130.5	172	462.6	
Proportion of Severe Pneumonia	7.8	14.3	20.4	
<b>Nutrition</b>				
Growth monitoring Coverage as percent of < 3 Children New Visits	58.8	73	95.8	
Proportion of Malnourished Children (Weight/Age – New Visits)	15.1	14.5	19.7	
<b>Diarrheal Disease (CDD)</b>				
Incidence of Diarrhea/1000 < 5 Children New Cases	228	239	298	
percent of Some Dehydration among Total New Cases	33.1	31.0	29.7	
percent of severe dehydration among Total New Cases	8.4	9.4	5.9	
Diarrheal Deaths/1000	0.46	0.65	0	
Case Fatality Rate/1000	2.0	2.71	0	
<b>Safe Motherhood Programme</b>				
ANC First Visit as percent of Expected Pregnancy	68.4	59.3	93.6	
ANC Four visits among first visit	46.4	39.58	47.4	
Average no. of ANC Visits/pregnant woman	1.6	1.68		
Deliveries Conducted by Health Workers as percent of expected pregnancies	10.0	7.53	12.5	
Deliveries Conducted by TBAs as percent of expected pregnancies	7.81		10	
PNC First Visit as percent of Expected Pregnancies	19.2		32.5	
<b>Family Planning Programme</b>				
Contraceptive Prevalence Rate (Adjusted)	18.76	23.62	27.75	
Condom (CPR method mix)	3.5	1.5	2.07	
Pills (CPR method mix)	0.8	1.2	1.4	

DEPO (CPR method mix)	4.6	3.5	4.1	
IUCD (CPR method mix)	0.0	0.0	0.02	
Norplant (CPR method mix)	0.0	0.0	0.0	
Sterilization (VSC) (Adjusted)		17.17	20.21	
<b>Tuberculosis Control Programme</b>				
Case Detection Rate	59.0	53.0		
Treatment Success Rate on DOTS	100	95		
<b>Leprosy Control Programme</b>				
Case Detection Rate/10000 population	0.64	0.009		
<b>Malaria Control Programme</b>				
Blood Slide Examination Rate per 100 Malarious Population	0.4		0.39	
Slide Positivity Rate	3.7	2.8	0.84	
<b>Curative Service</b>				
Total OPD new visits	48070	52614	50224	
Total OPD Visits as percent of Total Population	51.2	55.0	51.5	



## Chapter Two: Introduction

### 2.1 Background

Jumla is a mountainous District that lies in Karnali Zone. It is estimated that children below one years count around 3509 and children below 5 years count around 15569 in the year 2062 among total estimated population<sup>1</sup>. Health status as well as health services in the district are very miserable. Some big epidemics that caused heavy toll in the past few years (Influenza Epidemic in Jumla and Kalikot in 1999 etc) are the product of favoring environment in the community as well as inadequate health services in the district although health units have been established in each VDCs. To provide preventive, promotive and curative health services for around 95,000 populations, 1 district hospital, PHC, 8 health Posts and 20 Sub Health Posts have been established<sup>2</sup>. However these health institutions lack manpower, drugs and other resources. Government supplies drugs only twice in a year that is very small portion of real demand. Most of the posts are vacant; doctor's and health worker's absenteeism is higher in the fulfilled posts<sup>3</sup>. This district has hospital since long time but they lack investigation facilities, doctors and other essentials for operating surgical procedures<sup>4</sup>.

As per reported cases ARI morbidity is the highest among under five children in the district. ARI incidence per 1000 under five children is 224, 282, and 331 respectively in the last three years. Similarly diarrhea is second highest morbidity with the incidence rate 179, 228, 239 respectively in the last three years<sup>1</sup>. However the figure may be higher because it is only reported data and reporting status in the district is not so satisfactory and data validity may not be so accurate.

Overall morbidity of the district seems very high as per OPD visit as percent of total population. It seems 37.4, 51.2, and 55 percent of total population respectively in the last three years. The last year OPD visit percent is very high as compared to national status<sup>1</sup>.

## **2.2 Statement of the problem**

Child mortality is a major public health problem in the developing countries like Nepal. Further Nepal lies in the country of highest childhood mortality. Infant mortality and child mortality are respectively 64.2 and 91.2 per thousand in this country<sup>5</sup>. There is highest childhood mortality in the mountain ecological zone. Jumla is situated in this ecological zone<sup>6</sup>. Jumla is a remote district in the Mid-Western region of Nepal, the region with highest poverty rate in the country<sup>7</sup>. As already mentioned, incidence of ARI, Diarrhea, OPD visit percent is very high. In the developing countries, underweight is the main cause or risk factor for the morbidity and mortality. Similarly, unsafe water, sanitation and hygiene, tobacco, vitamin A deficiency etc are among top ten causes of mortality and morbidity<sup>8</sup>. This district also has around 15 percent malnourished children or undernourished children<sup>1</sup>. Intestinal worms come first in the rank of top ten OPD diseases and ARI or diarrhea are second and third in the rank<sup>2</sup>. Similarly in the Hospital, ARI, COPD, Diarrhoea, Pneumonia and Abdominal pain are top five Hospital morbidity ranking first to fifth respectively. In the same way, COPD, RHD, N/D, APD, Pneumonia are the top ten causes of Mortality ranking first to fifth respectively<sup>2</sup>.

In the year 2000, average life expectancy was 47 years, child mortality was 2000 per 1,00,000 and maternal mortality was 78 per 1000. In the same year, around 50 percent people seek modern health care service or visited HP, SHP, Hospital while remaining 30percent seek Dhami/ Jhangri and 21percent Jadibudi<sup>9</sup>.

## **2.3 Literature review**

Many researches have been done regarding morbidity pattern and service seeking behaviors in the various part of World. However rare researches have been found on these topics in Nepal.

A study in Guetemala about health seeking behaviors<sup>10</sup>. The mothers generally sought help and treatment advice from an older woman in the family, and did so more often for diarrhoea (82 percent) and fever (64 percent) than for cough (43 percent) or worms (28 percent). Obtaining advice in a pharmacy or from a drug seller ranked second (range: 8percent-38percent, depending

on the symptom), before the procurement of professional help at a medical service (range: 8 percent-23 percent). Traditional healers were hardly consulted (range: 0percent-3percent). In the case of self-treatment the women predominantly relied on Western drugs: around 80 percent in diarrhoea and fever, and above 50 percent in cough. Herbs and traditional external remedies were little used, except in cough (27 percent herbs) and worms (58 percent external remedies). None of the mothers reported ORS as home treatment for diarrhoea. Problems of geographical or financial accessibility could not explain the low utilisation of the Western health care system.

Another study in Nigeria about morbidity in rural area <sup>11</sup> showed that Malaria, upper respiratory tract infections (URTI), diarrhoea, measles and accidents were the most common ailments for which the community members sought health care. The annual morbidity rates were malaria 25.4 percent, URTI 6.0 percent, accidents 3.2 percent, and diarrhoea 2.7 percent. Rates generally decrease with increasing age, except for accidents, for which the rates were highest amongst school-aged children (5-14 years) and lowest amongst adults. Another one year study on pattern of morbidity and public health risk factors<sup>12</sup> revealed overall prevalence of illness was 5.8 percent in 1216 person-years observed among rural Ethiopian children aged under 5 years. Acute respiratory infections (ARI) (prevalence 2.8 percent) and acute diarrhoea (2.4percent) were the commonest conditions. Episodes of illness were distributed unequally among children, with a mean of 2.34 episodes per child. These included an average of 1.13 episodes of ARI (of which 0.16 had lower respiratory symptoms [ALRI]) and 1.17 episodes of acute diarrhoea. Sanitation factors were the principal risks for gastroenteritis, while living in rural areas predisposed children to ARI. Parental factors such as illiteracy were also linked to morbidity. Yohannes AG, Streatfield K, Bost L. Show in their study about child morbidity pattern in rural Ethiopia that <sup>13</sup> Overall child morbidity was high, especially among children who were at the most 1 year old. No significant difference existed between boys and girls, except diarrhea occurred more often in girls. Diarrhea accounted for most illnesses, especially among infants and 1-year old children. As children aged, parasitic and other respiratory diseases increased. Children who lived in a house with a latrine and who defecated in the latrine had the lowest morbidity rate (p - 001). Only 12.7percent of children who lived in a home with piped water were sick in the 2 weeks prior to the survey compared with 20 percent for all other sources of water (p - 001). The water supply with the highest morbidity rate was a river (30 percent). In addition, children who had a garbage

bin in their house experienced fewer illnesses than did those who did not have a bin (17.1 percent vs. 29.2 percent; p=001). Ali M, de Muynck A. in Pakistan<sup>14</sup> found that that street children were highly susceptible to many adverse health outcomes. The common ailments were injuries, respiratory and skin infections. Along with low self-perceived severity of medical problems, self-medication was preferred and medical pluralism existed. Their perceived constraints to services included long waiting time, monetary, negative attitude of service providers and their inferior status.

