

**Knowledge and practice of parents on childhood  
immunization of Mushar community in Morang  
district, Nepal**

**Submitted To  
Nepal Health Research Council(NHRC)  
Ramshah path , Katmandu  
Nepal ,2007**

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## **Acknowledgements**

I would like to express sincere thanks to Nepal Health Research Council (NHRC) for providing financial grant and its staffs for valuable suggestion and support in undertaking of study and preparation of this report.

Special thank to goes to district public health administrator Mr. Bhanu Yengden , health workers, staffs and other agencies. I am deeply indebted to Mushar community people for spending their valuable time and response our questionnaires, shared their experiences, feelings, and aspirations. My heart-felt thanks also goes not only to the other members of the research team, but also to Co-PI Hari Bahadur Rana, Co-PI Muftar Ansari, Chatra Bajgai and Dr. Arjun Kumar Baral, who took exceptional care to ensure that we were well briefed and supplied with documents, and who facilitated our work in every respect.

Finally, many thanks go out to my family members specially Mrs Kamala limbu and friends, who have supported me along every step of this voyage of discovery. At times, it was a long and scary experience, but in the end, it was an experience that allowed me to grow in ways I never thought possible.

Bhim Bahadur Subba

Principal investigator

## **Abstract**

This study was carried out on **Knowledge and practice of parents on childhood immunization of mushar community in 12 VDCs of Morang district, Nepal**. The main objective of the study was to compare the parents' knowledge and practice on childhood immunization of Mushar community. This study assessed specific knowledge and practice about immunization and children's Health, and also analyzed cultural in relation to use of childhood immunizations among childbearing mothers in Nepal. Four hundred and three sample respondents were taken for assess the level of knowledge and practice on immunization. Of those surveyed, 53.3% male and 58.1 % female respondents reported being immunized. This percentage remarkably increased in their children immunization practice and 92.3% male and 94.0 % female respondents reported that all of their children were immunized, and 7.7% male and 6% female stated that none of their children were immunized. In addition, those parents with low levels of education were more likely to have higher immunization rates. Furthermore, qualitative findings indicated that parents reported benefits of immunizing children that appeared to be a major reason for their children's immunization. The results of this study suggest that parents who have lived in city area like Biratnagar municipality may be at greater risk of not being immunized against vaccine preventable diseases and that health education interventions in this community may be more effective if they are focused on perceived benefits of immunization in the future intervention efforts.

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### Acronyms

AHW

Auxiliary Health Worker

ANM	Auxiliary Nurse Midwife
EPI	Extended Program of Immunization
HA	Health Assistant
HF	Health Facility
HP	Health Post
HW	Health Worker
MCHW	Maternal and Child Health Worker
MOHP	Ministry of Health and Population
PHC	Primary Health Care
SHP	Sub Health Post
UNICEF	United Nations Children Fund
VHW	Village Health Worker
WHO	World Health Organization
BCG	Bacillus Calmete Gurenine
DPT	Diphtheria
TT	Tetanus Toxoid
WHO	World Health Organization
DOHS	Directorate of Health Services
VDC	Village Development Committee
DHS	Demographic Health Survey

# **CHAPTER-I**

# CHAPTER 1

## INTRODUCTION

### 1.1 Background

Viewed globally, vaccines are the most cost-effective medical intervention to prevent death and diseases (World Bank, 1990). Moreover, pediatric immunization programs have eradicated many of the infectious diseases of childhood and have been one of the most remarkable public health accomplishments in the history of medicine (Edwards, 2000). From the early 1980s to the early 1990s, the reported coverage increased from under 20% to approximately 80%, and millions of 6 deaths were estimated to have been avoided as a result during this period (UNICEF, 1994)

Worldwide immunization coverage has improved considerably during the last decade. From the early 1980s to the early 1990s the reported coverage increased from under 20% to approximately 80% , and millions of death were estimated to have been avoided over this period (UNICEF1994).Despite this , disease that are preventable thorough immunization still remain developing countries . In 1993 a single disease among them , measles , claimed the lives of as estimated 1.2 million children and infected more than 45 million people ; further more , poliomyelitis disable and estimated 10 million (WHO1995). Although disease that are preventable through immunization are declining in the south - east Asian



region, 100000 cases of measles were reported from the region in 1993 (WHO 1995).

Nepal is one of the least developed countries, with an infant mortality of 91/1,000 live births, maternal mortality of 415/100,000 live birth and a prevalence of contraceptive use of 39% (10<sup>th</sup> plan). The expanded programme on immunization (EPI) is a priority programme of government of Nepal. EPI is considered as one of the most cost effective health interventions. (Annual report 2003/2004). One of the immediate objectives of the EPI program was to reduce Neonatal Tetanus (NNT), to reduce measles, and to eradicate Poliomyelitis by the year 2000 (DoHS, 1999/2000, Annual Report). To achieve the above objective, EPI program has set targets in all 75 districts for uniform increases and sustained high levels of homogenous vaccination coverage (at least 80% for OPV3, DPT3, BCG, and measles) in children under one year of age and 80% for TT2 vaccine in pregnant women. Measles vaccination coverage in the Eastern region for the fiscal year 2056/57 (1999/2000) was 71.8% and at national level 76.9%. (DOHS, 1999/2000, Annual Report)

The Demographic and Health Survey 2006 showed that about 93 percent of the children received BCG and DPT1, with polio 1 received by 97 percent children. However, the proportion of children receiving the third dose of DPT and polio is lower (89 percent and 91 percent, respectively), as is the proportion receiving the measles vaccination (85 percent). Maintaining this coverage is important to

reduce morbidity and mortality from vaccine preventive diseases. As expected, full vaccination coverage varies significantly by mother's education from 74 percent among children of mothers with no education to 99 among children of mothers with SLC or higher levels of education. Vaccination coverage has improved in the last five years from 66 percent of children fully immunized in 2001 to 83 percent in 2006.

Report has pointed out that the strategy related to EPI are only partially effective and it requires revise and update EPI strategy to comply with current and future needs(1999/2000, Annual Report, Ministry of Health) . It is also empirically felt that different national campaigns are pushing regular program towards shadow in districts vaccine coverage.

