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**FACTORS AFFECTING LOW COVERAGE OF
IMMUNIZATION UNDER 2 YEARS AGE OF CHILDREN
IN NAWALPARASI DISTRICT**

(A HEALTH SYSTEM RESEARCH IN NAWALPARASI DISTRICT, NEPAL)



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Submitted To:

Nepal Health Research Council (NHRC)

**Ramshah Path, Kathmandu
Nepal**

Submitted By:

Ms. Sushila Devi Shrestha

Ms. Saphala Dhital

Mrs. Narmaya Garung

September 2003

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Research Team





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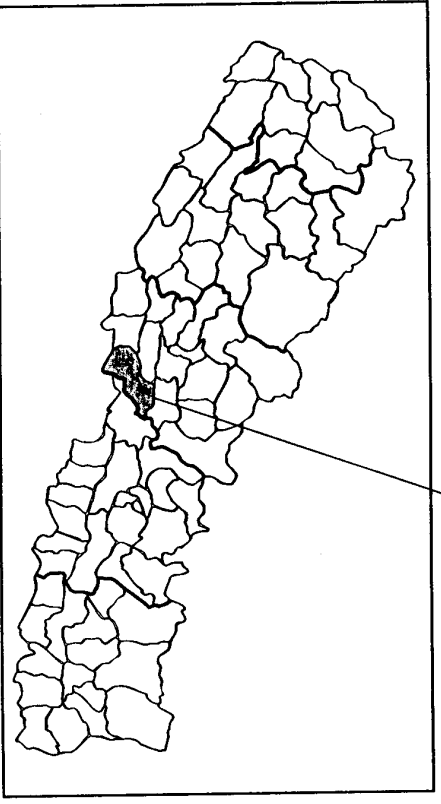
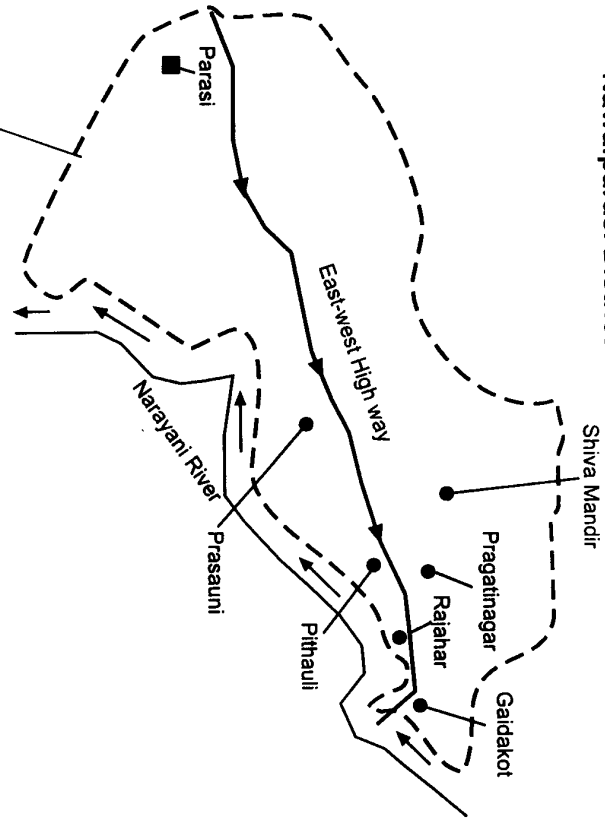
Acronyms








**SHP
SHPI
BCG
DHO
EPI
FCHV
HPI
IMR
NID
SNID
VHW
VDC
MCHW
OPV
NDHS**

**Sub-Health Post
Sub-Health Post Incharge
Bacille Calmette-Guérin
District Health Officer
Expanded Program on Immunization
Female Community Health Volunteer
Health Post Incharge
Infant Mortality Rate
National Immunization Day
Sub-National Immunization Day
Village Health Worker
Village Development Committee
Maternal Child Health Worker
Oral Polio Vaccine
Nepal Demography and Health Survey**

Nawalparasi District



Legend

-  Nawalparasi District
-  Study Area
-  Headquarter
-  High way
-  River

Executive Summary

Research was carried out on affecting factors of the lowest coverage of immunization, in six VDCs of Nawalparasi district, which has immunization coverage less than government's target. The study was done on four vaccines: BCG, DPT, Polio and Measles with 539 samples. Questionnaire preparations, orientations, and trainings were done for enumerators. Then research was started in field according to the work schedule. For data collection different models of the structure and unstructured questionnaires were used to take face-to-face interviews. Different factors affecting low coverage of immunization were studied.

Mothers' knowledge about different components of immunization was determined. For example, 85% of mothers didn't know the time interval between two doses of Polio and Measles. Similarly, the percentage of mothers knowing only the names of vaccines ranged from 54% to 60%. The percentage of mothers knowing the age of (child) starting Immunization ranged from 25% to 61%, which is low range. The knowledge of dose of immunization among mothers was also found in the low range of 33% to 60%. This pattern soundly predicts that in Nawalparasi district, there is lack of awareness about the names of vaccine; the time interval between two doses of the same vaccine; age of vaccination of child; and Dose of Immunization; which have positive correlation with the low coverage of immunization.

Place of immunization plays a vital role for the coverage of immunization target of a VDC. The effect of the neighborhood for the low coverage of immunization was studied and found that 33% children get immunized in other VDCs (or other immunization center); which has significant positive influence on the low coverage of immunization. The type of family plays significant role for the various aspects of immunization like activeness toward vaccination, time availability to reach the vaccination center etc. In this study, mothers in joint family bear better knowledge score of immunization than that of mothers in nuclear family.

An adverse reaction of vaccines has a significant positive correlation with low coverage of Immunization. Only, fever was found as adverse reaction highest cases in BCG; second in DPT and negligible in polio in the district. The behavior and punctuality of staffs is a significant factor for low coverage of Immunization. Ten percentages of mothers was found discontented with health workers in study site. Relatives and neighbors (59%); and Health post staff (58%) were found as the most common source of information about immunization. Media, Radio, T.V., Posters, Self and others are other modalities of information in the study site.

CHAPTER I

Introduction

Nepal is a landlocked country nestled in the foothills of the Himalayas. It occupies an area from 26° 22' to 30° 27' north latitude and 80° 4' to 88° 12' east longitude (Central Bureau of Statistics, 2001b). Nepal is rectangular in shape and averages 885 kilometers in length (east to west) and 193 kilometers in width (north to south). The total land area of the country is 1,47,181 square kilometers and its population, according to the 2001 census preliminary report, is approximately 23.2 million. Nepal is predominantly rural with only about 14 percent of the population living in urban areas (Central Bureau of Statistics, 2001a). Nepal is a multiethnic and multilingual society. The 1991 census identified 60 caste or ethnic groups and subgroups of the population. Nepal is a Hindu kingdom with more than 86 percent of its population following the Hindu religion. The second largest religious group is Buddhists (8 percent), and Muslims constitute about 4 percent of the total population (Central Bureau of Statistics, 1995).

Nepal is least developing country, which has high infant mortality rate and one of the most major health problems due to childhood communicable diseases that can be prevented by immunization of the largest group. "Immunization is the process of giving immunity or protections to an individual through the use of vaccine." Universal immunization of children less than one year of age against the six vaccines preventable diseases is one of the most cost-effective programs in reducing infant and child morbidity and mortality. The expanded program on immunization is a priority program for the government of Nepal.

In 1917 smallpox has been eradicated through out the world. Later on, expanded programmed for immunization project established in 1977 A. D. The expanded program on immunization is one of the essential components of primary health care. Universal immunization of children under one year of age against the six vaccine preventable diseases is one of the most cost effective programs in reducing infant and child morbidity and mortality. The expanded program on immunization is a priority program for the government of Nepal. Since 1988, the expanded program on immunization under the Ministry of Health has covered all 75 districts of Nepal. Its goal is "Universal Child Immunization" 80% coverage in 1990 A. D., 90% in 1995, and 100% complete coverage in the end of 2000 A. D.