Study on Prevalence of childhood illnesses and care-seeking practices in rural Uganda<sup>15</sup> were done in 300 women with children less than 2 years by the method of WHO 30 cluster sampling. Prevalence of childhood illnesses and care-seeking practices were obtained using a structured questionnaire supplemented by in-depth interviews. The results showed that the 300 women interviewed had 323 children of whom 37.9 percent had an episode of fever 2 weeks before the survey, 40.3 percent had diarrhea, 37.4 percent had URTI, and 26.8 percent were fully immunized. Most of the women, 82.7 percent, perceived fever as the most serious health problem to their children. URTI, diarrhea, and measles were perceived as serious by a lower proportion of women. Although this study showed high perceptions of childhood diseases, the proportion of mothers seeking care for sick children was low, indicating that there are barriers to accessing care. For example, 44.7 percent of women sought care when their children had fever, 35.0 percent when children had URTI, and 31.3 percent when children had diarrhea. However, most children with fever, diarrhea, and URTI were treated at home and taken to health units only when they developed life-threatening symptoms. This late referral to health units was complicated by high costs of care, long distances to health units, poor attitude of health workers, lack of drugs at health units, and limited involvement of fathers in care of the children. The results of this study showed that although the perceptions of childhood diseases were high, the care-seeking practices were poor.

## **2.4 Rationale / Justification**

To deliver proper health services actual information is required. Being a government Health Authorities, we are devoted to provide preventive, promotive and curative health services. Jumla is a remote and hard to reach area. Here, preventive and promotive health services are more

valuable than curative health services. It is also important to seek proper health care services in time during illness neither it costs very high if it is late in this remote Districts. So, first to provide preventive and promotive services it is important to get first hand real situation of morbidity pattern. Further to make community capable of seeking proper health services in the right time, it is necessary to find their health seeking behaviors. Research is the proper technique to explore all these. Virtually no research has been done in this district so there is no possibility of getting information from earlier research in this field. That's why it is very inevitable to do research of such type for getting information about many aspects of child health and to take action accordingly.

## **2.5 Research questions (if relevant)**

- ❖ What is incidence of different diseases among under five children in the last two weeks?
- ❖ What is incidence of different disease among under five children during last one year ?
- ❖ What are health seeking behaviors of parents for the various diseases during their children's illness?
- ❖ What is relation of various factors with the severity of illness?

## **2.6 Objectives of the study**

### **2.6.1 General objectives**

- ❖ To identify and describe incidence pattern of disease among under five children and health care practice of their parents in the Jumla district.

### **2.6.2 Specific objectives**

- ❖ To measure incidence of different diseases among under five children in the last two weeks.
- ❖ To measure incidence of different disease among under five children during the last one years period.
- ❖ To identify health seeking behaviors for the various diseases during illness.
- ❖ To compare relation of various factors with illness.
- ❖ To compare relation of illness and other factors with health seeking behaviors.

## **2.7 Research design and methodology**

### **2.7.1 Research Method**

Qualitative ( ), Quantitative ( ✓ ), Combined ( )

### **2.7.2 Study Variables**

#### **Dependent Variables**

- ❖ Incidence of different diseases in the last two weeks
- ❖ Incidence of different diseases in the last one years
- ❖ Health seeking during illness

#### **Independent Variables**

- ❖ Age , sex of the child
- ❖ Socio-economic status of the family
- ❖ Occupation of parents
- ❖ Caste ,ethnicity
- ❖ Number of children
- ❖ Sanitation condition of the family: Type of chulo, latrine and drinking water
- ❖ Accessibility and availability of health services
- ❖ Types of disease

### **2.7.3 Type of Study**

Descriptive Study ( ✓ )

(Specify: It is a cross-sectional descriptive study)

### **2.7.4 Study site and its justification**

Study site is Jumla district of Nepal. It is selected because it is a remote mountainous district and under five morbidity and mortality is very high. Further low people's awareness level and service utilization, health seeking behaviors are of special interest. On the basis of random selection 30 clusters (Wards) from different 14 VDCs were selected. These VDCs

include- Patarasi -1,2, Dillichaur - 4,8, Patmara -1,3, Chandanath -1,2,5,9, Mahatgaun-1, 4, Talium-4,8, Lamra-9, 7, Tatopani-6,9, Tamti-2,5, Kundari-6, 8, Badki-2,4, Pandugufa-1,8, Birat-1,3 and Botamalika-2,4.

### **2.7.5 Target population**

Study population is children less than five years. However their mothers or care takers were interviewed for the study.

## **2.8 Sampling methods**

Probability Sampling (  $\sqrt{\quad}$  )

(Specify: Because sample VDCs and sample clusters were selected randomly)

### **2.8.1 Sample size**

Jumla is a District with 30 VDCS. According to WHO 30 cluster sampling method, at least 7 samples from each clusters are selected. So, Jumla having 30 VDCs, is an appropriate for 30 cluster sampling. Therefore at least 210 samples are required to generalize the result for whole the district. However, 10 samples from each clusters was planned and 278 respondents were interviewed during the study.

### **2.8.2 Sampling frame (if relevant) and sampling process including criteria for sample selection**

Because WHO 30 cluster sampling technology is one of the most appropriate technology for sampling, this technology is also used in this study. First, 30 VDCs were divided into 270 clusters taking each ward as a single clusters. These 270 clusters were multiplied with random numbers from the computer. Than on the basis of random fraction, 30 clusters were selected for the study. 9 to 10 respondents were interviewed from each clusters.

### **2.8.3 Tools and techniques for data collection**

- ❖ Structured and unstructured questionnaire were developed.
- ❖ Mothers or immediate care taker were interviewed for the response.

#### **2.8.4 Pre-testing the data collection tools (if relevant)**

- ❖ Pre-testing of the questionnaire was done in the concerned community.

#### **2.9 Validity and reliability of the research (if relevant)**

- ❖ Chief investigator is a Government Gazette officer (Public Health Officer), Postgraduate Degree in Public Health with well experience in research.
- ❖ Enumerators were selected from the local community and who have health as an academic background (AHW, ANM). They will be oriented well before the work starts.
- ❖ Data were edited each day and procedures were closely supervised.

#### **2.10 Biases (if relevant)**

There may be recall bias to some extent. Similarly the disease or symptoms are determined on the basis of respondent's perception not on the basis of clinical diagnosis.

#### **2.11 Limitation of the study (if relevant)**

- ❖ Based only on recall of respondents
- ❖ 22 among 300 target respondent couldn't be reached due to various reasons
- ❖ Respondent were reluctant to certain questions, due to their one reason

#### **2.12 Plans for supervision and monitoring**

- ❖ Locally chief investigator and co-investigator supervised closely to the enumerators.
- ❖ Similarly officers of NHRC were in regular contact during research activities.

#### **2.13 Plans for data management**

- ❖ Data were compiled and edited every day.
- ❖ Data were provided code number before entry in the computer.
- ❖ Data collected were entered in SPSS program of computer.

#### **2.14 Plans for data analysis**

- ❖ They were analyzed in the SPSS programs of computers.
- ❖ Interpretation is done in percentage, standard deviations, Chi-square test & Odds Ratio.



## 2.15 Outcome of the research

- ❖ The incidence of major health problems of the community is determined.
- ❖ Health seeking behaviors of the community for various health problems are found out.

## 2.16 Dissemination of research results

- ❖ Interaction program is held in district health office Jumla with the involvement of various line agencies, stakeholders, media peoples, etc and major findings will be presented.
- ❖ Research finding will also be presented in NHRC workshop.
- ❖ Reports will be dispatched in various concerned institutions, Library etc.
- ❖ Article will be published in various Journals.
- ❖ Electric version of the report will also be available in internet or NHRC website.

## 2.17 Plan for utilization of the research findings (optional)

- ❖ Recommendations will be high lighted for the concerned institutions.
- ❖ Advocacy will be done for implementing key recommendations to the concerned authorities.
- ❖ Being a government health officer of concerned district, investigator oneself will effort for utilization of research findings.

## 2.18 Work plan (should include duration of study, tentative date of starting the project ) The Gantt Chart

SN	Activities	Time in week (Total 3 months or 12 weeks during the study)											
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
1	District orientation and taking approval, sampling												
2	Questionnaire pre-testing												
3	Enumerator selection												
4	Orientation to enumerators												
5	Data collection												
6	Data entry and Analysis												
7	Report writing												
8	Information dissemination												

# Chapter Three: Ethical Consideration

## 3.1 Regarding the human participants:

Are human participants required in this research?

- Yes, but their involvement was just for response of questionnaire.

How many participants were required for the research?

- Nearly same as mentioned in the sample size.

What was the frequency of the participant's involvement in the research?

- Just once for each person.

What was expected of the research participants during the research?

- Just responding correctly to the questions of already designed questionnaire and some more if necessary.

Were vulnerable members of the population required for this research?

- No

Was there any risks involved for the participants? If yes, identify clearly what are the expected risks for the human participants in the research and provide a justification for these risks.

Are there any benefits involved for the participants? If yes, identify clearly what are the expected benefits for the participants.

- Benefits will be in terms of health information that will be provided by enumerators and improved health service delivery after implementation of research findings.

## 3.2 Informed consent form / Ethical issues:

Statements required in the Informed Consent Form include:

A statement that the human participants can withdraw from the study at any time without giving reason and without fear. State clearly how the participants can opt out the study.

A statement guaranteeing the confidentiality of the research participants.

If required, a statement on any compensation that might be given to the research participant and or their community.

A statement indicating that the participants has understood all the information in the consent form and is willing to volunteer / participate in the research.

Signature space for the research participants, a witness, and the date.

*(Informed Consent form should be submitted in English and in the language appropriate to the research participants)*

#### Obtaining the Consent

- Written consent will be taken from the formal authorities of the community. Verbal consent will be obtained from the respondents before questionnaire for which each respondent will be well informed about the purpose of interview.