## **1.2 Statement of the Problem**

The Ministry of Health and Population (MOHP) is a key implementing agency for Expanded Program for Immunization. WHO, UNICEF, USAID, and Rotary International support MOHP in its effort to free from vaccine preventable disease. If we observe previous published report, we find following fact and figures. Measles coverage in national level was 72% in 1994/95, 87% in 1995/96, 88% in 1996/97, 89% in 1977/98, 81% in 1998/99 and 77% in 1999/2000. Similarly coverage of DPT-3 in national level was 77% in 1994/95, 81% in 1995/96, 80% in 1996/97, 83% in 1997/98, 76% in 1998/99 and 80% in

1999/2000. EPI coverage has generally been observed as downward trends over past six years in Nepal.

Analysis of the reports from all 75 districts of the country for FY 2060/61 shows that overall coverage level for BCG vaccination is 96.3% , measles vaccination is 85.4% , OPV3 90.2% and tetanus toxoid is 42.3% .However, coverage of various vaccination is not uniform among the districts , some of the districts achieving more than 100% coverage , and others are far behind. The heterogeneous coverage of EPI within districts is another major problem and that has been neglected for years. Sometime the data of a district could mislead the real situation of specific pocket area (VDCs) of the district. For example, Siraha district has reported 87% district coverage but there are still health institutions having coverage of 3% in Siraha HP, 53% in Lahan municipality (HMIS / ERHSD, 057/58).

### **1.3 Rationale / Justification**

In order to achieve the global strategy “Health for all by the year 2000AD”. The emphasis had been given on immunization against 6 killer disease since 1987 (7<sup>th</sup> April, WHO day). Nepal initiated Expanded Programme on Immunization (EPI) in the fiscal year 1978/79 (Suvedi BK,2004) and Nepal has had tremendous success since its immunization program was launched . National immunization coverage in 1989 was as high as 95% for tuberculosis

(Bacille Calmette-Guérin, or BCG), 80% for polio and diphtheria/pertussis/tetanus (DPT), and 69% for measles. This impressive achievement meets the global targets of 80% and 90% coverage of all immunizations by 1995 and 2000, respectively (UNICEF, 1996). Due to various structural changes, the programme lagged behind and the national coverage of immunization to around 80% could be reached by the year 2000 only. However, the impact of immunization coverage on reducing morbidity and mortality in Nepal is not yet properly documented. Moreover, Onta has argued that these official national figures on immunization coverage are highly exaggerated as a result of over reporting from the Primary Health Care Service Outlets and the District Health Office. There are lot of factors which impedes to primary immunization series and current schedule. By 2004, some Vaccine Preventable Diseases (VPD), namely neonatal tetanus, diphtheria and poliomyelitis are reported to be reduced drastically. However, despite good coverage, measles and tuberculosis still remain prevalent ( **Suvedi BK,2004**)

There have been few resources allocated to health care and health related research on mothers and their children. This is one area in which a little research and early prevention can go a long way on childhood immunization. In recent years, the research that has been done on vaccination and disease prevention has been meager, but it is slowly beginning to gain speed. One of the

most recent studies done by Prislin et al., 1998 and Donald Mastuda ,2002, have suggested that a wide array of factors influence the immunization of Nepalese children, but, by far, the most important factor is parents' beliefs, attitudes, and perception of immunization .Thus, the primary aim of this research is to find and achieve a deeper understanding of beliefs, attitudes and practices of parents concerning the immunization of their children health.

## **1.4 Objectives**

### **General objective**

To compare the parents' knowledge and practice on childhood immunization of Mushar community in Morang district, Nepal.

### **Specific Objectives**

1. To identify socio- demographic characteristics of sampled respondents.
2. To assess the level of knowledge on childhood immunization schedule.
3. To investigate cultural belief in relation to childhood immunization

## Chapter 2

### 2. Review of literature

Zhang X; Wang L; Zhu X; Wang K (1999) carried out a study on knowledge, attitude, and practice (KAP) survey on immunization practices was conducted in two provinces in China. KAP surveys were conducted in 12 of the 159 counties in Guangxi and Gansu provinces in July 1997. These 12 counties were selected based on quality of EPI delivery services and divided by stratum segregation into low, average and high. 6 out of 48 counties belonging to the high stratum and 6 from the 35 counties belonging to low stratum were selected. KAP of parents and providers were assessed by administering pretested questionnaires and the immunization coverage of the targeted children was obtained from documented immunization records. The results of the survey indicated that the level of immunization knowledge among parents was positively associated with attitude and practices of immunization. .

In Nepal , Jha N; Pokhrel S; Sehgal R (1999), carried out a study on awareness about a national immunization day program in Sunasri district of Nepal. The study was conducted in 200 vaccination posts in 50 villages of the rural district; five structured questionnaires were sent to each vaccination post. Results showed that of 843 respondents interviewed, 61.2% were female, about 48% were aged 20-30, 39% were illiterate, and 76% were agricultural workers. Of the 843 children brought by the respondents, 58.4% were male and 41.6%

female, 30.2% were aged 37-60 months, and 0.2% were more than 5 years old. Two important aspects of the mass immunization campaign--whether previously immunized children should be immunized again with NID (93.1%) and whether children should be brought to the next NID (98%)--were understood by a majority of individuals

Another important study, 'The quality of immunization data from routine primary health care reports: a case from Nepal' has been conducted by Onta SR; Sabroe S; Hansen EH in 1998. Findings are reported from a study conducted to measure the quality of immunization data in Nepal. The number of children who received different vaccines over the course of 1 year was obtained from the Immunization Register of 3 primary health care (PHC) service outlets, monthly PHC reports based upon the Immunization Register, and monthly district health office (DHO) reports based upon the PHC reports. Analysis of the data found more children in the PHC reports than there were in the immunization registers for all vaccines. The number of immunizations in the DHO reports was higher than the number in the PHC reports for BCG, DPT, and measles, although the number was lower for poliomyelitis. In addition, the overall number of immunizations was higher in the DHO reports than in the immunization registers; by 31% for BCG, 44% for DPT, 155% for polio, and 71% for measles.



Rahman M, Islam MA, Mahalanabis D conducted a case control study on 'Mothers' knowledge about vaccine preventable diseases and immunization coverage in a population with high rate of illiteracy'. In a case-control analysis of cross-sectional data, 328 children aged 12-35 months and their mothers were studied to identify the factors associated with delayed or non-immunization of their children. Delayed or non-immunization was associated with low socio-economic status, maternal illiteracy, and lack of mothers' knowledge on vaccine preventable diseases as recommended by the Expanded Programme on Immunization (EPI). The results indicate that even in the presence of maternal illiteracy, educating mothers about the vaccines and vaccine preventable diseases may be highly effective in increasing the immunization coverage.