Children under 5 years of age account more than 50% of the global gap in mortality between the poorest and richest countries of world's population. Children under 5 years bear 30% of the total burden of disease in poor countries. Almost 10% of the 10.5-12 million children of fewer than 5 years of age who died in 1999 were from developing countries. Of these children, 36% died in Asia, and 33% in Africa. More than 50% of all child deaths are due to six communicable diseases that are preventable and can be treated. Distribution of death among children under 5 years old in all developing countries in 1995 are Diarrhoea 19%, ARI 19%, Perinatal 18%, Measles 7%. Providing immunization services can prevent most of these deaths. So, immunization is the process in which

an antigen is administered to the host to build up immunity against the disease. The immunity develops depends upon the quality of the immunizing agents and the ability of the host.

His majesty government of Nepal has set the target of universal coverage of 80% for all antigen, it will be achieved and sustained at the district level by the year 2002 and 90% by the year 2005, through strengthened outline immunization service to fulfill this target of achieving 80% immunization coverage. The DHO Nawalparasi applied many strategies. Table given below shows the pattern of immunization coverage of last 3 years.

Antigenes	FY 055/056	FY 056/057	FY 057/058
BCG	83%	87%	83%
DPT3	72%	72%	73%
OPV3	67%	74%	73%
Measles	10%	11%	27%

A life showing drop polio eradication activities have several key component 'AFB Surveillance-Laboratory network system NID (National Immunization Day). It is most important component because that's why children become immunized.

UNICEF-FAN – WHO play a vital role in global procurement of OPV with support major donor agencies. The shortage of OPV is always as possibility on season. NID are carried out during dry season when the circulation of wild poliovirus is lowest. In South Asia and West Africa NID are usually held October-January where as Eastern-Western Africa they are normally come out between July-September. So the vaccine manufacture has huge demand of OPV. Another reasons for increased demands in the acceleration of polio eradication initiative and increases the number of marine wide immunization a campaign of many countries.

Measles vaccine a first dose at age of 9 months. These should be record opportunity for measles vaccine for all children so that the dose can be given to children who have not be vaccinated previously or have not responded to the first dose.

Polio is highly infectious disease caused by virus. It invades the nervous system and caused totally paralysis in matter of an hour. One every 200 infant leads to irrecoverable paralysis in legs. So, a few drops of oral vaccine can prevent polio and portliest child's life. In 1988 the 41st world health Assembly, WHO 160 delegate and member countries launched a Global Initiative to eradicate polio by the end of the year 2000 A. D. and named the project "Global-Polio Eradication Initiative".

The government of Japan and Rotary International, Rotary District 2650 layout and neighboring region. Japan sixth Regional Commission on Poliomyelitis eradication. In western pacific, Kyoto Japan from 27-29 October for certificate of polio free including 37 member countries. The Western pacific, UNICEF has helped mobilized international donor support for polio eradication and purchase oral polio vaccine. It plays as a key role in mobilizing public support and public awareness.

Almost all types of health services are concerned to provide immunization services to the people in the areas they serve. Initially DPT and BCG were introduced in 1977/78 and TT was introduced a year later. Measles and polio vaccines are available at district levels where cold chain facilities are available. Since 1980/81 the CPI has included all the districts of Nepal with its effective programmed. The commitment for Universal Child Immunization by 1990 of the fourteenth UN Assembly gave a strong push to EPI programs in Nepal also.

In Nepal, children under 5 age groups represent as much as 16.9% of local population and they are more vulnerable to sickness, death and very susceptible to 6 baby killer diseases (T.B., Diphtheria, Pertusis, Tetanus, Poliomyelitis and Measles). Those diseases can be minimized if timely immunization is being done.

This is one of the major activity which influences the children health and development but, geographical disparity distribution, mother's awareness and interest on immunization that may cause failure to complete immunization series and leads to defaulter and low coverage.

Since 1988, EPI is under the ministry of health and has covered 75 districts of Nepal. But the nation wide coverage of immunization children up to 24 months are as following.

BCG	107%
DPT3	85.9%
OPV3	86.4%
Measles	78.3%

Nepal has still suffering from high infant mortality rate in western region. So it is estimated that one-third mortality can be prevented by immunization along. But the drop out between 1st-3rd doses of DPT and Polio are 20-25%. More emphasis to be given to run the program smoothly and complete coverage, the awareness of health-worker, school teacher, community leaders through mass communication sensitization and mobilization of the people one of the important aspect of immunization programme. It can be successful the more community involvement and participation.

Current Status

Analysis of the reports from all 75 districts of the country for FY 2058/59 shows that overall coverage level for BCG vaccination is 94%, Measles vaccination is 75.6%, DPT3, and OPV3 is 80.3% and for Tetanus Toxoid (TT2 +) is 55.5% using number of expected pregnant women as the denominator. However, coverage for various vaccination is not uniform among the districts, with some districts achieving more than 100% coverage, and others far behind. Morbidity for VPDs is reported decreasing.

Statement of the problem

Among the common childhood diseases, vaccine preventable communicable diseases still remain as the major killer diseases of infants and children. The major communicable diseases, which are generally known as "six killer diseases of infants and children" in Nepal, are considered to be measles, whooping cough, tetanus, diphtheria, polio, and tuberculosis.

HMG has the target of immunization more than 80% coverage in Nepal in extended program in immunization. In Nawalparasi district the coverage of immunization is under the government target. This district has the lowest coverage.

Rationale of the Study

Government target for coverage of immunization is more than 80%. But immunization coverage in Nawalparasi district is below to this government target. Many children die and many become disabled due to the lack of proper immunization in Nawalparasi District. This research determines different factors affecting low coverage of immunization in Nawalparasi district.

The selected research site is representative of Terai and Hill region of Nepal. Vaccination is an effective means of prevention and can contribute significantly to a reduction in childhood mortality, especially if associate with other key measure. The six diseases are covered by the EPI, which was created by World Health Assembly in 1974. Everywhere much remains to be done for vaccination coverage, which is still low.

CHAPTER II

Literature Review

In immunization program there is a problem of low coverage. Even though the mother knows the benefit of vaccine, they have no knowledge about in completing doses. The reasons are numerous and probability differ in urban and in rural areas.

Vaccination is an effective means of prevention and can contribute significantly to a reduction in childhood mortality, especially if associate with other key measure. The six diseases are covered by the EPI, which was created by World Health Assembly in 1974. Without protection by immunization, 2.7 million children would die from measles; 1.2 million would die from tetanus and 1 million from whooping cough. Some 800,000 children would be disabled by polio in the world (UNICEF, 1996).

NMIS in 1995, data were collected from 18,772 households, including 102,008 people, 9,537 of them children under the age of three years. Some 3.6% of households could not be contacted at the time of the survey. About two thirds (63%) of household heads were predominately farmers. Females head 10% of households. Measles vaccination coverage is low, with one out of three children in the target age group vaccinated (32% among 9-11 month olds, and 59% among 12-36 month olds). There was no gender disparity. Quite high coverage figures have been obtained from some of the 20 districts where reliable data can be obtained.

Information about vaccinations for young children was derived from all mothers both with (in 18%) and without a card. Vaccination coverage for BCG in Nepali children aged 0-36 months was 69% only urban areas have reached the 80% goal. Completion of three doses of DPT/OPV occurred in 54% of children with age of recall at 12-36 months. The pattern varies throughout Nepal. For example in the Terai coverage for DPT/OPV 3 would be greatly improved if those children with already 1 or 2 doses were reached. In the mountains, there is a high lack of coverage for any DPT/OPV. Hence a two-pronged strategy is required to reach children without any vaccinations (BCG, Measles nor DPT/OPV); and to ensure continued vaccinations to complete DPT/OPV 3.

A survey carried out in Yacaude, Cameroon showed that when health services are every where equally accessible, the rate of vaccination coverage within the city depends on the neighborhood, the socioeconomic within the city depends of the neighborhood, the socio-economic status, the modalities for informing the community of the vaccination sessions, the language used, the success of prior vaccination campaigns. In rural areas, the unavailability of the population posses additional problem. There are periods when demands on the mothers time are heavier therefore making it more difficult for her to make a trip into the clinic.

Objectives

General

To determine the affecting factors in relation to low coverage (below 80%) of immunization under 2 years children in study area.