How informed consent is obtained from the research participants?

- First, formally community will be informed all about the research from formal organizations available in the community. Than each participants will again be informed about the objective of inquiry and verbal consent will be taken before interview starts.

Please indicate who is responsible for obtaining informed consent from the participants in this research study?

- Enumerators and investigators.

Is there anything being withheld from the research participants at the time the informed consent is being sought?

No      (  )                      Yes      (  )

## **Chapter Four: findings**

### **4.1 Socio-demographic characteristics of respondent**

The socio-demographic characteristics of the respondent children are presented in the following table no 1. The percentage of male child is 54 among the 278 children. In the study area only two categories of ethnicity were found as respondent -Brahman, Chhetri, as one category whose proportion is 70 percent and Dalit 30 percent though questionnaire included four categories, including Janajati and others. It is because linguistic variation of Jumla shows that 84 percent of population represent Nepalese (Brahman & Chhetri) in Jumla <sup>18</sup>.

Male children are 8 percent more than female children in the study among the respondents. It is also as per population composition of Jumla which constitutes higher proportion of male as compared to female<sup>18</sup>. Similarly children of birth order 3rd and above 3rd are higher 27 percent as compared to 1st 19 percent and second 25 percent.

Talking about age of respondent child, majority of children are below one year representing around 44.2 percent and children above 48 months or 4 years are only few just 2.2 percent. Children of 2nd, 3rd and 4th years are 20.9, 21.2 and 11.5 percent respectively. Cause of this imbalance may be due to the reason that population pyramid of Jumla is also cone shaped and question asked were to the junior most children in the house. In the same way, nearly half of respondent families have living children less than two which may be due to increased trend of male sterilization in the district. Only 33 percent have living children 2 to 4 and 18.3 percent have living children 4 or more than 4.

More than 50 percent children were from joint family as compared to single family. Among respondent around 68 percent had traditional type of households which have very poor ventilation as compare to newly constructed household that contain increased number of rooms, windows and other ventilations. On the other hand more than half (52 percent) of respondents have traditional Chulo that do not prevent from smoke. Nearly half of respondents (50.2 percent) are not using toilet or have no toilet which is similar to authentic data of the district<sup>18</sup>. Proportion of smokers among respondent is 73.6 percent who may be mother, father or any other member in the family (commonly grand father or grand mother).

**Table1: Socio-demographic characteristics of respondent child**

<b>Background Characteristics</b>	<b>Sex of the child</b>		<b>Total Percent</b>	<b>Number of Children</b>
	<b>Male</b>	<b>Female</b>		
<b>Total children</b>	54.0	46.0	100	278
<b>Ethnicity</b>				
Brhamin & Chhetri	68.5	72.8	70.5	191
Scheduled ethnics	31.5	27.2	29.5	80
<b>Immunization status</b>				
Fully immunized	75.3	70.4	73.1	198
Partially immunized	8.2	12.0	10.0	27
Not immunized	1.4	3.2	2.2	6
Time not reached , missng	15.1	14.4	14.8	40
<b>Vitamin A status</b>				
Taken all doses	69.2	72	70.5	191
Taken partial doses	7.5	4.8	6.3	17
Not taken	4.8	3.2	4.1	11
Time not reached, missing	18.5	20	19.2	52
<b>Age of the child</b>				
1 - 12 Months	41.8	46.4	43.9	119
13 - 24 Months	19.2	24.0	21.4	58
25 - 36 Months	22.6	20.0	21.4	58
37 - 48 Months	14.4	7.2	11.1	30
49 Months and above	2.1	2.4	2.2	6
<b>Number of live child</b>				
Less than 2	45.3	49.5	47.3	113
2 to 4	35.2	33.3	34.3	82
More than 4	19.5	17.1	18.4	44
<b>Interval of last two children</b>				
Less than 2 Years	47.4	47.3	47.3	97
3 to 4 Yrs	45.6	47.3	46.3	95
More than 5 Yrs	7.0	5.5	6.3	13
<b>Birth order of the child</b>				
First	17.6	20.8	19.1	53
Second	25.4	24	24.7	68
3rd	31.0	25.6	28.5	78
Above third	26.0	29.6	27.7	76
Total	100	100	100	275

*Missed or non response children: Ethnicity 7, Immunization status 7, Vit A status 7, age of child 7 among, Number of live child 39, Birth order of child 3 among 278 and Interval of last two children 17 among 222.*

Accessibility of health institution seems that though more than half (53 percent) of the respondent have health institution (HP, SHP) within half an hour 37.8 percent of respondent have distance of more than one and half an hour. The accessibility to health institutions is increased after establishment of Sub-Health Posts in each VDCs of the Districts.

Going to the educational status, 85.8 percent of respondents are illiterate or having no formal education albeit they can have informal education. The literacy rate among the respondents is lower than the general literacy of the Districts. Proportion of literacy rate among scheduled ethnics is less than Brhamin and Chhetri. According to the occupational characteristics, more than two in one mothers of respondent children are engaged in farming and only 4.5 percent are either job holder or engaged in business holder.

**Table 2: Family & household environment of respondent children**

<b>Background characteristics</b>	<b>Brahmin/ chhetri</b>	<b>Shedule castes</b>	<b>Total Percent</b>	<b>Number</b>
<b>Education of mother</b>				
Not at all & Informal	83.6	91.3	85.8	236
Primary	5.1	2.5	4.4	12
Seco & higher	11.3	6.3	9.8	27
<b>Occupation of mother</b>				
Farming	67.4	37.0	58.4	160
Laborer	7.3	6.2	6.9	19
Housewife	19.2	55.6	29.9	82
Busness, jobholder	6.2	1.2	4.7	13
<b>Smoking of any member</b>				
Yes	74.6	71.6	73.7	202
No	25.4	28.4	26.3	72
<b>Type of family</b>				
Joint	55.3	42.5	51.5	138
Single	44.7	57.5	48.5	130
<b>Type of household</b>				
Traditional	71.2	62.0	68.5	185
New	28.8	38.0	31.5	85
<b>Type of chulo</b>				
Traditional	43.7	57.5	47.8	129
Modified	56.3	42.5	52.2	141
<b>Type of toilet</b>				
Toilet using	44.8	62.8	50.0	135
Toilet not using	55.2	37.2	50.0	135
<b>Walking distance of HI from household</b>				
Less than 30 M	48.6	64.4	53.2	107
31 M to 1 Hr	12.0	1.7	9.0	18
More than 1 Hr	39.4	33.9	37.8	76
<b>Total</b>	<b>70.9</b>	<b>20.8</b>	<b>100</b>	<b>278</b>

*Non response or missing number is 3 in education of mother, 4 in occupation of mother and smoking of any member, 10 in type of Family and 8 in type of Household, Chulo and Toilet among 278.*

## 4.2 Incidence of diseases in last two weeks

### 4.2.1 Incidence pattern in last two weeks

Study reveals that 60.9 percent (168) children suffered at least one kind of morbidity during last 2 weeks where as remaining 39.1 percent did not fall ill of any kind during the same period. Among the children who suffered illnesses in last two weeks, 21.8 percent have suffered from two different infections where as 5.5 percent have multiple infections in that period. Details of disease incidence in the last two weeks preceding the study is presented in the Table no 3 here.

**Table No 3: Incidence pattern of disease in last two weeks**

<b>Diseases Incidece Pattern</b>	<b>Number</b>	<b>Percent</b>
<b>Incidence of diseases in last two weeks</b>		
Yes	168	60.9
No	108	39.1
Total	276	100.0
<b>Episodes of infection</b>		
Only one episode of infection	120	72.7
Two episodes of different infections	36	21.8
3 or more episodes of different infections	9	5.5
Total	165	100.0
<b>Single episodes of infection</b>		
Cough only	67	56.3
Diarrhoea & dysentery	26	21.8
Pneumonia only	11	9.2
Skin infection	4	3.4
Fever of unknown origin	3	2.5
Ear infection	2	1.7
Others	6	5.0
Total	119	100.0
<b>Multiple episodes of infection</b>		
Diarrh (+dysentery) & ARI (cou,pneu)	32	47.1
Fever and others	17	25.0
Cough and others	10	14.7
Diarrhoea and others	3	4.4
Cough & pneumonia	2	2.9
Skin infection and others	2	2.9
Ear inf and others	2	2.9
Total	68	100.0

*Number missing or not responded is 2 in last two weeks incidence among 278 sample respondents, 3 in Episodes of infection among 168 who were exposed to infection, 1 in single episodes of infection among 120 respondents.*

Among episodes of various morbidity, 72.7 percent or nearly two third of children suffered only one type of illness or single disease incidence, 21.6 percent children had two different types of illness and remaining 5.5 percent suffered 3 or more types of different illness. Among the single type of infection, most children suffered from cough (56.3percent). It may be due to winter season which is most common season of cough and common cold. Second majority children suffered from diarrhea and dysentery

Going to the type of infection, more than half (56.3percent) children have cough and one fifth have (21.8percent) have diarrhea and dysentery. Third leading morbidity is pneumonia 9.2 percent. Others are not so significant. Talking about the multiple infections, among children suffering from different infections within last two weeks of period, majority of them suffered from diarrhea and ARI both (47.1percent). Second to it is fever and other infections 25.0 percent, third is cough and other infections 14.7 percent.