Benin AL, Wisler-Scher DJ, Colson E, Shapiro ED, Holmboe ES conducted a study on Qualitative analysis of mothers' decision-making about vaccines for infants: the importance of trust. The purpose of this research was to investigate decision-making about vaccinations for infants. The study conducted qualitative, open-ended interviews. Subjects included mothers 1 to 3 days postpartum and again at 3 to 6 months. The study addressed 3 topics: attitudes to vaccination, knowledge about vaccination, and decision-making. Mothers who intended to have their infants vaccinated ("vaccinators," n = 25) either agreed with or did not question vaccination or they accepted vaccination but

had significant concerns. Mothers who did not intend to vaccinate ("non-vaccinators," n = 8) either completely rejected vaccination or they purposely delayed vaccinating/chose only some vaccines. Knowledge about which vaccines are recommended for children was poor among both vaccinators and non-vaccinators.

Wilson T. Conducted a study on 'Factors influencing the immunization status of children in a rural setting, 2000'. The purposes of this study were to (a) assess parental perceptions of their decision making regarding children's vaccinations and (b) describe parents' evaluation of immunization services provided by rural clinics/offices.. Twelve mothers of children younger than age 3 years with fewer than the recommended number of immunizations were interviewed using a semi-structured format. The interview results were analyzed using the constant comparative method. Two findings unique to this study were the importance of relationships with health care providers and the challenge of competing tasks. These findings, combined with the other factors identified, reinforced the importance of rural health care providers' maintaining a strong relationship with clients, providing accurate and timely information, and ensuring a readily accessible health care system.

## **Chapter 3**

### **3. Research design and methodology**

#### **3.1 Study area**

This study was carried out at 12 VDCs of Mushar community in Morang district, Nepal, the study areas are more than 480 KM far away from eastern side of Katmandu city. The study places are selected purposively to represent of mushar community knowledge and practice on immunization of morang district, urban and rural setting.

After selection of study area, the total study area were divided into three cluster region according to socio-economic characteristics of study area such as high developed area, developed area and low developed area. And study places were selected by lottery method. There woupd be low ethnical problem. Most of purposed respondents were Hindu. There is not direct effect of conflict and crisis

#### **3.2 Sample selection procedure**

##### **3.2.1 Quantitative study**

According to National census report, there are 17,852 Mushar populations live in Morang districts. They live in 19 different VDCs of the total 65 VDCs of Morang district. Out of them, only 12 VDCs' 403 hundred parents (mothers and fathers) of Mushar community are randomly selected for the study. Most of them are illiterate, marginalized and socio-economically disadvantaged.

At first, base line data collections were done of participants having children under five children by a research team in the study area. When they were approached, and asked if they wanted to participate in a study about children's health and immunization. Since most of the participants were illiterate, the process to ensure informed consent was conducted according to Nepal health research council (NHRC), and once each subject consented, she / he was individually interviewed.

### **3.2.2 Qualitative study**

In the qualitative study, guide lines of focus group discussion were developed and conducted three focus group discussion at the middle of research. Respondents of qualitative study were selected from three different VDCs to ensure diversity of socio -economic and demographic characteristics. The rationale for selecting different VDC s in term of socio-economic and socio-demographic status was based on the aim to represent differences on perception of immunization.

### **3.3 Tools and Techniques for Data Collection**

Based on the objectives and variables of the study; tools were selected and two different interview schedules characterized by focus group discussion guidelines, and face to face interview schedules were developed for data

collection. Data were taken primarily by using pre-tested questionnaire with closed, semi-closed and opened questionnaire. The questionnaire was developed in English than will be translated into Nepali script. Extensive literature was reviewed before the development of tools for data collection.

### **3.4 Pre-testing the Data Collection Tools**

The pre testing questionnaire were done on 10% population having the same characteristics VDCs of sunsary and morang districts and after pre testing, necessary modification were done based on findings. The main purpose of the pre testing was taken for the feasibility of tools; assess the adequacy of the measuring instruments and to avoid the problems related to its design.

### **3.5 Validity and Reliability of the Research**

The content validity of the tool was maintained by checking the tool form the expert of public health, epidemiologist, and sociologist. During the study, almost all disadvantaged parents of 12 VDCs of Morang, were interviewed. The study, therefore, can be regarded as reflective of the overall situation of disadvantaged parents of 12 VDCs of morang districts. The reliability of tools were established by spilt half method

### 3.6 Limitation of the Study

1. Alike others study certain limitation could not be over come in this study, too. The study areas are selected purposively; so the result of the study may not reflect the exact picture of the whole country.
2. Since this issue is socially and culturally interrelated, as a researcher access to especially orthodox respondents will be very difficult and limited

### 3.7 Operation definition

1. Vaccine Preventable Disease (VPD): Those disease which can be prevented by childhood immunization; i.e. tuberculosis, tetanus, measles, polio, diphtheria ,pertussis .
2. Knowledge :In this study knowledge referred to names of 6 preventable disease , modes of transmission ,preventive measures of VPD.
3. Practice:In this study practice referred vaccination against 6 preventable diseases, modes of transmission, preventive measures of VPD.
4. Respondent: Those parents who take part in interview are considered as respondent.
5. Prevention: It refers to individual no-risk behaviour , which enable prevent to child to keep free form VPD
6. Scoring plan: To determine the level of knowledge on prevention of VPD of respondent. Each correct answer carries 1 mark. Simple scoring plan will be applied, as good, average, poor **knowledge**.

### **3.8 Data processing and analysis**

After the data collection, collected data will be coded, edited with checking and rechecking by the study team before entering it into the computer. Collected data were analyzed by using the software SPSS 12.0 with the help of biostatistician. Frequency, percentage and cross table were generated as needed and support the objective of study.

## Chapter 4

### 4. Background characteristics of respondents

The purpose this section is to provide a short description of the demographic and socio-economic characteristics of the respondents of the study. Information on the basic characteristics is essential in for the interpretation of the research findings.