Specific

- ◆ To identify the service – related factors for low coverage of immunization.
- ◆ To identify the environment – related factors for low coverage of immunization.
- ◆ To identify the socio – cultural economic related factors for low coverage of immunization.
- ◆ To make recommendations to Ministry of Health.

CHAPTER III Research Method

Rationale of the selection of the study area

These 6VDCs of Nawalparasi purposively selected for study area. The reason behind selection of this VDC is as follows.

Government target for coverage of immunization is more than 80%. But immunization coverage in Nawalparasi district is the lowest percentage in the country. This district is under government target. This research determines different factors affecting low coverage of immunization in Nawalparasi district.

Nawalparasi district lies in western Development Region and in Lumbini Zone. Regarding the eco region, this lies in flat and the population is 603,569, FY 2058/59 (2001/2002). This district consists of 1 municipality and 77 VDC.

The immunization status in Nawalparasi district is:

<u>Vaccines</u>	<u>Western</u>	<u>Nawalparasi</u>
BCG	88.3%	82.3%
DPT 3	77.0%	71.5%
Polio 3	77.1%	71.1%
Measles	72.3%	57.9%

Source: DHS Annual Report: FY 58/59 (2001/2002)

The District Health Office has been getting the information from different Sub Health Post (VDC Health Post). In accordance to the data of Sub Health Posts in District Health Office in last three-month i.e. in August, September, and October of immunization coverage nearly 70 VDCs lied in low coverage in vaccination i.e. below 80%. Among them in this study, only 6 VDCs (12 wards) with low coverage were choosed by random sampling. These VDCs are totally under the low coverage for vaccinations (BCG, DPT3, Polio3 and Measles).

These are the VDCs selected for this investigation:

- | | |
|-----------------------------------|--------------------------------|
| i) Pragatinagar (ward no 1 and 3) | ii) Gaidakot (ward no 2 and 5) |
| ii) Pithauli (ward no 6 and 7) | iv) Rajahar (ward no 1 and 7) |
| v) ShivaMandir (ward no 2 and 3) | vi) Prasauni (ward no 3 and 9) |

S.N	Name of Health Post	Tri-monthly	Name of vaccines			
			BCG	DPT 3	Polio 3	Measles
1	Pragatinagar Sub-Health Post	108	33	18	18	16
2	Gaidakot Sub-Health Post	143	92	108	108	98
3	Pithauli Sub-Health	144	140	97	97	129

	Post					
4	Rajahar Sub-Health Post	87	26	22	22	30
5	ShivaMandir Sub-Health Post	45	42	47	47	54
6	Prasauni Sub-Health Post	51	40	28	28	32

From each VDC, 2 wards were taken. The selection of wards was based on population. Because in this investigation, the sample size includes 500 mothers bearing 2 years old children. They were interviewed with the help of structure questionnaire. A copy of this questionnaire is also included with in this report. Other information were collected from key informants from all VDCs. Key informants were Community Leaders, Representatives of Health Services Groups, Village Health Workers, Female Community Health Volunteers, District Health Officer etc. As many as possible of the qualitative appreciations were incorporated in order to optimize the quantitative aspect of the factors affecting of these low coverage of immunization in those VDCs.

Research Methods

Descriptive-cross sectional type of study was conducted. Qualitative and quantitative research was done where study variables were Independent, Confounding, and Dependent. In case of Independent, communication, cold chains and supply of vaccine, sterilization and unsafe technique, accessibility, education, occupation, caste-religion/gender, supervision. In case of Confounding, Training staff motivation, adverse effect, and migration. In case of Dependent, low coverage of immunization-low community participation.

In this chapter, the methodology employed to obtain data, data processing, and analysis was briefly dealt. Formulation of research design, process of sample selection, type of tools and methods used for administrating these tools also discussed in this chapter.

The content and procedure was started in January 2003. Training of supervisors was continued from December last week. Training of enumerators was continued from December last to beginning of January.

In order to conduct the field works for the survey efficiently, two field teams were recruited. Each team was consisted of three members: one supervisor and two enumerators. The teams were provided with practical exercises in the field for their respective areas of responsibility to ensure data quality and consistency.

Research design

The study is mainly based on descriptive cum explorative research design.
Sampling frame-List of VDC and wards

Criteria for selection-Low coverage
Standard rule-VDC s-Low coverage
Simple random sampling-lottery methods to select ward, 2 wards from 1 VDC of selection wards.

Nature and sources of data

This study applied both qualitative and quantitative method for this primary and secondary data was collected. Primary data collected from fieldwork using interview with respondents by personal contact. Observations were also done. The secondary data were collected from DHO, Parasi, Nawalparasi.

Sampling

Target population

Mothers having child under 0-2 year(s), DHO, EPI Supervisor, Cold Chain Assistant, Ward Chairman, SHPI, VHW/MCHW, FCHV.

Sampling methods

Non-probability sampling, individual sampling.

Sample size

Mothers	500
DHO	1
EPI Supervisor	1
Cold chain assistant	1
Ward Chairman	12
SHPI	6
VHW/MCHW	6
FCHV	12
Total	539

Data collection method and techniques

Using following methods during fieldwork period collects the required data.

Questionnaire-closed and open ended

Face to face interview

Observation

Check-list

Enumerators were trained and oriented. The questionnaires were pre-tested.

Observation

During fieldwork period, researchers stayed and observed daily life, rituals, food habits, agricultural practices, occupation, and interactions.

Interview

The necessary data generated by Household Survey of 500 mothers by enumerators by using structured questionnaire. The data collected from Key informants by researchers her selves by using structured questionnaire. The questionnaires were formulated and then it was pre-tested in identical place to study area. Only after necessary updating, it was introduced in study area to get relevant in-depth information. There were number of semi-structure and open-ended questions included in the questionnaire.

After collection of necessary data, data were checked, edited, coded, compiled, and processed according to research objectives. Then data were analyzed using percentage table and comparison table. To make report more precise opinion, view, and expression of respondents were also included.

Plan for data management

Supervision was done for quality data. 4 enumerators and researchers themselves were involved for data collection. At first, orientation training was provided to enumerators and they were pre-tested. During the data collection control checking was performed for quality data. Categorizing and coding of data were done. Computer expert compiled the data.

Plan for data analysis

With the help of computer application, EPI-INFO data analysis program was utilized. In this case, editing, coding, and processing also included.

Limitation of the study

In case of sample size, exclusion of mother having the children above 2 years was done. Because of dissolving the Government's previous system, we took the interview from ex ward chairman and from ex VDC chairman.

CHAPTER IV RESULTS AND ANALYSIS

I. RESULTS

During the past three month, the prevalence of vaccinations was low. Information about vaccinations for growing children was derived from all mothers both with and without a vaccination card. In this investigation, the information was collected formally and informally as well. Factors regarding the low coverage, according to the EPI supervisor it was found that most of the mother, they would like to immunize the children in the market area. Because of this, mothers come in adjacent health post by leaving their own health post or sub health post. Consequently, it showed that in two adjacent health post one showed the above 80% in all four vaccines i.e. nearly 100%. Another sub health post showed the very low percentage in the immunization. Researchers were found that at some places mothers said that major staffs who were involved in vaccination were not co-operative. They were not active and did not encouraging for vaccination. They speak impolitely. Rarely also syringe of injection break and didn't care about to fill the vaccination card (Researcher has seen the unfilled card too). Some club has also helping for vaccination. Some of the mothers don't want to give the vaccines, because of being more pain to child. Somewhere Muslims were prohibited to immunize in their society. But in some places, they were taking the vaccines for their children. In some cases, Measles were seen even with vaccinated child. According to the DHO, after the celebration of the NID, NID activities affected the community in long-term basis. Because of lack of education and economically weak, some mothers were found that they were given the priority for their works rather than vaccination. According to the cold chain assistant, in remote areas, it's difficult to maintain cold chain properly. In some cases, it's difficult to maintain the cold chain in a distance even between the two-vaccine centers. Because of lack of good facilities of cold chain the wastage of vaccine is occurred.