#### **4.2.2 Incidence of diseases in last two weeks by socio-demographic characteristics of the children**

An overview of disease incidence by different socio- demographic characteristics is displayed in the table no 4. Incidence seems higher among the Scheduled ethnics. Incidence in BC group is 57.4 as compared to 69.1 percent among Dalits. Though Dalits are more vulnerable to infection, however it is not so significantly different to their counter group Brhamin, Chhetri ( $p = 0.079$ ). Higher incidence among Scheduled groups may be due to worse hygienic situation in the Dalit communities which can also be observed directly. Comparing among the birth order, the situation is adverse as we estimate. Normally it is said that more the children, more the chances of infection. However this study reveals that incidence is lowest among the birth order 3rd or above (52 percent) as compared to 1st, 2nd or third. Highest prevalence is among the children of birth order 3rd (69 percent). It is also not so significantly different ( $p = 0.094$ ). Among the sex characteristics, infection is slightly higher among female 62.1 percent than the male 60.3 percent. Two weeks incidences of diseases do not vary significantly ( $p = 0.904$ ) among different age group of the children except that highest rate 66.7 is among the children of age group 0 to 12 months i.e. first year and lowest rate is among the higher age group fourth year 53.1 percent.



Similarly interval of last two children, immunization status and Vitamin A supplementation status has no any remarkable influence on disease incidence. In the case of Immunization and Vitamin A status, it also may be that the number of children not immunized and Vitamin A supplementation not taken is very low.

**Table 4: Disease incidence by socio-demographic characteristic**

Demographic characteristics	Diseases incidence in last two weeks		Total Percent	Number of Children	Chi-Square value	p-value
	Yes (%)	No (%)				
<b>Ethnicity</b>						
Brhman, chhetri	57.4	42.6	100	195	3.29 (df-1)	0.079
Dalit	69.1	30.9	100	81		
<b>Birth order of child</b>						
First	67.3	32.7	100	52	6.402 (df-3)	0.094
Second	55.7	44.3	100	70		
Third	69.3	30.7	100	75		
Above third	52	48	100	75		
<b>Sex of the child</b>						
Male	60.3	39.7	100	146	0.94 (df -1)	0.759
Female	62.1	37.9	100	73		
<b>Age of the child</b>						
1 - 12 Months	66.7	38.3	100	120	1.038 (df =4)	0.904
13 - 24 Months	62.1	37.9	100	58		
25 - 36 Months	62.7	37.3	100	59		
37 - 48 Months	53.1	46.9	100	32		
49+ Months	61.7	33.3	100	6		
<b>Interval of last two children</b>						
Less than 2 years	57.1	42.9	100	98	0.069 (df =2)	0.966
3 - 4 years	58.9	41.1	100	95		
More than 5 years	57.1	42.9	100	14		
<b>Vitamin A status</b>						
Taken all doses	62.2	37.8	100	196	0.457 (df =3)	0.928
Taken partial doses	55.6	44.4	100	18		
Not taken at all	60.0	40.0	100	10		
Others*				54		
<b>Immunization status of children</b>						
Fully immunized	63.5	36.5	100	200	1.895 (df = 3)	0.594
Partially immunized	53.6	46.4	100	28		
Not immunized	50.0	50.0	100	6		
Others*				44		

*\*Others include age not completed, do not know and missing. Other missing and number are 2 in ethnicity, 6 in birth order of child, 57 in sex of child and 15 in interval of child.*

In conclusion, soci-demographic characteristics have no significant role in the incidence of diseases in the two weeks before the survey. Because it is only the shorter period of time, there may have not been significant difference.

#### **4.2. 3 Incidence of diseases by environmental situation.**

Here, incidence in last two weeks is compared with some environmental and sanitation factors that can influence disease onset. In this aspect, incidence pattern is compared with type of toilet, type of Chulo, type of household, smoking of parents which is most important cause of ARI. Similarly educational status of mother has influenced incidence of illness among their children to some extent. Prevalence is higher among the children of illiterate mothers (61.9 percent) and lower among the children of educated mothers (45 percent to 52 percent). However this is also not so significantly different among the various ranks of education. There also seems slight relation of incidence with occupation of mother. Generally children of housewife, laborer or farmers are more likely to be infected 63.4 percent, 63.1 percent and 59.6 percent respectively rather than children of job holder or business engaged mothers 54.2 percent

Here incidence of infection is higher among the joint families 64 percent than that of single family 58.9 percent. The reason is natural that is more the crowd, more the chances of infection. However it is not significantly different. In the same way, two weeks incidence of infection is slightly higher among the children living in traditional houses 61.4percent as compared to the children living in the new houses 57.1 percent though it is also not significantly different. This is also the result of ventilation which is good in new houses,

In the case of toilet, it is significantly different among people using toilet and not using toilet ( $p = 0.017$ ). The cause may be those people not using toilets have poor hygienic behaviors. Defecating everywhere is itself a causative factor for infection. There also seems significant relationship between distance of health institution from household and diseases incidence ( $p = 0.036$ ). The reason may be that people nearby to have better access to health information as well as health services. Health information and health services have direct impact on the utilization of

health services of the community people and taking care of their children. By the occupational factor, children of mothers involved in job or business are less likely to have sickness.

**Table 5: Diseases incidence by type of environmental factor**

Demographic characteristics	Diseases incidence in last two weeks		Total percentage	Total number of children	Chi-Square value	p-value
	Yes	No				
<b>Education of mother</b>						
Not at all	62.8	37.2	100	234		
Primary Education	50.0	50.0	100	12	2.802 (df = 2)	0.246
Secondary & Higher	48.1	51.9	100	27		
<b>Occupation of mother</b>						
Job hold, business	54.2	45.8	100	13		
Farming	59.6	39.4	100	159	6.17 (df = 3)	0.893
Laborer	63.1	34.9	100	19		
Housewife	63.4	34.9	100	52		
<b>Type of family</b>						
Joint	64	36	100	139	2.33 (df=2)	0.312
Single	58.9	41.1	100	129		
<b>Type of HH</b>						
Traditional	61.4	38.6	100	184	1.102 (df=2)	0.576
New	57.1	42.9	100	84		
<b>Type of Chulo</b>						
Traditional	57.4	42.6	100	130	0.768 (df=1)	0.381
Modified	69.1	30.9	100	140		
<b>Type of toilet</b>						
Toilet using	54.1	45.9	100	135	5.41 (df=1)	0.014
Toilet not using	67.9	32.1	100	134		
<b>Walking Distance of HH from HI</b>						
Less than 30m	44.4	55.6	100	105		
30-60 m	55.3	44.7	100	18	7.035 (df=2)	0.036
More than 60 m	70.5	29.5	100	76		
<b>Total</b>	<b>60.9</b>	<b>39.1</b>	<b>100</b>	<b>276</b>		

*Missing or non-response number in education of mother is 5, Occupation of mother is 35, Type of family is 10, Type of Household is 10, Type of Chulo is 8, Type of toilet is 9 and Distance of HI from HH is 2 among 278 sample respondents.*

## 4.3 Health seeking behaviors during illness

### 4.3.1 Health seeking behaviors during illness

Going to the health seeking behaviors during illness, it seems that majority of the people are not seeking modern health care system 46.1 percent. More than half of the people are either pursuing home treatment 26.9 percent or traditional treatment 7.8 percent or doing nothing during illness of their child 18.6 percent. However, this seems reasonable because, at this time most of the people have no access to modern healthcare system due to lack of medicine and health workers in the community. Private health care providers are nearly nil in the community of Jumla district. The 46 percent of people using modern health care is also a positive trend which may be due to at least FCHV services that are available after implementation of many community based programs like IMCI, Iron intensification etc. Community based IMCI program is focused to children and FCHVs can treat primary stages of ARI and Diarrhea, major morbidity diseases including other minor illness also. So, this may be the main reason of most of the people seeking or utilizing modern health care services.

**Table 6: Health seeking behaviors during illness**

Description	Frequency	Valid Percent
Modern health care	77	46.1
Home treatment	45	26.9
Traditional treatment	13	7.8
Nothing/ others	32	19.2
Total	167	100

*1 case is missing among 168 total cases of respondents whose child was ill during last 2 weeks.*

Among the people who pursued home treatment, majority of people used locally available medicinal and herbal plants. Herbal plant Tito is widely used among them. Making warm or giving hot water is another home based treatment among the respondent. Other different herbal plants are also used. People who seek traditional treatment take service mostly from Baidhya, Dhami Jhankri.

### 4.3.2 Reason for pursuing the special care

In the inquiry of why those people pursued the special care as mentioned in the 5.3.1, most people choose the special care due to easily available services (39.7percent). Second to it is that people preferred the service (28.4percent). Sixteen percent of people take the special care because there was no alternative and 12.1 percent because some one recommended it. So, if the modern health services is made easily available, most of the people will take this service rather than seeking home care or traditional or doing nothing.

**Table 7: Reason of seeking the special care**

Description of reason	Frequency	Valid Percent
Easily available	64	38.1
Preferred	46	27.4
No alternative	26	15.5
Someone recommended	20	11.9
Others	5	3.0
Don't know / Missing	7	4.2
<b>Total</b>	<b>168</b>	<b>100.0</b>

### 4.3.3 Choice of modern health care services

Table no 8 displays the description of where the respondents who sought for health care services had contacted first for the treatment of their children. Eighty four respondents among 279 used the modern health care service or the rational health care service. Two thirds of the respondent people either visited health workers (39.3percent) or health institutions (26.2percent) for the health care of their children. Another one quarter respondents visited FCHVs for the sake of health care. Proportion of people taking private medical services is very low. The cause may be that there is virtually no private sector providing health care services except few medical halls in the headquarters.