**Table no: 1 Socio-demographic characteristic of the respondents**

**N=403**

<b>Variables</b>	<b>Frequency</b>	<b>Percent</b>
<b>Age of respondents</b>		
< 25	203	50.4
26-30	106	26.3
31-36	58	14.4
37-40	19	4.7
41-45	16	4.0
46+	1	0.2
<b>Total</b>	<b>403</b>	<b>100.0</b>
<b>Mean age =27.38</b>		
<b>Religion of respondents</b>		
Hindu	402	99.8
Christian	1	0.2
<b>Total</b>	<b>403</b>	<b>100.0</b>
<b>Marital status</b>		
Married	392	97.3
Separated	4	1.0
Divorced	5	1.2
Widowhood	2	0.5
<b>Total</b>	<b>403</b>	<b>100.0</b>

#### 4.1 Age

There were significant variations between age groups regarding the respondents' characteristics in terms of average age of respondents. The table 1 shows that



the respondents were very young with the group below 25 years of constitute nearly 50.4 % of the total. Similarly, the age group of between 26 and 30 years was the next largest making up nearly 26.3%. The average age of the total age was 27.38 years.

#### **4.2 Religion and marital status**

The most notable difference is that the respondents involved in the religion. About 99.8 percent respondents were Hindu and only 0.2 percent was Christian. Similarly, out of 403 respondents, 97.3percent respondents belonged to married and living with their own family. More than 2.2 percent respondents of subject to study were married but living without family and children. This shows that there was tendency of divorced and to live separately from own family as they get married.

**Table no: 2, Socio- economic characteristic of the respondents****N=403**

<b>Variables</b>	<b>Frequency</b>	<b>Percent</b>
<b>Educational status</b>		
Illiterate	355	88.1
Literate	47	11.7
SLC	1	0.2
<b>Total</b>	<b>403</b>	<b>100.0</b>
<b>Occupation of family</b>		
Business	7	1.7
Handicraft	1	0.2
Agriculture	21	5.2
Daily wages	360	89.3
Private services	14	3.5
<b>Total</b>	<b>403</b>	<b>100.0</b>
<b>Income of respondents</b>		
<2000	147	36.5
2001-3000	210	52.1
3001-4000	41	10.2
4001-5000	4	1.0
5000+	1	0.2
<b>Total</b>	<b>403</b>	<b>100.0</b>
<b>Mean income =Rs2470.22</b>		<b>S.D=±684.26</b>

### 4.3 Level of education

In the study area, most of the respondents were low level of education. Tables 2, shows about 88.1 percent respondents were illiterate. Similarly 11.7 percent respondents were having non-formal education. About 0.2 percent respondent was having secondary level of education.

### 4.4 Source of family income

Low education level status subject to study direct reflects in their occupation and amount of income in a month. About more than two-third respondents (89.3%) reported daily wages as main source of family income whereas one in

twenty (5.2 %) of the respondent's main source of income were agriculture. The percentage of respondents reporting business as source of family income was 1.7 percent.

**Figure1, distribution of respondents by sex**

**N=403**

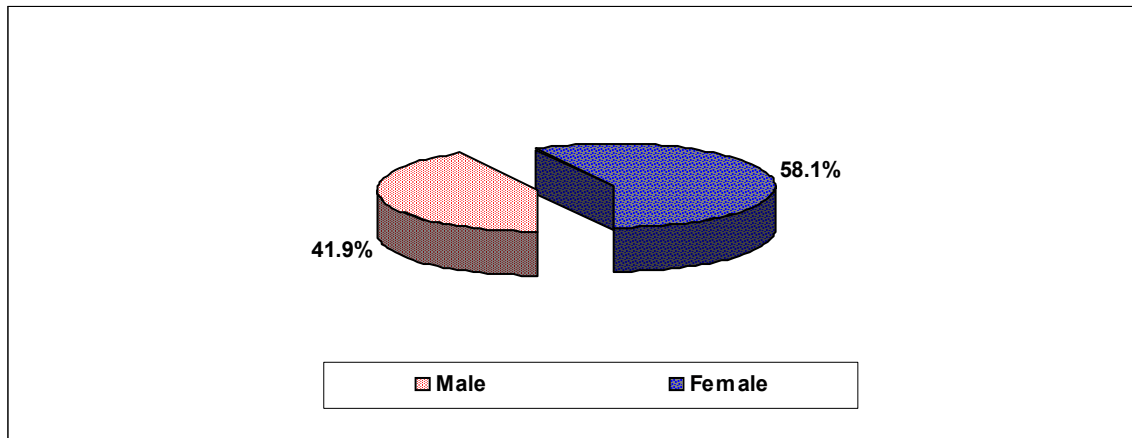


Figure 1 shows that relatively large proportion of the respondents were from female than male. Female respondents comprised 58.1% whereas the male respondents constituted 41.3%. Female respondents took initiation, they were also found active and sensitive to their children immunization than male respondents.

## Chapter 5

### Knowledge and practice on childhood immunization services

#### 5. 1 Knowledge on immunization

In order to determine knowledge and practice of childhood immunization total 403 parents sample were studied. 169 fathers and 234 mothers with child of 0- 5 years were studied. The results from the investigation were analyzed and further.

**Table no: 3, Distribution of respondents by knowledge on immunization**

**N=403**

Variables	Male		Female	
	Frequency	Percent	Frequency	Percent
<b>Heard about childhood immunization</b>				
Yes	163	96.4	227	97.0
No	6	3.6	7	3.0
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>
<b>Know about childhood immunization</b>				
Prevent VPD disease	147	89.6	204	90.7
Effect our child health	2	1.2	2	0.9
Doesn't do nothing	3	1.8	2	0.9
Makes the child cry	0	0	1	0.4
I don't know	12	7.3	16	7.1
<b>Total</b>	<b>164</b>	<b>100.0</b>	<b>225</b>	<b>100.0</b>
<b>Tell me the name of childhood immunization</b>				
BCG	26	15.4	65	27.8
DPT	2	1.2	4	1.7
Polio	48	28.4	64	27.4
Measles	12	7.1	18	7.7
I don't know	81	47.9	83	35.4
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>

Table 3 shows that the respondents' general knowledge on immunization.

Simple questions were asked about heard of childhood immunization or not. About 97 percent female and 96.4 percent male respondents reported that they heard childhood immunization and only 3.6 percent male and 3 percent male respondents did not heard childhood immunization yet. Among them 90.7 percent female and 89.6 percent male respondents reported that childhood immunization prevent vaccine preventable diseases from children. But 47.9 percent male respondents and 35.4 male respondents did not know the name of child hood immunization. More than 27 percent respondents could tell the name of polo vaccine. They just took part the immunization services and came back to home.