II. ANALYSIS

In order to determine the contributing factors for the low coverage of Immunization, total 539 samples were studied. 500 Mothers with child of age 0-2 years were studied as respondents. 39 people were selected as key informants who are as follows: FCHV (Female Child Health Volunteers) were 12; Village/Municipality Health Workers (VHW/MCHW) were 6; Health Post/Sub-Health Post In charge (HPI/SHPI) were 6; Extended Program of Immunization Supervisor (EPI Sup.) was 1; District Health Officer (DHO) was 1; Cold chain Asst. was 1; and Ward Chairman were 12. More than one children of age 0-2 years, of the same mother was counted as one sample. The results from the investigation were analyzed and further study was undertaken.

SOCIO- CULTURE RELATED FACTORS AFFECTING IMMUNIZATION

1) Pattern of mother's general knowledge about Immunization

Table No. 1:

Knowledge About different Components	Known		Unknown	
	No	%	No	%
Child should be immunized	488	98	10	2
Mothers should be immunized	395	79	106	21
Purpose of Immunization	473	95	26	5
Time Interval between DPT -POLIO vaccines	75	15	425	85

Table no. 1 and Fig 1 indicate the Pattern of mother's general knowledge about immunization. According to the table, more than 95% mothers were found aware of Purpose (95%) and Importance (98%) of immunization. Where as 85% of mothers didn't know the time interval between two doses of POLIO and MEASLES. This indicates that one of the factors for low coverage is lack of knowledge about the time interval between two doses of the same vaccine. The percentages of mothers who are not aware about purpose of immunization; importance of immunization to mother; and child were found 5%; 21% and 2% respectively.

Fig No.1: Pattern of mother's general knowledge about Immunization

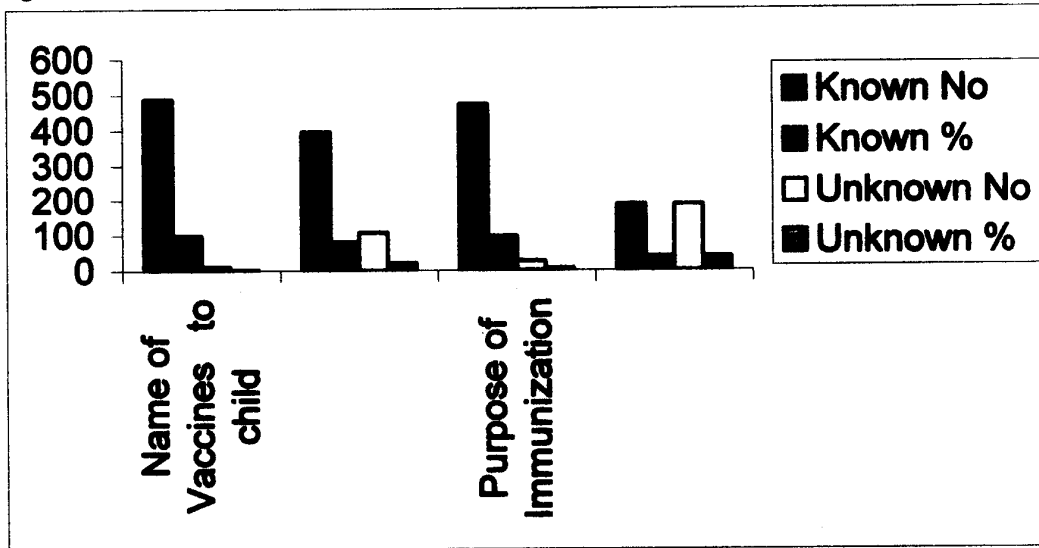
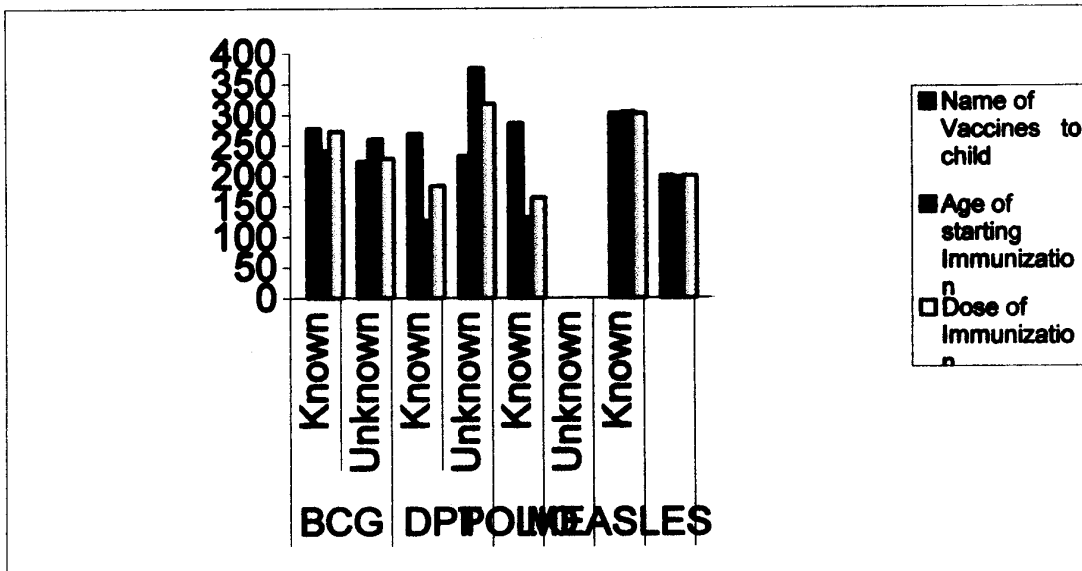


Fig No.2: Pattern of mother's specific knowledge about Immunization



2) Pattern of mother's specific knowledge about Immunization

Table No. 2 :

Knowledge About different Components	BCG		DPT		POLIO		MEASLES	
	Known	Unknown	Known	Unknown	Known	Unknown	Known	Unknown
Name of Vaccines to child	277 (55%)	223 (45%)	268 (54%)	232 (46%)	285 (57%)	215 (43%)	301 (60%)	199 (40%)
Age of starting Immunization	240 (48%)	260 (52%)	125 (25%)	375 (75%)	130 (26%)	370 (74%)	303 (61%)	197 (39%)
Dose of Immunization	272 (54%)	228 (46%)	183 (37%)	317 (63%)	163 (33%)	337 (67%)	301 (60%)	199 (40%)

Table no. 2 and Fig 2 indicate the Pattern of mother's Specific knowledge about immunization. In the table, the percentage of mothers knowing only the names of vaccines ranged from 54% to 60%. This means that the poor knowledge about the names of vaccine has positive correlation with low coverage of immunization. Similarly, the percentage of mothers knowing the age of (child) starting Immunization ranged from 25% to 61%. This pattern soundly predicts that in Nawalparasi district, there is lack of awareness of age of vaccination of child; which has positive correlation with the low coverage of immunization in that area. Finally, the table and figure indicate that there is lack of awareness of Dose of Immunization; which has positive correlation with the low coverage of immunization in that area. Because the knowledge of dose of immunization among mothers was found in the range of 33% to 60%.

3) Effect of Ethnicity on Immunization

Table No. 3:

Mother's ethnic group	Knowledge scores			Total
	0-1	2-3	4-5	
Brahmin	33 (22%)	75 (50%)	42 (28%)	150 (30%)
Chhetri	15 (19%)	25 (31%)	40 (50%)	80 (16%)
Newar	17 (40%)	15 (36%)	10 (24%)	42 (8%)
Tharu / Kumal / mushahar/ majhi	18 (23%)	46 (58%)	15 (19%)	79 (16%)
Magar/ Gurung/ Rai	18 (29%)	22 (35%)	23 (37%)	63 (13%)
Other(minority)	58 (67%)	21 (24%)	7 (8%)	86 (17%)
Total	159(32%)	204(41%)	137 (28%)	500

Calibration of Knowledge scores among mothers

- (0-1) Don't know any about names, doses, time interval, and age of starting vaccines
- (2-3) Know moderately about names, doses, time interval, and age of starting vaccines
- (4-5) Know all names, doses, time interval, and age of starting vaccines

Table no. 3 shows the pattern knowledge scores among different ethnic groups. In total only 28 percentages of people were found well aware about immunization. However, the table shows, more percentage of mothers of ethnic group Newar, minority group, and Tharu-musahar group were found with lack of knowledge about immunization; the knowledge score does not depend upon the ethnicity of mother. Therefore, it is suggested generating awareness among the entire mother to increase the coverage of immunization.