**Table 8: place or person contacted first**

Place or Person	Frequency	Valid Percent
Health worker	33	42.9
Health institution	22	28.6
FCHV & others	22	28.6
<b>Total</b>	<b>77</b>	<b>100.0</b>

#### 4.3.4 Reason for not seeking the modern health care services

This is about the reason of why people do not seek the modern care services during their children's infection. As in already mentioned, more than fifty percent of respondent did not take scientific health services. Here in the following table, leading number of the people feel lack of time to seek the service (32.4 percent). Second leading cause is that the services are not available at the time of need (21.1 percent). Another 15.5 percent of respondents did not feel the service is necessary and 11.3 percent were confident of self care in the home. Remaining 10 percent also feel the service in accessible.

**Table 9: Reason for not seeking modern care**

Description of the reason	Frequency	Valid Percent
No time	29	32.4
Not available	19	21.4
Not necessary	13	14.7
Confidence of self care	10	11.3
Not accessible	9	10.1
Other/ Don't know /Missing	9	10.1
Total	90	100

#### 4.3.5 Result of the first time care and next step taken

As displayed in the following table No 9, cure rate is highest among the respondents who resorted modern health care system during the child illness 52.9 percent and lowest among the respondents who followed traditional treatment 16.7 percent. On the other hand vice-versa situation seems in the case of disease worsened that is lowest for the children who sought for modern treatment and highest for the children sought for traditional treatment. Result of home treatment seems better than doing nothing, cure rate 29.3 percent. It proves the popular theme some thing is better than nothing.

In the next step, if the first line treatment was not productive, qualitative information was collected for exploring the type of health seeking. Qualitative information explored that in case of no difference or if the condition was worsened, most people (around two third) sought home treatment and few person resorted Jadibuti.

**Table No 10: Result of the first time treatment**

Type of health seeking	<u>Result of first time treatment</u>				Total Percent	Number of children
	Cured	Improved	No difference	Worsened		
Home treatment	29.3	41.5	24.4	4.9	100.0	41
Traditional treatment	16.7	33.3	33.3	16.7	100.0	12
Modern health care	52.9	44.3	1.4	1.4	100.0	70
Nothing	25.0	28.6	25.0	21.4	100.0	29
Total						152

*16 cases are missing or did not responded*

## **4.4 One years incidence of disease**

### **4.4.1 Incidence of disease in last one year**

Another objective of this study is to find out the one years incidence of disease by socio-demographic characteristics in the study community or Jumla district. Table No 11 below is a detail description of last one year incidence of diseases.

In aggregate, 92.7 percent of under five children suffered any kind of disease during the last one years period. This can be compared with the total OPD visits of Jumla in Fiscal Year 206/063, when the incidence rate is 68.63 percent among the total population (Annual Report of Midwestern Development Region FY 2062/ 2063)<sup>17</sup>. These are only reported cases and among all age groups. So, incidence rate of this research seems justifiable. Diarrhoea incidence in this period is 63.5 percent. This is very high as compared to the rate 26 percent of Jumla as mentioned in the Annual Report 2062/ 063. This can be due to the under reported cases in health institutions. As it is already mentioned, only 46 percent of respondents sought for health care services. Incidence of Cough is 52.5 percent and Pneumonia 12.9 percent during the study period of one years, from Chitra 1st to Falgun last 2063. In other words, total ARI incidence rate is 65 percent which is slightly higher than the Diarrhoea. However institutionally reported case of ARI seem much higher than Diarrhoea. This can be because diarrhea is so common that most people do not seek health care in case of diarrhea or diarrhoea is generally taken as simple phenomena in the rainy season.

**Table No11: Incidence of various diseases during the last one years.**

<b>Background Characteristics</b>	<b>Any diseases incidence</b>	<b>Diarrhoea Incidence</b>	<b>Incidence of cough</b>	<b>Incidence of Pneumonia</b>	<b>Incidence of ear infection</b>	<b>Incidence of fever</b>	<b>Number of children</b>
<b>Ethnicity</b>							
Brhman/ Chhetri	91.3	66.8	53.3	28.9	13.7	25.1	196
Dalit	96.3	56.8	51.9	34.6	11.1	16.0	80
<b>Sex</b>							
Male	92.4	63.3	48.6	29.3	10.2	20.7	145
Female	94.4	66.1	58.1	32.8	16.8	24	125
<b>Education</b>							
Primary	92.7	62.6	52.8	29.2	13.1	21.3	33
Secondry & higher	75	58.3	33.3	25	0	8.3	12
Not at all	100	77.8	57.7	44.4	14.8	37.0	234
<b>Occupation of mother</b>							
Farming	92.5	63.1	83	29.8	13.0	20.1	159
Laborer	94.7	84.2	11	42.1	36.8	31.6	19
Housewife	93.8	59.8	45	30.5	8.5	23.2	82
Busness, Job	83.3	61.5	46.2	30.8	7.7	30.8	13
<b>Smoking by any member of family</b>							
Yes	93.0	65.8	51.7	30.0	15.8	23.9	201
No	91.7	58.3	54.2	31.9	5.6	19.4	72
<b>Type of family</b>							
Joint	90.6	68.1	54.0	31.7	13.7	24.8	137
Single	95.3	60	50.8	29.2	11.5	19.2	130
<b>Type of Chulo</b>							
Traditional	93.8	61.5	58.9	33.8	13.8	24.2	128
Modified	91.4	66.4	47.9	27.7	12.8	20.6	141
<b>Type of toilet</b>							
Toilet using	94.8	62.2	52.9	31.6	14.0	22.2	134
Toilet not using	91.0	66.7	54.1	29.6	12.6	22.4	135
<b>Immunization Status</b>							
fully immunized	95.1	68.5	55.4	30.4	13.7	24.6	203
Partial immunized	89.7	72.4	51.7	41.4	20.7	21.4	28
not immunized	60	16.7	50	16.7	16.7	16.7	6
<b>Vitamin A status</b>							
Taken all doses	94.4	66.7	56.1	32.8	16.7	26.0	196
Partial doses	94.1	77.8	55.6	38.9	5.6	16.7	18
Not taken at all	72.7	45.5	36.4	36.4	9.1	9.1	11
<b>In aggregate</b>	<b>92.7</b>	<b>63.5</b>	<b>52.5</b>	<b>30.2</b>	<b>12.9</b>	<b>22.4</b>	<b>275</b>

*In aggregate 3 respondents are missing or non response.*

Ethnic variation in aggregate does not vary in incidence of diseases because incidence varies in all different cases. However sex variation can be seen with female child higher rate of incidence than male child. Similarly, educational status has also role in the incidence, higher the education lowers the chances of incidence. Annual incidence of all disease is 75 percent or higher education than 100 percent for no education. Occupation of mother is slightly a



causative factor for disease incidence as children of mothers with Job or Business has lower prevalence than that of farmer or like that. Smoking by any family member has influence on incidence of Pneumonia. Incidence of pneumonia is higher among the smokers 15.8 percent than that of families who do not smoke at all 5.2 percent. In case of type of Chulo, difference seems in incidence of Cough and Pneumonia. Incidence among traditional Chulo is 58.9 and 33.8 where as it is 47.4 and 27.7 respectively. Another difference seems in Immunization status and Vit A status. Children who have not get immunization and Vitamin A, are more likely to be infected rather than those of Immunized and Vit A taken. It is proved fact that Vitamin A reduces morbidity and mortality among the children

#### **4.4.2 Episodes of diseases and days of seeking care**

The number of episodes of diseases included in the research and number of days after which respondents sought for treatment is presented in the following table no 12 below.

In an average children suffered 2.1 times from various diseases and maximum number of episodes is 12 during the year. Average number of episodes of diarrhea and cough is higher (mean 2.1) times as compared to other diseases. Where as maximum number of episodes for diarrhea and cough are 12 and 9 respectively. Number of episodes for Ear infection, Pneumonia, Unknown origin fever, Skin infection is respectively mean 1.6, 1.5, 1.5 and 1.2, skin infection occurring least than other diseases.

In case of Diarrhea, respondents sought treatment earliest for their children 3.0 days in an average, and 14 days in maximum. For Pneumonia, days of treatment sought are slightly late 3.6 days in an average and 15 days in maximum. The days for seeking treatment are maximum in the case of ear infection. Many respondents said they said treatment of ear infection even after one year i.e. 365 days from start of ear infection. Mean days for seeking treatment in case of ear infection 57.2 days. In the case of skin infection, mean days for the treatment seeking are 9.3 days and maximum days are 60. That's why ear infection, though clinically infection of the most danger site, is mostly neglected by the community people or it is considered minor. As a result health care in case of ear infection is generally not sought or sought only if it is not healed for a long time or months.