**Table 4, Distribution of respondents by knowledge on schedule of vaccination** **N=403**

Variables	Male		Female	
	Frequency	Percent	Frequency	Percent
<b>Schedule of BCG vaccination</b>				
BCG one time within one month	25	14.8	73	31.2
I don't know	144	85.2	161	68.8
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>
<b>Schedule of measles vaccination</b>				
Nine month one time	47	27.8	83	35.5
I don't know	122	68.6	151	64.5
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>
<b>Schedule of polio vaccination</b>				
3 times from 4weeks and 4weeks interval	28	16.6	60	25.6
I don't know	141	79.9	174	74.4
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>
<b>Schedules of DPT vaccination</b>				
3 times from 4 weeks and 4weeks interval	6	3.6	16	6.8
I don't know	163	92.9	218	93.2
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>

The extended programme on immunization has recommended at least one dose BCG vaccination should be administered to the child up to birth to one month; measles vaccination needs one time within 9 months, polio 2 drops and DPT in 4 weeks interval 3 times from 4 weeks after birth are required to child to prevent morbidity and mortality. In this context this study has tried to assess knowledge on schedule of vaccination of the respondents. Table no 4 indicates that more than 93 percent female and 92 male respondents didn't have knowledge on DPT vaccination schedules. Similarly 79.9 percent male and 74.4 female respondents did not know schedule of polio vaccination and they just immunize their children as their available own facility. But more than 68 percent both respondents knew to schedules of BCG vaccination.

**Table 5, Distribution of respondents by knowledge on vaccine-preventable diseases**

**N=403**

Variables	Male		Female	
	Frequency	Percent	Frequency	Percent
<b>BCG vaccination indication</b>				
Tuberculosis	13	7.7	22	9.4
Fever	8	4.7	30	12.8
I don't know	148	87.6	182	77.8
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>
<b>Measles vaccination indication</b>				
Measles	60	35.5	109	46.6
Fever	2	1.2	2	0.9
I don't know	107	62.3	123	52.5
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>
<b>Polio vaccination indication</b>				
Not response	6	3.6	7	3.0
Polio	72	42.6	123	52.6
Fever	1	.6	3	1.3
I don't know	96	56.8	107	46.1
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>
<b>DPT vaccination indication</b>				
Diphtheria	3	1.8	5	2.1
Pertussis	3	1.8	5	2.1
Tetanus	4	2.4	7	3.0
Fever	7	4.1	18	7.7
I don't know	146	89.9	199	85.1
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>

PHC/HP/SHP are responsible to provide all types of information regarding childhood immunization to the children parents at the time of childhood immunization or before commencing vaccination by proper mobilization VHW and FCHVs. At time of focus group discussion majority of respondents reported that vaccine provider (VHW or health worker) did not tell them any information regarding immunization and even name of immunized vaccine. This issue also

reflects in table 5. About 89.9 percent male and 85.1 percent female respondents could not tell vaccination of DPT indication. Similarly majority of respondents could not tell the indication of BCG, measles and polio respectively. They did not know exact causes of immunization.

**Table 6, Distribution of respondents by knowledge on immunization center and provider**

**N=403**

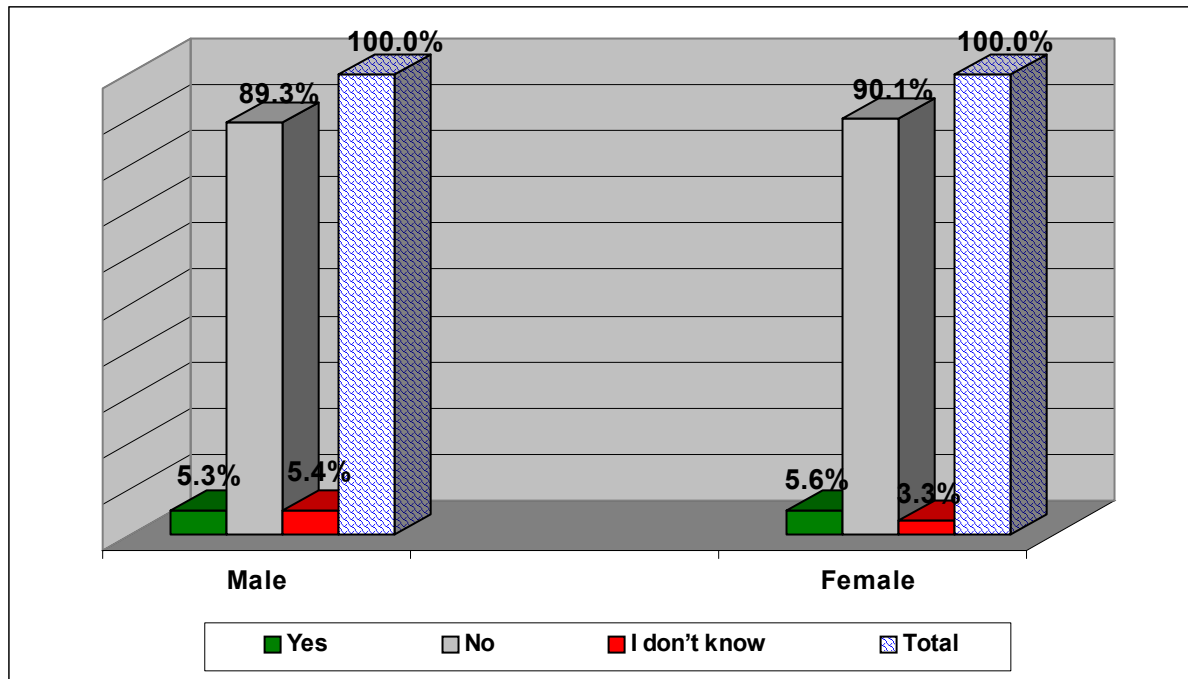
<b>Variables</b>	<b>Male</b>		<b>Female</b>	
	<b>Frequency</b>	<b>Percent</b>	<b>Frequency</b>	<b>Percent</b>
At health institution by health worker	87	51.5	128	54.7
At out reach vaccination center	71	42.0	92	39.3
At private clinic	0	0	1	0.4
At doctors clinic	1	0.6	2	0.9
I don't know	10	6.0	11	4.7
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>

VHW has been vaccinating the children in the out reach immunization center and health institution as well. About 54.7 percent female and 51.5 percent male respondents reported that childhood immunization available in health institution and given by health worker. Similarly about 42 percent male and 39.3 female respondents also reported that childhood immunization found at out each vaccination center.