LITERACY RELATED FACTORS AFFECTING IMMUNIZATION

4) Effect of mothers literacy status on Immunization

Table No. 4 :

Mothers' Literacy Status	BCG		DPT		POLIO		MEASLES	
	Immu. their child	Not Immu. their child	Immu. their child	Not Immu. their child	Immu. their child	Not Immu. their child	Immu. their child	Not Immu. their child
Literate Mother	349	7	340	16	340	16	296	60
Illiterate Mother	133	11	124	20	126	18	109	35
Not Taken	18		36		34		95	

To describe effect of mothers literacy status “the mothers’ knowledge scores” were organized on the basis of their knowledge about immunization (table 4 and 5). It is obvious that the percentage of mothers not immunizing their child is highest in all the four vaccines (BCG, DPT, POLIO & MEASLES). It is concluded that mothers literacy status significantly influence on their knowledge about immunization. This finding suggests that health information should be emphasized more to illiterate mothers rather than literate mothers.

Table No. 5: Literacy Status of Mother

Mothers' Literacy Status	Total		Immunized their child		Not Immunized their child	
	No	%	No	%	No	%
					38	11
Literate Mother	356	71	318	89		
Illiterate Mother	144	29	116	81	26	18

5) Pattern of Vaccination Coverage in Nawalparasi District

Table No. 6:

Total No of Children	508					
Male	280					
Female	228					
Name of Vaccine	Regular		Irregular		Not Given	
	No	%	No	%	No	%
BCG	468	93	28	6	16	3
DPT	422	84	53	11	35	7
Polio	420	83	58	12	32	6
Measles	367	73	34	7	102	20

Among 508 children, 280 were male and 228 were female (table no. 6). The highest coverage was found of BCG (93%); and the lowest coverage was of Measles (73%). The second lowest coverage was of DPT (84%); and the third lowest was POLIO (83%)

6) Frequency Distribution of Mother's knowledge scores on Immunization by their Occupation

Table No. 7:

Occupational Status	Knowledge scores			Total
	0-1	2-3	4-5	
Working Mother	30 (15%)	148 (73%)	26 (13%)	204 (41%)
Non-working Mother	115 (39%)	105 (35%)	76 (26%)	296 (59%)
Total	145	253	102	500

Table no.7 shows that working mothers have better knowledge score than non working mothers. The percentage of non-working mothers with poor knowledge score (39%) is higher than the percentage of working mothers with poor knowledge score (15%). Therefore occupational status of mothers greatly influence on their knowledge about immunization.

ENVIRONMENT RELATED FACTORS AFFECTING IMMUNIZATION

7) Effect of Family Type on Immunization

Table No.8:

Family type	Knowledge scores			Total
	0-1	2-3	4-5	
Joint family	116 (41%)	114(40%)	54 (19%)	284 (57%)
Nuclear family	182 (84%)	86 (40%)	34 (16%)	216 (43%)
Total	298	200	88	500

Fig No. 3: Pattern of Vaccination Coverage

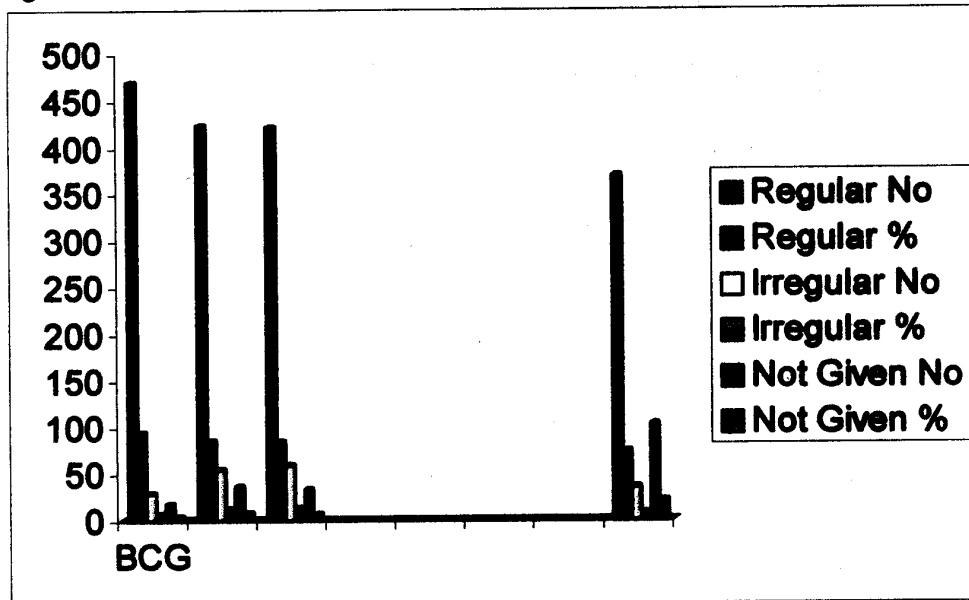


Fig No. 4: Frequency Distribution of Place of Immunization

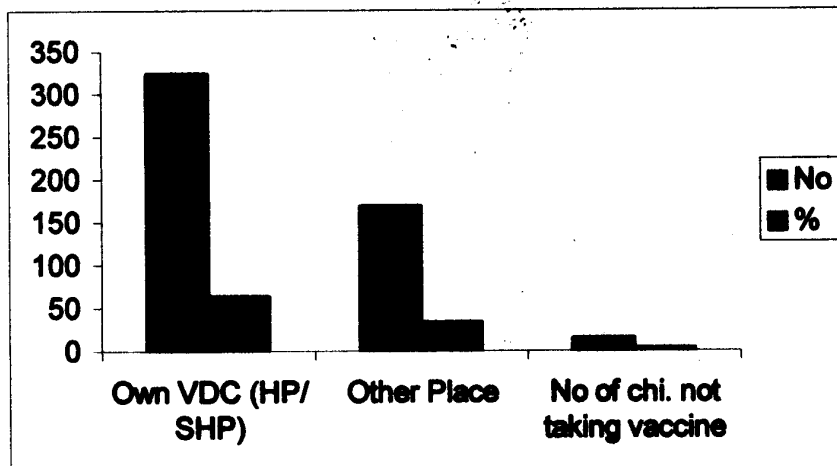


Table no. 8 explains, mothers in joint family bear better knowledge score of immunization (19%) than that of mothers in nuclear family (16%). The effect of family type on immunization is highly significant, since poor knowledge score among mothers of nuclear family was found highest (84%).

8) Effect of Place of Residence on Immunization

Table No. 9:

Place of residence	Knowledge scores			Total
	1-2	2-3	4-5	
Rural	146(31%)	217 (45%)	115 (24%)	478 (96%)
Urban	2(9%)	14 (64%)	6 (27%)	22 (4%)
Total	152	231	117	500

It is concluded that mothers place of residence significantly influence on their knowledge about immunization. This finding suggests that health information should be emphasized more to mothers living in the rural area rather than to mothers living in urban area.

SERVICE RELATED FACTORS AFFECTING IMMUNIZATION

9) Frequency Distribution of Place of Immunization

Table No. 10:

Place of Immunization to child	No	%
Own VDC (HP/ SHP)	324	64
Other Place	169	33
No of chi. not taking vaccine	15	3
No of chi. taking vaccine	493	97

Table 10 and fig. no 10 shows 33% children get immunized in other VDCs (rather than their own immunization center); which has significant influence on the low coverage of immunization. This finding suggests that more mothers immunize their child where there are several other facilities available. Place of immunization plays a vital role for the coverage of immunization target of a VDC.

10) Effect of Adverse Reactions of Vaccines to Immunization

Table No. 11:

Name of Vaccine	Fever		Other Reactions		Normal	
	No	%	No	%	No	%
BCG	250	49	0	0	258	51
DPT	159	31	0	0	349	69
Polio	2	0.4		0	506	99.6
Measles	200	39	0		308	61

Fever was major adverse reaction after the vaccination in children as shown in table no. 11. Highest percentage of fever (49%) occurred in children after taking BCG; followed by after DPT (31%); and 0.4% from polio. No side reaction from Measles was detected. Among the children having fever, some got severe fever and the rest were caught by mild fever. An adverse reaction of vaccines has a significant positive correlation with low coverage of Immunization.