**Table 12: Episodes of diseases and days of seeking care**

<b>Description</b>	<b>Maximum</b>	<b>Mean</b>	<b>Number of children</b>
<b>Episode of different diseases during last one years</b>	<b>Maximum no of episodes</b>	<b>Mean no of Episodes</b>	
Episode of diseases during one year	12	2.1	250
Episode of diarrhea	9	2.1	175
Episode of cough	12	2.1	146
Pneumonia episode	5	1.5	84
Episodes of Ear infection	6	1.6	36
Episodes of Skin infection	4	1.2	33
Episodes of Unknown Origin Fever	4	1.5	61
<b>Time of seeking health care after the start of illness</b>	<b>Maximum no of days</b>	<b>Mean no of days</b>	
Time of seeking treatment for Diarrhea	14	3.0	125
Time of seeking treatment for Pneumonia	15	3.6	95
Time of seeking treatment for Cough	10	4.0	57
Time of seeking treatment for Ear Infection	365	57.2	21
Time of seeking treatment for skin infection	60	9.3	26
Time of seeking treatment for fever	15	4.1	40

#### **4.4.3 Service sought from a health care provider including FCHV**

Table no 13 presents proportion of respondents people who seek treatment from a health care provider during their children's illness.

The highest rate for seeking health care from a health care provider seems in the case of Pneumonia 81.2 percent. Second to it is skin infection 74.3 percent. The lowest proportion of people sought health care service in the case of cough. Nepal Demography and Health Survey<sup>16b</sup> shows that 42.9 percent sought for health care services in case of ARI illness, 33.7 for fever, 26.9 for diarrhea. This is slightly lower than this research which can be because FCHVs are included in the health care provider here because they are also main component of health care after IMCI implementation and access to Mirgendra Samjhana Memorial Trust (MSMT). MSMT is working since long in Jumla district for management of under five children's illness with proper Antibiotics through it's own VHWs in all the 30 VDCs of the District.

**Table 13: Prevalence of service taken from health care providers for different diseases**

<b>Background Characteristics</b>	<b>For Diarrhoea</b>	<b>For Cough</b>	<b>For Pneumonia</b>	<b>For Ear infectio</b>	<b>For Skin infectio</b>	<b>For Fever</b>	<b>Number of children</b>
<b>Ethnicity</b>							
Dalit	60.0	40.5	88.5	55.6	100	50.0	80.0
Brhman/ Chhetri	58.1	36.1	71.4	45.5	57.1	37.8	196.0
<b>Sex of child</b>							
Female	57.6	40.0	77.8	41.2	76.9	40.9	125.0
Male	59.0	32.8	76.9	57.1	64.7	40.7	145.0
<b>Education of mother</b>							
Not at all	56.41	37.3	79.4	46.2	72	38.5	234
Primary	85.71	50.0	100.0		100	4.0	12
Secondary & higher	57.89	36.4	66.7	75	50	50.0	33
<b>Occupation of mother</b>							
Business, Job	100.0	100.0	100.0	100.0	100	100.0	13.0
Housewife	47.7	34.1	90.5	33.3	87.5	43.8	82.0
Laborer	61.5	14.3	50.0	28.6	66.7	50	19.0
Farming	59.0	38.8	73.3	58.8	60	33.3	159.0
<b>Type of famiy</b>							
Single	68.9	47.2	89.7	54.5	75	44.4	130.0
Jjoint	48.1	24.6	69.8	44.4	66.7	34.5	137.0
<b>Distance of HH from HI</b>							
More than 30m	31.0	31.0	69.2	43.8	42.9	25	100.0
30 m to 60 m	37.5	37.5	100.0	100.0	100	50	18.0
Less than 30 m	62.9	62.9	95.5	71.4	88.9	50	67.0
<b>Number of children</b>							
3.00+	48.6	28.9	68.2	37.5	71.4	41.2	68.0
2.00 - 3.00	57.9	35.2	78.4	36.4	50	38.1	115.0
<2.00	68.2	44.4	100.0	62.5	100	42.9	42.0
<b>Birth order of Child</b>							
above third	48.6	23.8	50.0	18.2	50	30.8	51.0
3rd	58.1	20.0	94.7	50.0	50	33.3	71.0
second	60.5	65.4	78.9	80.0	81.8	63.6	69.0
first	68.0	52.4	100.0	66.7	100	42.9	64.0
<b>Total</b>	<b>59.2</b>	<b>40.6</b>	<b>81.2</b>	<b>54.8</b>	<b>74.3</b>	<b>42.8</b>	<b>255.0</b>

*Non responded or missing number is 2 in ethnicity, 8 in sex of child, 5 in occupation of mother, 93 in Distance of health institution, 3 in number of children, 3 in birth order of children.*

By socio-demographic characteristics, visible difference seems in case of birth order, distance of Health Institution, type of family and occupation of mother. Children with the birth order first and second are more likely to be taken to health care provider as compared to birth and 3rd and above. Similarly, less the distance of health institution from the household more the chances of seeking health however distance of 30 m to 60 m seem more in

percentage which may be due to lower number of cases. Single families are more likely to seek care of health care providers rather than Joint families as presented in the above table no 13 above. Other background characteristics have no visible association with the health care seeking of respondents during their childhood illness.

#### 4.5 Felt severity of the diseases

Below in the table no 14, respondents feeling of severity for different diseases are displayed. More than five in one respondents feel that diarrhea and Pneumonia are the most serious diseases for them. Another 19.5 percent of respondents feel Diarrhoea and Pneumonia with some other diseases most serious diseases. Another 10 percent felt either Pneumonia (6.5 percent) or Diarrhoea (3.6 percent) most serious diseases. In general, nearly two in one respondents felt Diarrhoe, Pneumonia or both most serious. People do not feel cough as a serious disease because only less than one percent of people think it a serious disease. More than ten in one respondents feel all the diseases are serious. Another 12.9 percent feel some different diseases as a severe disease other than the diseases listed in the study.

Generally people are afraid of those diseases from which their children suffered during the last one year.

**Table 14: Felt severity of diseases**

<b>Disease</b>	<b>Frequency</b>	<b>Percent</b>
Diarrhoea & Pneumonia	63	22.7
Diarrhoea, Pneumonia & others	54	19.5
Pneumonia	18	6.5
Diarrhoea	10	3.6
Skin infection	8	2.9
Ear infection	7	2.5
Fever of Unknown Origin	5	1.8
Amoebic Dysentery	3	1.1
Cough	2	0.7
Others	36	12.9
All diseases	39	14.0
Missing / Nonresponse	33	11.9
	278	100.0

## 4.6 Feeding during diarrhea

Table no 15 below depicts feeding pattern during diarrhoea especially liquid. Respondents, specially those whose children suffered from diarrhoea were asked about feeding practices during diarrhoea.

Feeding practices during diarrhoea is presented below in the table No 15. Generally 45 percent of the people increased liquid feeding during diarrhoea. However 19.6 have either closed or lessened the liquid during diarrhoea. More than one among five people do neither increased nor decreased the liquid feeding to their children during the illness.

Comparing to the socio-demographic characteristics, only distance of health institution from household seems associated with pattern of feeding. More the distance from household, more the chances of lessening or providing same amount of liquid and other feeding during diarrhoea. Proportion of respondents who lessened liquid feeding during diarrhea seems higher by 50 percent if compared to NDHS report<sup>16</sup> (pg170).

**Table No 15: Feeding practices during Diarrhoea**

<b>Background Characteristics</b>	<b><u>About liquid feeding during diarrhoea</u></b>				<b>Total</b>	<b>Number of Children</b>
	<b>lessened or closed liquid</b>	<b>No difference</b>	<b>More than normal</b>	<b>Do not know</b>		
<b>Ethnicity</b>						
Dalit	12.1	29.3	43.1	15.5	100	58
Brhman/ chhetri	17.4	23.5	47.0	12.1	100	132
<b>Education of mother</b>						
Not at all	13.8	27.7	44.7	13.8	100	159
Primary	33.3	11.1	44.4	11.1	100	9
Secondary & Higher	23.8	9.5	57.1	9.5	100	21
<b>Occupation of Mother</b>						
business, jobholder	11.1	11.1	66.7	11.1	100.0	9
housewife	7.8	27.5	52.9	11.8	100.0	51
laborer	40	13.3	46.7	0	100.0	15
farming	17.0	26.8	40.2	16.1	100.0	112
<b>Distance of HI from HH</b>						
More than 60 m	41.8	32.7	10.9	14.5	100	55
31 - 60 M	0	25	58.3	16.7	100	12
Less than 30 m	17.1	28.0	29.3	25.6	100	82
<b>Total</b>	<b>19.6</b>	<b>22.1</b>	<b>45.1</b>	<b>13.2</b>	<b>100</b>	<b>149</b>

*Missing or non-response or not experienced number is 88 to 129.*

## 4.7 Feeding pattern during the ARI

Similar as in diarrhoea, feeding pattern of children during ARI was also queried in the study. The result is described in the table no 16 below.

Four in one mothers or care takers lessened other food items during the reparatory infection of their children. However nearly three in one increased feeding during respiratory illness of their children. If compared by socio-demographic , Educational status, occupation of mothers and distance of health institutions from their house hold is influencing the practices. Farmers, laborer and housewives are more likely to lessen amount of food during diarrhoea (29.1, 53.3, 29.3) as compared to occupation of Job Holder and Business. In the same way, people residing away from the one Hour distance from Health Institution are more likely to reduce feeding 41.8 percent as compared to those of residing within one Hour of distance from Health Institutions. Proportion of mothers who lessened feeding during diarrhea is higher 30.2 percent among illiterate women as compared to secondary and higher education 23.8 percent. In case of primary education, it is influenced due to small size of number.