**Figure 2, Distribution of respondents by knowledge on cost of childhood vaccination**

N=403



Government of Nepal has been providing Extended Programme On Immunization (EPI) service with free of cost to the children since the programme launched. This study found that still community people don't have full knowledge of cost of childhood vaccination. Figure 2 shows that more than 89 percent male and female respondents reported that there was no cost of vaccination. However, more than 5.3 percent both respondents reported that they were charged cost at the time of vaccination to their child. On the other hand more than 3.3 respondents did not have knowledge on cost of vaccination.

**Table 7, Distribution of respondents by knowledge on mass vaccination required in childhood immunization**

**N=403**

Variables	Male		Female	
	Frequency	Percent	Frequency	Percent
To prevent our children from disease	119	70.4	155	66.2
Government duty	32	18.9	47	20.1
To prevent from morbidity and mortality	11	6.5	20	8.5
To reduce morbidity and mortality in our community	1	0.6	4	1.7
I don't know	6	3.6	8	3.4
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>

Importance relating to immunization is essential to understand to prevent our children from morbidity and mortality because immunizations are view in relation to the direct effect of children health and welath. All respondents were asked required for causes of mass vaccination. Nearly 70 .4 percent male and 66.2 percent female reported that mass immunization required for preventing for their children from childhood diseases. Similarly nearly quarter of both respondents reported to indicate government duty to the people. A very few people were aware to mass vaccination about prevention from morbidly and mortality of their children.

## **5.2 Practice on immunization**

In order to determine practice of childhood immunization total 403 parents sample were studied. 169 fathers and 234 mothers with child of 0- 5 years were

studied. Out of total, 90 male and 136 females respondents were immunized.

**Table 8, Distribution of respondents by practice on immunization**

**N=403**

Variables	Male		Female	
	Frequency	Percent	Frequency	Percent
<b>Immunized against VPD</b>				
Yes	90	53.3	136	58.1
No	79	46.7	98	41.9
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>
<b>Causes of not immunized against VPD</b>				
Due to our cultural and religious tradition	15	19.0	4	4.1
My parents were against vaccination	4	5.1	3	3.1
Very far immunization center	2	2.5	0	0
I was sick	11	13.9	16	16.3
I don't know	47	59.5	75	76.5
<b>Total</b>	<b>79</b>	<b>100.0</b>	<b>98</b>	<b>100.0</b>

The Expanded Program on Immunization (EPI) was established in 1979 and is currently one of the priority programs of government of Nepal. DHS surveys conducted in 1991, 1996, and 2001 indicate that there has been a significant improvement in DPT3 coverage. This fact also reflects in the study and which are shown in the table 8 above. About more than 50 percent both respondents reported that they immunized vaccine and more than 40 percent both respondents did not take vaccination due to different reasons. Among them non-taker respondents, causes of not immunization were asked and about 19 percent male reported that due to their cultural and religious belief they reject vaccination program. Similarly more than 13 percent respondents reported that they were sick at time of vaccination campaign. But majority of respondents

reported that they didn't know exact causes of not vaccinating to them.

**Table no 9, Distribution of respondents by practice on childhood vaccination**

**N=403**

Variables	Male		Female	
	Frequency	Percent	Frequency	Percent
<b>Immunized your children</b>				
Yes	156	92.3	220	94.0
No	13	7.7	14	6.0
Total	169	100.0	234	100.0
<b>Causes of not immunized your children</b>				
Due to our cultural and religious tradition	3	23.1	4	28.6
My parents were against vaccination	1	7.7	0	0
I didn't get information	4	30.8	2	14.3
My children was sick	1	7.7	0	0
I don't know	3	23.1	7	50.0
Others specify	1	7.7	1	7.1
<b>Total</b>	<b>13</b>	<b>100.0</b>	<b>14</b>	<b>100.0</b>

Reducing child mortality by two thirds between 1990 and 2015 is the fourth of the eight Millennium Development Goals endorsed by world leaders in the Millennium Declaration in 2000. In this context, in order to know the parents practice on childhood immunization one question was asked to the all respondents. Table no-99 indicates that about 94 percent female and 92.3 percent male respondents reported immunized their children. But 7.7 percent male and 6 percent female respondents did not immunize their children due to different causes. Again one question was asked to those respondents who had not immunized their children. In this regards, more than 23 percent both male and female respondents did not immunize their children due to their cultural

and religious reason. But 30.8 percent male and 14.3 percent female respondents did not go to immunize their children due to lack of information to them.

**Table 10, Distribution of respondents by heard polio and measles cases in community**

**N=403**

<b>Variables</b>	<b>Male</b>		<b>Female</b>	
	<b>Frequency</b>	<b>Percent</b>	<b>Frequency</b>	<b>Percent</b>
<b>Heard measles and polio cases</b>				
Yes	32	18.9	51	21.9
No	137	81.1	182	78.1
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>233</b>	<b>100.0</b>
<b>Causes of children suffer form polio or measles</b>				
Due to not vaccinated	14	43.8	22	43.1
Due to vaccinated	0	0	1	2.0
I don't know	18	56.3	28	54.9
<b>Total</b>	<b>32</b>	<b>100.0</b>	<b>51</b>	<b>100.0</b>

In order to triangulate the knowledge practice on immunization one question was asked to the all respondents. Table 10, indicates that about 51 percent female and 18.9 percent male respondents reported they heard measles and polio cases got in children in their community. Among them 56.3 percent male and 28 percent female did not know the cause of polio and measles. But 43.3 male and 22 percent male respondents reported both polio and measles cases were occurred due to not vaccinated to the children.