11) Source of information for mothers about immunization.

Table No. 12:

Source of information about immunization	Total		Cooperative		Not cooperative	
	No	%	No	%	No	%
Health post staff	290	58	260	90	30	10
Media, Radio, T.V., Posters etc.	190	38	0	0	0	0
Relatives and neighbors	296	59	0	0	0	0
Self and others	124	25	0	0	0	0

To determine behavior of staffs and source of information about immunization for mothers the data were organized on the basis of their information (table 12). Most prominent source information was found as relatives and neighbors (59%); followed by health post staff (58%); Media, Radio, T.V., Posters etc. (38%). It is obvious, 10 percentage of mothers who didn't immunized their children found the staffs not cooperative. Therefore, the behavior of staffs is a significant factor for low coverage of Immunization.

Fig No. 5: Adverse Reactions of Vaccines

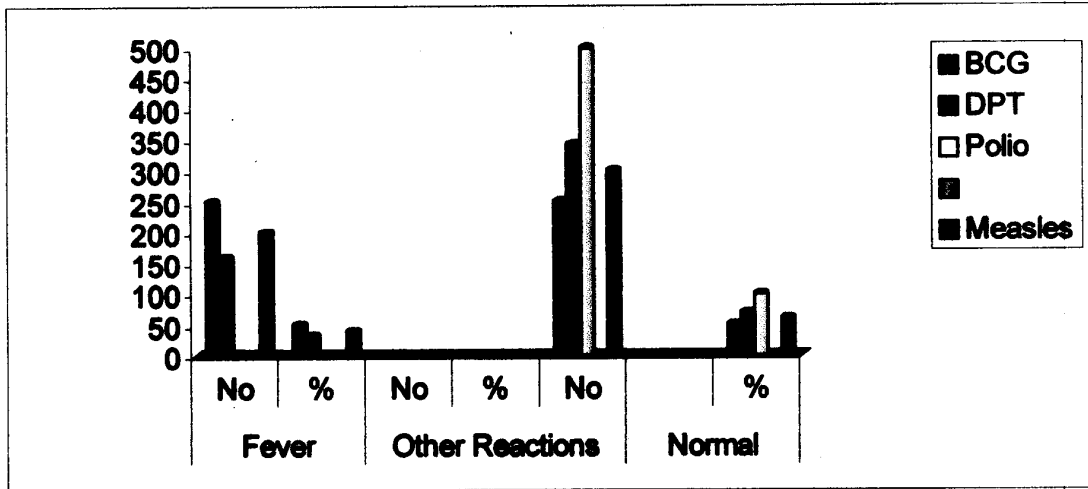
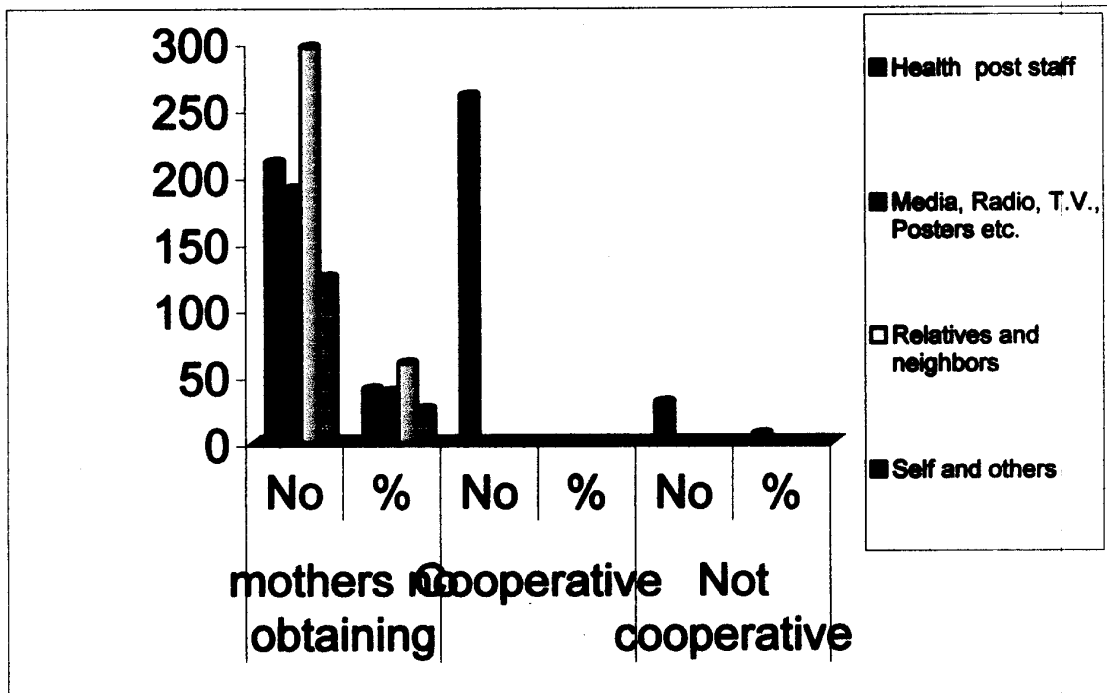


Fig No. 6: Source of information for mothers about immunization.



Analysis From Key Informants

Following comments were analyzed from DHO (Mr. Madan Km. Shrestha), Immunization Supervisor (Mr. Govinda Man Shrestha) and Cold Chain Assistant (Mr. Triloki Singh).

The programs run by district health office in Nawalparasi are: Preventive and primitive like Extended Program on Immunization; Child health like CBIMCI (Community Based Integrated Management Child Health Illness) , Nutrition etc. ; reproductive health like safer motherhood; and disease control like respiratory tract infection program, , Malaria, Kalajar, community medicine, tuberculosis and leprosis.

Programs given by DHO on immunization in the district are: regular service by DHO; special service on POLIO; Health education in mothers group; and service of FCHV.

The main problems facing during immunization in the district are: to maintain cold chain in remote area; lack of training for VHW/MCHW; monitoring system; and facilities for FCHVs are not good.

They claimed that cold chain is maintained and about 35-40% vaccines are wasted the package system of BCG and rarely because of cold chain.

Their suggestions to improve coverage were: frequent review; training for VHW/MCHW and other manpower; frequent community level research; and health awareness in local level.

Following cements were analyzed from six Sub Health post In chargers.

About Immunization:

The immunization services are good and easy because all the staffs are local people and due to regular supply of vaccine and manpower.

About Problem faced during Immunization:

In three VDC they told 60 – 79% coverage and other three VDCs 80-90%.

Reasons for not completing the dose are negligence, going to next VDCS etc. They gave Suggestions to motivate the community Health Workers with health education, local volunteers with training.

All of them informed that vaccine was fully utilized and cold chain was always maintained. Very few BCG vaccines were wasted.

Their main problems during immunization were: Mothers go to other immunization center; they want more qualified and perfect health worker and mothers are illiterate etc. Training and encouragement are required to MCHW/VHW and FCHW.

Comments: In remote places more staffs are required to explain immunization. Good supervision and monitoring should be given from central level. Some research should be done for further improvement of immunization.

Following comments were analyzed from six-ward chairman:

The service is good but because of not having more facilities from their worker they are discouraged therefore we should motivate them.

The service of MCHWs found satisfactory. All of them told that mothers should take their child to get immunizations, since mother should know the condition of vaccination of their child. Usually mothers do not face any problems to immunize their child but due to their illiteracy, conservatism and negligence sometimes they don't be convinced.

Most of the mothers are in favor of immunization but in few minority of ethnic group like Musahar, Majhi are negative to immunization due to conservatism. Therefore, in the VDC awareness programs should be run regularly.

All the ward chairman emphasized on the need of more trained manpower and more facilities to encourage FCHWs.

Following comments were analyzed from six FCHW.

They have good knowledge of immunization.

95% of them have excellent knowledge.