**Table no 16: Feeding pattern during Respiratory Infection of children**

Background Characteristics	What about feeding during cough				Total	Number of children
	Lessened /closed liquid	No difference	More than normal	Do not know		
<b>Ethnicity</b>						
Dalit	29.2	23.1	26.2	21.5	100.0	65
Brhman/ chhetri	29.8	31.3	23.7	15.3	100.0	131
<b>Educational status</b>						
Not at all	30.9	29.7	20.6	18.8	100	165
Primary	11.1	44.4	33.3	11.1	100	9
Secondary & higher	23.8	14.3	52.4	9.5	100	21
<b>Occupation</b>						
Business, jobholder	10	40	40	10	100	10
Housewife	29.3	25.9	29.3	15.5	100.0	58
Laborer	53.3	26.7	13.3	6.7	100.0	15
Farming	29.1	29.1	20.9	20.9	100.0	110
<b>Distance of HI from HH</b>						
More than 60 m	41.8	32.7	10.9	14.5	100.0	55
30m to 60 m	0	25	58.3	16.7	100	12
Less than 60 m	17.1	28.0	29.3	25.6	100.0	82
<b>Total</b>	<b>25.5</b>	<b>29.2</b>	<b>29.9</b>	<b>15.5</b>	<b>25.5</b>	<b>149</b>

*Missing or non-reponse or not experienced number is 82 in ethnicity, 83 in educational status, 85 in occupation of mother and 129 in distance of health institution.*

## **4.8 Home care of children during illness**

Home care is the most common pattern of illness management in the Nepalese context even in this time. Further, people from remote areas where government health services are insufficient and private sectors are not available, home care is resorted best by the community people. Sometimes home care is also a best idea if done in a right way. This study also collected information on home care of certain illness through quantitative and qualitative questionnaire.

### **4.8.1 Home care of Cough, Cold and Pneumonia**

Information on home care of cough, cold and pneumonia was collected from the respondents. Nearly five in four people (Data not shown) responded that they have known proper home care of their children during cough and cold. However, probing on what is the status of knowledge; only 11 percent could say at least four or more than four proper way of home care, which are recommended by health science, during cough and cold. Remaining 90 percent either applied insufficient home care practice or pursued traditional home care practices like providing different Jadi, Butis. Most commonly used Jadi Buti is Tito, Katuki, Aduwa (Ginger), Besar (Turmeric), Anna Dadeko (Burned cereals), Kharani (Ash) etc.

### **4.8.2 Home care of Fever**

Many more items are resorted during the home care of fever. Cold compress and keeping in suitable temperature is the recommended home treatment. However, people applied more than 20 different ways of home treatment in the study area. Cold compress was done only by less than one in ten people (8 percent) and some other people combined cold compress with making warm. Most commonly applied home treatment is just making warm the proportion of which is more than 42 percent. Some other people also combined making warm with other means. Third most common method is offering Tito (a local medicinal plant) to the patient; its proportion is more than 6 percent. Other approaches include prohibiting sour food to the patient, messaging cow ghee or oil and taking sun bath. Other local medicinal plants used are: Kachur , Katuki, Ainselu Jara, Besar (Turmeric), Khayar, Ingul etc. Some other animal

organs are also used in the home care of fever which include: Danphe Andra (Pheasant's intestine), Jharal Haddi (Dear bone) and Sugurko Sundo (Pig's nose) but these are very few.

#### **4.8.3 Home care of ear infection**

Home treatment of ear infection is further wonderful than fever. More than 40 different items are applied for ear infection home treatment. Most commonly used approach is putting sparrow blood in the ear which is more than 10 percent. Sapi Pani ( wet cloth piece used in with Sulpa, a comon tool for smoking in the local Karnali) and Huka Pani are also common method used for ear illness by more than 5 percent Another 10 percent just cleaned ear with local method i.e. Sinko, stick etc where as more than 6 percent used cotton to clean ear. At least 7 percent put both sparrow blood and Sindur (Vermillion). Somehow 6 percent of people cleaned ear with lime water to cure it. More than 4 percent of respondents used only Sindur to treat child's ear infection. Another 5 percent people keep oil in the ear where as around 4 percent people keep mother's milk during ear infection.. Some few people used other bird's blood, Lizard blood, sparrow faeces, Lizard faeces, Kastui, Horse milk etc as a healing agent of ear infection (around 1-2 percent or less for each item). Local medicinal plants are used less in the treatment of ear infection as compared to in the fever.



## **Chapter 5: Discussion, Conclusion and Recommendation**

Every year some 12 million children in developing countries die before they reach their fifth birthday, many during the first year of life. Seven in ten of these deaths are due to acute respiratory infections (mostly pneumonia), diarrhoea, measles, malaria or malnutrition - or a combination of these conditions. Projections based on the 1996 analysis .The global burden of disease indicate that these conditions will continue to be major contributors to child deaths in the year 2020, unless significantly greater efforts are made to control them. In addition, three in four episodes of childhood illness are caused by one of these five conditions<sup>19</sup>. This condition is further worst in rural par of Nepal like Karnali, where two in one child is exposed in any type of illness with in one last two weeks.

Overall illness of incidence sickness in last two weeks of Jumla is nearly twice if compared to a study by J Jitta in Uganda<sup>20</sup> .Mainly incidence of cough and cold seems very high if compared to NDHS report 2006 or Annual report of MWHSD. It could be due to winter season of study and inclusion of normal Cough in the questionnaire. It can be observed normally that majority of the children suffer from cough and nasal discharge during winter season. Incidence of diarrhea is also nearly twice if compared with NDHS report. It also could be due to spread of cold diarrhoea in February month. However fever of unknown origin is not so high and very low as compared to NDHS report. The incidence pattern is in consistence with top ten diseases of annual report of DOHS.

Two weeks incidence of disease is significantly higher among the families that are not using toilet which is consistent to NDHS report ( $p= 0.0017$ ). The reason could be that people having no toilet may not have sensitive to hygiene and sanitation. Its indication could be that environmental factors are more determinants than background characteristics. It is also consistence with the report of Ryland S; Riggers H about childhood morbidity and treatment patterns <sup>21</sup>. Incidence is also significantly high among the communities which are far from Health Institution i.e. more than 60 m ( $p = 0.036$ ). This finding is consistence with the Nepal Multiple Indicator Survey <sup>22</sup> which mentions that people both in urban and rural are more likely to have used Government services which are less than 1 hours. This relation may be

due to the reason that they are less aware of health care and they have no immediate access to health services. Similarly children below one years of age are more likely to be sick than other senior group. This result is also supported by NDHS report 2006 (pg 163). Similarly the report of Ryland S; Raggars H also reveal that Diarrhea prevalence peaked at 12-17 months, and declined thereafter.

Because mothers are mainly responsible for caring for their sick children, the outcome of such acute illness episodes is influenced by their management of the conditions in the home and decisions about when symptoms are serious enough to seek outside medical care. The late presentation of sick children to health facilities for care is a major contributing factor to high mortality from acute illness. Here in the study, only 46.1 percent of respondents sought for treatment of health care providers in the case of sickness during 2 weeks before the study and 40 to 80 percent respondents in the case one year's prevalence. Government of Nepal, has sated that government essential health care services will be available to 70 percent of people at the end of Tenth Plan<sup>23</sup>. However service utilization in Jumla seems less than this ratio. It may be due to that Government health services have lack of medicine, poor condition of health facilities etc as indicated in Multiple Indcator Survey<sup>22</sup>. These conditions is of course not improved in last few years, in context of Karnali condition is further worsened. This study itself also had explored that health service is sought with regard to availability of the service in 38.1 percent cases. Availability of health service is a key to its utilization and reducing morbidity. It is also supported by the next part of the study that respondents do not seek care due to time insufficiency or not availability of the services in more than 50 percent of circumstances. Single families, mothers involved in Business or Job are more likely to seek care than their counterparts.

Therefore, the utilization of a health care system, public or private, formal or non-formal, may depend on socio-demographic factors, social structures, level of education, cultural beliefs and practices, gender discrimination, status of women, economic and political systems environmental conditions, and the disease pattern and health care system itself<sup>24</sup>.

In the context of Jumla, service availability and information on proper health behaviors is more prominent rather than individual socio-demographic dimensions of the community people as per findings of this study.

Diarrhoea and Pneumonia are still the big havoc for the parents. More than 50 percent feel these two sicknesses as most serious. On the other hand ear infection is not taken as serious condition and its health seeking is very poor, people even awaited up to one year for its self healing. Further, many harmful substances are used in the name of home care, which can lead further serious condition. Though people are conscious of diarrhoea, 19.6 percent of mothers or care takers reduce liquid feeding during diarrhoea and another 22 percent make no difference of liquid during diarrhoea. It is almost consistent with a study of Sabtri Kumari Poudel in 2003 about knowledge and practice regarding diarrhoea<sup>25</sup> however more than two times high as per NDHS report 2006. Knowledge on home care of ARI is also insufficient, only 11 percent has sufficient knowledge.

Health is a highly personal responsibility on one hand and a major public concern on the other hand. It involves the joint efforts of the entire social fabric, viz, the individual, the community and the state to protect and promote health. (WHO, 1979). The promotion of child survival interventions requires activities directed toward caretakers, health workers, communities, and health institutions. It is necessary to develop, implement, and evaluate interventions to improve caretaker behaviors essential to child survival, including prevention, recognition of illness, home care of the sick child, and appropriate and timely care seeking. Also required are the development and testing of methods to motivate health personnel to adopt and sustain the new practices required by integrated case management of the sick child, including communication with caretakers. On the community level, approaches for mobilizing community support for child survival must be developed, implemented, and evaluated, including measurement of the impact on caretakers' behavior. In terms of health institutions, the research emphasis is on interventions to build institutional and policy support for child survival. Finally, there is a need to develop tools and conduct training to strengthen the capacity for implementing effective behavior change interventions in the communities.