**Table 11, Distribution of respondents by consult practice on child gets sick from first vaccination**

**N=403**

<b>Variables</b>	<b>Male</b>		<b>Female</b>	
	<b>Frequency</b>	<b>Percent</b>	<b>Frequency</b>	<b>Percent</b>
<b>Consult child gets sick from first vaccination</b>				
I go for tradition a healers	38	22.5	43	18.4
I go for health worker	79	46.7	84	35.9
I go for nothing and itself recover	52	30.8	107	45.7
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>

Table 11, indicates that more than 46.7 percent respondents reported they would go to contact health worker if their child get first vaccination. Among them 30.8 percent male and 45.7 percent female reported that fever subside itself. But 22.5 percent male and 188.4 percent female respondents reported that they contacted traditional healer at time child got sick after vaccination. This result showed that in the study awareness on immunization is increasing but we cannot minimize belief to traditional healer

**Table 12, Distribution of respondents by cultural and religious practice on childhood vaccination**

**N=403**

Variables	Male		Female	
	Frequency	Percent	Frequency	Percent
<b>Cultural and religious relationships to childhood Vaccination</b>				
Yes	78	46.2	94	39.9
No	91	53.8	140	60.1
<b>Total</b>	<b>169</b>	<b>100.0</b>	<b>234</b>	<b>100.0</b>

Table 12 shows that more than 53.8 percent male and 60.1 percent female respondents reported that they believed there were association between immunization and culture. However, more than 39.9 percent both respondents reported that they were not association between culture and immunization. This result suggest that Government of Nepal should start awareness programme along with Extended Programme On Immunization (EPI) service This study found that still people of Mushar community were still confused about immunization.

## Chapter 6

### 6. Discussion

Nepal is one of the least developed countries; with an infant mortality of 91/1,000 live births, maternal mortality of 415/100,000 live births (10<sup>th</sup> plan). The expanded programme on immunization (EPI) is a priority programme of government of Nepal. Analysis of the reports from all 75 districts of the country for FY 2060/61 shows that overall coverage of childhood immunization rates as high as 96.3% for tuberculosis (BCG), polio OPV3 90.2% and tetanus toxoid is 42.3%, and 85.4% for measles, it is evident that parents have very impressive health behaviors with regard to childhood immunization. This research study also replicated these statistics with the finding that well over half (53%) of the Mushar community sampled male respondents were fully immunized that nearly the same percentage female respondents (approximately 58.1%) reported that their spouses were immunized, and that over 94.0% female and 92.3% male respondents reported that all their children were immunized. This result suggests there is no association with EPI coverage in poor and uneducated community.

In the study area, about 88.1 percent respondents were illiterate. The overall literacy rates of these respondents were very low, and most of them had obtained their education through informal education and low education level.



status subject to study direct reflects in their occupation and amount of income in a month. In this study it was hypothesized that Low literacy and cultural beliefs impede to high coverage on childhood immunization in study area and more likely they were not use immunizations as a means of protection from disease. As a result, most of the respondents indicated that they learned about immunization from their families, friends, and local community leader rather than from formal education or from their health worker and VHW. Although the majority of the sample respondents had not involved in discussion on immunization session about the importance of vaccinations,

The findings suggest that parents fears of the major infectious diseases of childhood (such as polio, tuberculosis, diphtheria, pertussis, tetanus, and measles), and beliefs that immunization programme should not be stopped to prevent the illnesses to their children. Another unexpected finding was that high coverage childhood immunization showed not significant relationship to parents' low level of immunizations knowledge. From this perspective of most of these subjects, respondents were somewhat aware to the immunization and they stood in the way of their children well vaccinated. But their randomly reported participated in vaccination would be serious problem to the community. Findings clearly suggest that there is much more involvement on immunization of parents on adopting immunization behavior if they were properly aware to the childhood immunization programme.

When first asked to know their knowledge and practice about the childhood immunization, approximately more than 96.4 percent respondents reported that they heard childhood immunization but about 53.3 percent both respondents immunized themselves and more than 92 percent respondents reported that they immunized children. However, interesting findings is that when probed further about the mechanism through practice of immunization to their children most of respondents can not show scare of BCG immunization. Not only is this an interesting finding, but also it also in the study area, respondents did not out importance childhood immunization.

Mushar is one of the 61 ethnic groups in Nepal. Ethic or indigenous people are having low health status in the world. As one of the participants explained to me, musher community largely believe in their own culture and tradition that they are constantly monitored by powerful sprits that can place a curse on their behavior, on their homes, and even on their children. When children get sick, they don't go the health institution to do treatment. They don't know benefit of immunization. Hence, when the benefits of immunization came in. people don't believe polio vaccine since it is orally administered and not injected into the body, Mushar community do not hold the same beliefs about polio as they do about the other childhood diseases.

Since the parents are acknowledged the past history of childhood disease, the preventative potential of vaccination, and the benefits of immunization are

learned through their informal discussion. Thus, these qualitative trends support the previous quantitative finding data that the respondents of study area more likely to seek out immunization for herself/himself their child.

However, conducted three focus group discussion indicated in the qualitative part of this study. In fact, barriers to immunization, the most common Barriers included, “lack of knowledge about immunization,” “far away of immunization center /access to the immunization clinic,” and “due to poverty compel to move them to earn money from community”. Several limitations should be acknowledged in assessing the results of this study. First, all of the data was obtained through interview schedules of respondents on knowledge and practice of immunization. Some participants did not give response while asking question. Some respondents felt uncomfortable during focus group discussion and some were felt self-conscious.

DHS surveys conducted in 1991, 1996, and 2001 indicate that there has been a significant improvement in DPT3 coverage, from 42.4% in 1991 to 72.1% in 2001. Drop-out rates have declined significantly from 39% in 1991 to 14% in 2001. DPT1 (and BCG) coverage in 2001 was 84% suggesting that about 16% of infants in Nepal are still not reached by routine EPI activities. This study finding also indicates that 7.7 percent male and 6 percent female respondents did not immunize their children due to different reason like their cultural and

religious reason. But 30.8 percent male and 14.3 percent female respondents did not go to immunize their children due to lack of information to them.

The cross-sectional and descriptive nature of the research design further constrains the interpretation of the results. The possible factors related to the individual, such as demographic variables, personality factors, social support, or previous health experiences, might play a role in influencing individuals' behavior for the immunization behavior. In addition relevant demographics, culturally specific knowledge and beliefs must also be considered successful in childhood immunization.

## Chapter 7

### 7.Recommendation

The researcher table the following recommendation for the government or Nepal, planning commissions, research organization and health professionals.