All of them told that mothers should take their child to get immunizations. Because volunteers and health workers cannot go one by one to immunize the child

All the FCHWs showed agreement for different immunization centers fixed by the Sub Health Post.

CHAPTER VI DISCUSSION

Information about vaccinations for young children was derived from all mothers, both with and without a card. In Nepal measles, whooping cough, tetanus, diphtheria, polio and tuberculosis are considered to be "six killer diseases of infants and children" which are vaccine preventable. Immunization against these diseases is one of services the important components of primary health care activities. Almost all types of health are concerned to provide immunization services to the people in the areas they serve. Initially DPT and BCG were introduced in 1977/78 and TT was introduced a year later. Measles and polio vaccines are available at district levels where cold chain facilities are available. Since 1980/81 the EPI has included all the districts of Nepal with its effective program. The commitment for Universal Child Immunization by 1990 of the fortieth UN Assembly gave a strong push to EPI programs in Nepal also. Without protection by immunization, 2.7 million children would die from Measles; 1.2 million would die from tetanus and 1 million from whooping cough. Some 800,000 children would be disabled by polio in the world (UNICEF, 1997). If health services are every where equally accessible, the rate of vaccination coverage within the city depends of the neighborhood, the socio-economic status, the modalities for informing the community of the vaccination sessions, the language used, the success of prior vaccination campaigns.

The major factors affecting the coverage of immunization depends upon many aspects of a society. In general, can be described as: the vaccines be accessible to the population (supply), that the population be aware of the need to vaccinate children (demand), there exists a simple system of monitoring the coverage of the immunization as well as monitoring the cases detected.

Mother's general knowledge about immunization play an important role in the vaccination of child. According to table no. 1 and Fig 1, more than 95% mothers were found aware of Purpose (95%) and importance (98%) of immunization. Where as 85% of mothers didn't know the time interval between two doses of POLIO and MEASLES. This indicates that one of the factors for low coverage is lack of knowledge about the time interval between two doses of the same vaccine. 21% mothers are not aware that they should be immunized during their pregnancy.

The next responsible factor for the vaccination of child is mother knowledge about every component of immunization. According to table no. 2 and Fig 2, the percentage of mothers knowing only the name of vaccines ranged from 54% to 60%. This means that the poor knowledge about the names of vaccine has positive correlation with low coverage of immunization. Similarly, the % of mothers knowing the age of (child) starting Immunization ranged from 25% to 61%. This soundly predicts that in Nawalparasi district, there is lack of awareness of age of vaccination of child; which has positive correlation with the low coverage of immunization in that area. Finally, the table and figure indicate that there is lack of awareness of dose of immunization; which has positive correlation with the low coverage of immunization in that area. Because the

knowledge of dose of immunization among mothers was found in the range of 33% to 60%.

In this research, most key informants emphasized about low coverage affected by neighborhood. Mothers place of Immunization to child has significant influence on the low coverage of immunization, which is shown in Table and fig. no. 9 (33% children get immunized in other VDCs /or other immunization center); . This finding suggests that more mothers immunize their child where there are several other facilities available.

However, Table no. 3 shows, more percentage of mothers of ethnic group Newar, minority group, and Tharu-musahar group were found with lack of knowledge about immunization; the knowledge score does not depend upon the ethnicity of mothers. In total only 28 percentages of mothers were found well aware about immunization. Therefore, it is suggested generating awareness among all the mother to increase the coverage of immunization.

Table no.7 shows that working mothers have better knowledge score than non working mothers. The percentage of non-working mothers with poor knowledge score (39%) is higher than the percentage of working mothers with poor knowledge score (15%). Therefore occupational status of mothers greatly influence on their knowledge about immunization.

Table no. 8 explains, mothers in joint family bear better knowledge score of immunization (19%) than that of mothers in nuclear family (16%). Therefore, the type of family plays significant role for the low coverage of immunization. This may be due to the role of other family members like mothers in law, father in law to support immunization.

Adverse reactions of vaccines have positive correlation with the low coverage of immunization. In this research fever was major adverse reaction after the vaccination in children as shown in table no. 11. Highest percentage of fever (49%) occurred in children after taking BCG; however, no adverse reaction from Measles was detected. Among the children having fever, some got severe fever and the rest were caught by mild fever. An adverse reaction of vaccines has a significant positive correlation with low coverage of Immunization.

The behavior and punctuality of staffs significantly affect the attraction of population toward vaccination, this factor is important for low coverage of Immunization. In this study, ten percentages of mothers who didn't immunized their children found the staffs not cooperative (table12). Relatives and neighbors (59%); and Health post staff (58%) were found as the most common source of information about immunization. Media, Radio, T.V., Posters, Self and others are other modalities of information.

CHAPTER VII SUMMARY

- 1) Mothers' knowledge about different components of immunization was determined. 85% of mothers didn't know the time interval between two doses of Polio and Measles. This indicates that one of the factors for low coverage is lack of knowledge about the time interval between two doses of the same vaccine.
 - The percentage of mothers knowing only the name of vaccines ranged from 54% to 60%. This means that the poor knowledge about the names of vaccine has positive correlation with low coverage of immunization.
 - The % of mothers knowing the age of (child) starting Immunization ranged from 25% to 61%. This pattern soundly predicts that in Nawalparasi district, there is lack of awareness of age of vaccination of child; which has positive correlation with the low coverage of immunization in that area.
 - There is lack of awareness of Dose of Immunization; which has positive correlation with the low coverage of immunization in that area. Because the knowledge of dose of immunization among mothers was found in the range of 33% to 60%. It is suggest generating awareness among the entire mother to increase the coverage of immunization.

- 2) The outcome of the neighborhood for the low coverage of immunization was studied. 33% children get immunized in other VDCs (or other immunization center); which has significant positive influence on the low coverage of immunization. Place of immunization plays a vital role for the coverage of immunization target of a VDC.

- 3) The type of family plays significant role for the various aspects of immunization like activeness toward vaccination, time availability to reach the vaccination center etc. In this study, mothers in joint family bear better knowledge score of immunization than that of mothers in nuclear family.

- 4) An adverse reaction of vaccines has a significant positive correlation with low coverage of Immunization. Only, fever was found as adverse reaction highest cases in BCG; second in DPT and negligible in polio in the district.

- 5) The behavior and punctuality of staffs is a significant factor for low coverage of Immunization. Ten percentages of mothers was discontented with health workers in study site.

- 6) Relatives and neighbors (59%); and Health post staff (58%) were found as the most common source of information about immunization. Media, Radio, T.V., Posters, Self and others are other modalities of information.

Recommendation

Government's policy about to immunize the children below 3 years is not appropriate. The age criterion is better to follow the developed country.

Biennial review of the program is needed. Training for FCHV, VHW, MCHW should provide. For FCHV provided facilities are not satisfactory. Research i. e. study should carry in community level. Health awareness for consumer level should be created. According to the EPI Supervisor, vaccination center should be near. Health staffs should also arrive in time and must be stayed within time period. The sound awareness about complete vaccination doses should create among the mothers. It is suggest generating awareness among the entire mother to increase the coverage of immunization. The government should provide the facilities for treatment to illness come from vaccination. Besides doctors the policy should make to encourage for health staffs too. Regarding the awareness program about immunization should carry from home to home. For cold chain maintenance one freeze and generator is needed.

In order to reach the goal of complete coverage such a plan need to satisfy three conditions, that the vaccines be accessible to the population (supply), that the population be aware of the need to vaccinate children (demand), there should be simple system of monitoring the coverage of immunization as well as monitoring the cases detected.