## Chapter 6: Annexes

### 6.1 References

1. Annual Report of Department of Health Services. GON, Ministry of Health, Department of Health Services Kathmandu.; 2060/61 (2003/ 2004).
2. Annual Report of District Health Office Jumla. GON, MOH, District Health Office Jumla; 2061/ 2062.
3. Good Governance in Karnali. Karnali Integrated Rural Development and Research Centre (KIRDARC); 2001. Page 41.
4. Kantipur Daily News Paper. Kantipur Publication Pvt. Ltd; Baisakh 9, 2062. Page 1,
5. Linkage with MDGs. Four monthly Statistical Bulletin First Quarter. Central Beureo of Statistics; 2062/ 63. Pg 47.
6. Nepal Demographic and Health Survey GON, Ministry of Health, Family Health Division 2001.
7. Nepal livelihood survey 2nd Phase; 2060-61; National Bureau of Statistics 2062. Pg 5.
8. Reducing risk, promoting healthy life. World Health Organization (WHO); The World Health Report; 2002. Page 162.
9. Five Year District Development Plan Jumla; 2059-2063. Office of District Development Committee; 2060. Page 11.
10. Delgado E, Sorensen SC, Van der Stuyft P. Health seeking behaviour and self-treatment for common childhood symptoms in rural Guatemala . Ann Soc Belg Med Trop; 1994 Jun; 74(2). Pg 161-8.
11. Umar US, Olumide EA, Briegger WB. Morbidity in rural Southwestern Nigeria; A one year follows up of voluntary health worker consultations in Idere, Oyo State, Nigeria. African Journal of Medical Science; 2002 Dec; 31(4). Pg 297-300.
12. Muhe L, Byass P, Freij L, Sandstrom A, Wall S. Patterns of morbidity and public health risk factors. A one-year community study of under-fives in rural Ethiopia. Public Health 1995 Mar; 109 (2). Pg 99-109.
13. Yohannes AG, Streatfield K, Bost L. Child morbidity patterns in Ethiopia. Journal of Biosocial Science, 1992 Apr; 24(2). Pg 143-55.

14. Ali M, de Muynck A. Illness incidence and health seeking behaviour among street children in Rawalpindi and Islamabad Child Care Health Dev Pakistan - a qualitative study; 2005 Sep;31(5). Pg 525-32.
15. Mbonye AK. Prevalence of childhood illnesses and care-seeking practices in rural Uganda. Scientific World Journal; 2003 Aug 19; 3 : 721-30.
16. Nepal Demographic and Health Survey 2006, GON, Ministry of Health, Family Health Division pg 164.
17. Annual Report of Midwestern Development Region, Mid-Western Regional Health Directorate, Surkhet ; FY 2062/063.
18. Nepal District Profile 2006, Nepal Development Information Institute 2002-2007: pg 473.
19. Geneva, Switzerland, WHO, Department of Child and Adolescent Health and Development, 1999. IMCI Information Integrated Management of Childhood Illness (IMCI; WHO/CHS/CAH/98. 6 pg.
20. Sandra Wallman, Grace Bantebya-Kyomuhendo, Valdo Pons, Jessica Jitta, Frank Kaharuza, Jessica Ogden, Solveig Freudenthal Children's illnesses. Mothers' definition and management of "serious enough" symptoms. Jitta J Kampala women getting by Wellbeing in the time of AIDS, [by]. London, England, James Currey, 1996. : 152-65 pg (Internet).
21. Ryland S; Riggers H, Calverton, Maryland. Childhood morbidity and treatment patterns. Macro International, Demographic and Health Surveys [DHS], 1998 Jul. Demographic and Health Surveys Comparative Studies No. 27 (Internet) viii, 50 p.
22. Nepal Multiple Indicator Survey, Central Bureo of Statistics, Government of Nepal, 1998.
23. The 10 th Plan 2002-2007, Government of Nepal, National Planning Comission 2002.
24. Shaikh BT; Hatcher J. Health seeking behaviour and health service utilization in Pakistan: challenging the policy makers, Journal of Public Health. 2004 Dec 8;27(1):49-54
25. Sabitri Kumari Poudel. Study on knowledge and practices of urban and rural parents regarding home care of children during Diarrhoea, TU Nursing Campus Maharajgunj, 2003.

## 6.2 Data collection tools : Questionnaire

### Data Collection Instruments including questionnaires for the "Study on Child hood morbidity and health seeking behaviour in Jumla district, 2007"

We are independent researcher and doing research on *Childhood morbidity and health seeking behaviors in Jumla district*. The principal objective of this study is to explore how many times did your child suffer from different diseases within last one year and what kind of measures did you do. So the information gathered from this study will be used for the research purpose only and kept confidential. If you have any objection at the beginning as well as during the interview, you have right to terminate without any obligation.

House No.....

Interviewer:..... Date:.....

#### A. General Characteristics of the Children

1. Caste/ Ethnicity of parents

- |                             |           |
|-----------------------------|-----------|
| a. Brhamn / chhetri/Thakuri | b. Dalit  |
| c. Jnajati                  | d. Others |

2. Age of child ..... Sex of child .....

3. Number of Living Children .....

4. Birth order of child:

- |                    |                    |
|--------------------|--------------------|
| a. 1st             | b. 2 <sup>nd</sup> |
| c. 3 <sup>rd</sup> | d. Above 3rd       |

5. Spacing of last two child . ....yrs

6. Weight of child.....

7. Educational status of the parents: (*Please put the tick mark (√) as appropriate*)

Education	Mother	Father
<i>NFE graduate</i>		
<i>Primary educated</i>		







3. What did you do first for the case management?
- a. Home/ self treatment
  - b. Seek for traditional healer
  - c. Seek for modern health care
  - d. Did nothing
  - e. Others (Specify).....
4. As per response found above, could you please tell the process that you have followed for the case management? (Qualitative information)
- a.....
  - b.....
  - c.....
5. Why did you prefer the special care? (Refer to the above response)
- a. It is easily available
  - b. It is the only one-way
  - c. Someone recommended
  - d. It is preferable and perfect
  - e. There is no another alternative
  - f. Others.....
6. If the respondent had sought for modern health care, where and which place he/she has visited / Consulted first
- a. FCHV
  - b. Health Worker
  - c. Health Institution
  - d. Pharmacy (Medical hall)
  - e. Other.....
7. Why did you prefer the special care? (Refer to the above response)
- a. It is easily available
  - b. It is the only one-way
  - c. Someone recommended
  - d. It is preferable and perfect
  - e. There is no another alternative
  - f. Others.....
8. How was the cost of the modern health care that you received?
- a. Cheap and affordable
  - b. Cheap but not affordable
  - c. Expensive but affordable
  - d. Expensive and not affordable
  - e. No idea

9. If modern health care was not sought first, what was the reason?
- a. Not easily accessible
  - b. Not available in time of interest
  - c. No time to visit service
  - d. No knowledge on health service utilization
  - e. Others ( specify).....
10. What was the result of first line health care?
- a. Improved
  - b. Cured
  - c. Stable
  - d. Worsened
11. If condition stable or worsen where did you go for further case management?
- a.....
  - b.....
  - c.....
12. How many days after the onset of disease did you seek the health care at first?..... days.
13. If not sought for any health care how long did it sustained..... days.  
and What was done for it?
- a.....
  - b.....
  - c.....
14. Has your child suffered from any kind of disease during last one year?
- a. Yes
  - b. No
15. If yes, how many times did he/she suffer from disease (illness) during last one year?
- a. .... times.
  - b. Suffered but do not remember exactly.

16. *Type of disease he/ she suffered from (Please put the tick mark (✓) as appropriate)*

SN	Disease	Episode	Most common place you have visited for treatment or advice	Ideal place for seeking health care	Days of care sought after start of disease
A	Diarrhoea				
B	Dysentery				
C	ARI (Cough and cold only)				
D	ARI (with pneumonia)				
E	Ear infection				
F	Skin infection				
G	Fever				
H	Others.....				

17. 24. Could you please tell me, which of the above diseases did you consider most serious?

a.....

b.....

18. During diarrhea, what was the pattern of liquid food?

- a. Very low                      b. lowers than normal                      c. same  
d. more than normal      e. Did not provide any liquid      f. Do not know

19. During diarrhea, what was the pattern of other than liquid food?

- a. Very low                      b. lowers than normal                      c. same  
d. more than normal      e. Feeding stopped                      f. Do not know

20. Was the child provided ORS fluid during Diarrhea

- a. Yes                      b. No                      c. Don not know

21. During fever or cough, what was the pattern of liquid food?

- a. lower than normal                      b. same  
c. more than normal                      d. Do not know

22. During fever or cough, what was the pattern of other than liquid food?

- a. lower than normal                      b. same  
c. more than normal                      d. Do not know

23. Have you heard about home care during cough, cold or pneumonia?

- a. Yes
- b. No

24. If yes, explain....

a.....

b.....

c.....

25. Home care of fever

a.....

b. ....

26. Home care of ear infections

a.....

b.....