- Impart reliable and adequate information to back community people on childhood immunization.
- Improve physical facility in out reach immunization clinics.
- Increase accountably of service provider and PHC/HP/SHP staff towards immunization coverage.
- Arrange special session or meeting discussion on childhood immunization in community.

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107	How many family members do you live?	Specify -----	
108	How many under 5 children do you have?	Specify a)----- b)----- c)-----	

**Part -02, Knowledge related questions**

Q.N	Questions	Coding categories	Code
201	Have you heard about childhood immunization?	Yes (if yes go to questions 2) No	1 2
202	What do you know about childhood immunization?	It prevents childhood disease It effects our children health It doesn't do nothing It makes the children cry I don't know	1 2 3 4 9
203	How much in number of childhood immunization in our health facility?	One Two Three Four Five Others (specify). .....	1 2 3 4 5
204	Can you tell me the name of childhood immunization?	BCG DPT Polio Measles Hepatitis Others (specify) .....	1 2 3 4 5
205	Can you tell me the schedule of BCG vaccination?	One time (0-4weeks) on right arm Others (specify)-----	1
206	What does BCG vaccination indicated to prevent the disease?	Tuberculosis Fever Others (specify)-----	1 2
207	Can you say schedule of measles vaccination?	One time in 9 month on right thigh Other (specify)-----	1
208	What does Measles vaccination indicated to prevent the disease?	Measles Fever	1 2

		Others (specify)-----	
209	Can you say schedule of polio vaccination?	3 times from 4 weeks of birth day one month interval by 2 drops orally Other (specify).	1
210	What does polio vaccination indicated to prevent the disease?	Polio Fever Others (specify)-----	1 2
211	Can you say schedules of DPT vaccination?	3 times from 4 weeks of birth day one month interval on left thigh	
212	What does DPT vaccination indicated to prevent the disease?	Diphtheria Pertussis Tetanus Fever Others (specify)-----	1 2 3 4
213	How many diseases we can prevent from childhood immunization?	One Two Three Four Five Others (specify) -----	1 2 3 4 5
214	Is Vaccine preventable disease (VPD) transmitted person to person?	Yes (if yes go to questions no 215) No (if yes go to questions no 216) I don't know -----	1 2 9
215	How TB, Diphtheria, pertussis, measles, polio, and hepatitis B are transmitted person to person?	Tuberculosis by air /..... Diphtheria by air/..... Pertussis by air/..... Tetanus by blood borne infection/..... Measles by air/..... Polio from stool/..... Hepatitis B by blood borne infection/.....	1 2 3 4 5 6 7
216	What should we do to prevent our children from these diseases?	By vaccination related disease By drug administration Obeying religious belief Others (specify) -----	1 2 3
217	Where and who does provide the childhood immunization?	At health institution by health worker At out reach vaccination center	1 2

		At private clinic	3
		At doctors clinic	4
		I don't know	9
218	Is there any cost of vaccination?	Yes (if yes specify)-----	1
		No	2
219	Why mass vaccination is required in childhood immunization?	Government duty	1
		To prevent our children from diseases	2
		To prevent from morbidity and mortality	3
		To reduce morbidity and mortality in our community	4
		Others (specify) -----	

### Part 3, Beliefs and Practice related questions

Q.N	Questions	Coding categories	Code
301	Have you been immunized against VPD?	Yes (if yes go to questions no 3) No (if yes go to questions no 2)	1 2
302	Why didn't you immunized against VPD?	Due to our cultural and religious tradition My parents against vaccination Very far immunization center I was sick I don't know Others (specify) -----	1 2 3 4 9
303	How much number vaccine you have immunized?	One----- Two----- Three----- Four----- Others (specify)-----	1 2 3 4
304	Who brought you in immunization center?	My mother My father My brother /sister My neighbor Others (specify) -----	1 2 3 4
305	How was the immunization center far from your house?	Walking distance 1/2 hour walking distance 1hours walking distance	1 2 3

		2 hours walking distance Others (specify)-----	4
306	Have you immunized your children?	Yes (if yes go to 308) No (if no go to 307)	1 2
307	Why did not you immunize your children?	Due to our cultural and religious tradition My parents against vaccination Very far immunization center I didn't get information My children was sick I don't know Others (specify)-----	1  2 3 4 5 9
308	How many children do have you immunized?	All Only one Only two Only three	1 2 3 4
309	Why didn't you immunize all children?	My religious leader was against vaccination Very far immunization center I didn't get information Children was sick Children cried in last vaccination Others (specify)-----	1 2 3 4 5 6
310	Who take your children at vaccination center?	My parents My self My husband /wife My brother /sister My neighbor Others (specify)-----	1 2 3 4 5
311	Can you show your child immunization card and BCG vaccinated sacred?	Yes (if yes observe) No	1 2
312	Have you heard about measles and polio cases in your community?	Yes No	1 2
313	Can you say why those children suffer from polio or measles?	Due to not vaccinated Due to vaccinated Others (specify). .....	1 2
314	What did you do if child gets sick	I went for dhami	1

	form first vaccination?	I went for health worker I go nothing and itself recover Others (specify)	2 3
315	Is there any cultural and religious relationship to childhood vaccination?	Yes (if yes) specify----- No	1 2

**Part 4, Suggestions**

<b>Q.N</b>	<b>Questions</b>	<b>Coding categories</b>	<b>Code</b>
401	Do you have any suggestions to improve the coverage childhood immunization service?	1. 2.	
402	Do you have any others suggestions about services providers?	1. 2. 3	

Tentative work plan of research on knowledge and practice of parents on childhood immunization of Mushar community in Morang district, Nepal

Activities	July				August				September			
	1st wk	2nd wk	3rd wk	4 h wk	1st wk	2n wk	3rd wk	4th wk	1st wk	2nd wk	3rd wk	4 h wk
Review of literature	••	••	••	••	••	••	••	••	••	••	••	••
Orientation of enumerators		••										
Pre-testing of questionnaire		••										
Finalization of questionnaire			••									
1 <sup>st</sup> reporting				••								
Project VDC contact					••	••	••					
Data collection					••	••	••	••				
Data management								••	••			
Data analysis & interpretation									••	••		
2 <sup>nd</sup> reporting								••				
Report writing										••		
1 <sup>st</sup> Draft reporting										••		
2 <sup>nd</sup> Draft reporting											••	
Dissemination of Research Results											••	
Final report submission												••