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ANNEXES
A Study On
Factors Affecting Low Coverage of Immunization Under 2 Yrs. Age Children In
Nawalparasi District
Individual Level Questionnaire For Mother

(1) Introduction

- | | | | |
|-----|--------------------|-----|----------------|
| 1.1 | District: | 1.2 | Village (VDC): |
| 1.3 | Ward no: | 1.4 | Health Post: |
| 1.5 | Family members no: | 1.6 | Interviewer: |
| 1.7 | Date: | | |

(2) Mother's Introduction

- | | | | |
|---------|---|---------|---|
| 2.1 | Name: | | |
| 2.2 | Ethnicity: | | |
| 2.2.1 | Brahmin | 2.2.4 | Others Please Specify: |
| 2.2.2 | Chhetri | | |
| 2.2.3 | Newar | | |
| 2.3 | Age (In Completed Years) | | |
| 2.4 | Marital Status | | |
| 2.4.1 | Living with Husband | 2.4.4 | Widow |
| 2.4.2 | Divorce | | |
| 2.4.3 | Husband Living Separately | | |
| 2.5 | Education | | |
| 2.5.1 | Illiterate | 2.5.2 | Literate |
| | If literate, Level of education | | |
| 2.5.2.1 | Can Read and Write | 2.5.2.4 | S.L.C. |
| 2.5.2.2 | Primary | 2.5.2.5 | Intermediate |
| 2.5.2.3 | Secondary | 2.5.2.6 | Bachelor and above |
| 2.6 | Occupation | | |
| 2.6.1 | Non - Working | 2.6.2 | Working |
| | If working, type of occupation | | |
| 2.6.2.1 | Agriculture | | |
| 2.6.2.2 | Business | | |
| 2.6.2.3 | Teaching | 2.6.2.5 | Civil Service |
| 2.6.2.4 | Wage/Labor | 2.6.2.6 | Other Please Specify |
| | If farming is the occupation, how long does the income from farming last? | | |
| 2.7 | Occupation of The Husband: | | |
| 2.8 | Number of Living Children: | | |
| 2.8.1 | Male: | 2.8.2 | Female: |
| 2.9 | Number of Children Dead: | | |
| 2.9.1 | Male: | 2.9.2 | Female: |
| 2.10 | Reasons Behind Infant Maternity: | | |
| 2.10.1 | | | |
| 2.10.2 | | 2.11 | Number of Children alive (below 2 Years of age) |
| 2.11.1 | Male | 2.11.2 | Female |

- | | | |
|--------|----------------|--------------|
| 2.12 | Type of Family | |
| 2.12.1 | Nuclear | 2.12.2 Joint |
| 2.13 | Residence | |
| 2.13.1 | Urban | 2.13.2 Rural |

(3) Data Related To Mothers' Knowledge About Immunization.

- 3.1 Have You Taken Any Injection or Vaccination While Pregnant?
- | | | | |
|-------|-----|-------|----|
| 3.1.1 | Yes | 3.1.2 | No |
|-------|-----|-------|----|
- If Yes, What Injection or Vaccination Was It?
(Name of The Vaccination)
- 3.2 Do You Know That Child Should Be Immunized?
- | | | | |
|-------|-----|-------|----|
| 3.2.1 | Yes | 3.2.2 | No |
|-------|-----|-------|----|
- 3.3 Why Should A Child Be Immunized?
- | | | | |
|-------|---------------------------------------|-------|-----------------------|
| 3.3.1 | To Prevent From Communicable Diseases | 3.3.2 | Others Please specify |
|-------|---------------------------------------|-------|-----------------------|
- 3.4 Have You Immunized The Child?
- | | | | |
|-------|-----|-------|----|
| 3.4.1 | Yes | 3.4.2 | No |
|-------|-----|-------|----|
- If Not,
- 3.4.3 Why Haven't Child Immunized, When You Knew Child Have To Immunize?
- | | | | |
|---------|--|---------|-----------------|
| 3.4.3.1 | Lack of time | | |
| 3.4.3.2 | 3.4.3.4.3.2 Did not have the opportunity | | |
| | | 3.4.3.4 | Other (Specify) |
| 3.4.3.3 | Scared | | |
- 3.5 What Are The Common Immunization of Under Two Years Children
- | | | | |
|-------|-----|-------|---------|
| 3.5.3 | BCG | 3.5.5 | Polio |
| 3.5.4 | DPT | 3.5.6 | Measles |
- 3.6 At What Age Should These Immunizations Be Stared?
- | | | | |
|-------|----------|-------|--------------|
| 3.6.3 | BCG..... | 3.6.5 | Polio..... |
| 3.6.4 | DPT..... | 3.6.6 | Measles..... |
- 3.7 How many time should the above immunizations be given to a child.
- | | | | |
|-------|-----|-------|---------|
| 3.7.3 | BCG | 3.7.5 | Polio |
| 3.7.4 | DPT | 3.7.6 | Measles |
- 3.8 What should be the ideal time interval between the two dosages of DPT and Polio?
- | | | | |
|-------|-----|-------|-------|
| 3.8.3 | DPT | 3.8.4 | Polio |
|-------|-----|-------|-------|
- 3.9 Where should you take your child to get above immunization?
- | | | | |
|-------|---------------------------------|-------|-------------------------------------|
| 3.9.3 | Hospital | 3.9.5 | Camp (mention the name of the Camp) |
| 3.9.4 | Health post (mention the name): | 3.9.6 | Others please specify..... |
- 3.10 Why did you immunize from that particular place?
- | | | | |
|--|--|--------|-----------------------|
| | | 3.11.3 | To reach the place |
| | | 3.11.4 | Waiting time |
| | | 3.11.5 | Others please specify |
- 3.11 How much time did you spend to get immunization?

3.12 Did you feel sick after immunization of your child?

3.12.3 Yes

3.12.4 No

If yes

3.12.5 What type of pain did you feel?

3.13 Were the staffs co-operative?

3.13.3 Yes

3.13.4 No

3.14 From whom did you get information about the immunization schedule of child?

3.14.3 Hospital Staff

3.14.5 Health Worker

3.14.4 Health Post Staff

3.14.6 Relatives

3.14.7 Neighbors

3.14.10 Radio

3.14.8 Books / Magazines

3.14.11 VDC Leader

3.14.9 T.V.

3.14.12 Other Please Specify

(4) Description of Children Below 2 Years of Age And Immunization.

4.1 Description of Children:

Childs No.	Name of The Child	Sex	Age	Condition of The Children	Remarks

4.2 Description of The Immunization:

4.2.1 "BCG"

Childs No.	Age	Where Was It Given	Card No.	Remarks

4.2.2 "DPT"

Childs No.	Age			Where Was It Given			Card No.			Remarks	
	1 st	2 nd	3 rd	1 st	2 nd	3 rd	1 st	2 nd	3 rd		

4.2.3 "Polio"

Childs No.	Age			Where Was It Given			Card No.			Remarks
	1 st	2 nd	3 rd	1 st	2 nd	3 rd	1 st	2 nd	3 rd	

4.2.4 Measles

Childs No.	Age	Where Was It Given	Card No.	Remarks

4.2.5 What Happened When Following Immunization Were Given?

Child No.	BCG	DPT	Polio	Measles

**4.2.6 What is The Reason for Not Taking Immunization In Time?
Please Specify.**

4.2.7 Do You Have Any Comment / Opinion? If You Have Please,

Questionnaire For S.H.P. Incharge

1. Introduction:

- | | | | |
|-----|-----------|-----|--------------|
| 1.1 | District: | 1.4 | Ward No.: |
| 1.2 | S.H.P.: | 1.5 | Interviewer: |
| 1.3 | VDC: | 1.6 | Date: |

2. Data Related to Sub Health Post:

- 2.1 Year Ested:
- 2.2 Types of Service Available at the S.H.P:
- a)
 - b)
 - c)
 - d)
 - e)
- 2.3 What Are The Programmes Run By S.H.P. On Immunization?

Types Of Programme	At Present Frequency (Per month)
Camps	
Regular Services In The S.H.P.	
Special Service	
Community Service	
Health Education	
Others (Specify)	

3. Respondent's Experience:

- 3.1 Name:
- 3.2 Age:
- 3.3 What is Your View About The Immunization Service, Whether It Is Sufficient or Not?

Views	Reasons
Sufficient	
Insufficient	
No comment	

4. Problems Faced During Immunization Service:

- 4.1 Percentage of Recipients Who Complete Their Dose (s)-
- | | | | |
|-------|--------|-------|-----------|
| 4.1.1 | 100% | 4.1.4 | 40-59% |
| 4.1.2 | 80-99% | 4.1.5 | Below 40% |
| 4.1.3 | 60-79% | | |
- 4.2 What is The Reason (s) For Not Completing The Dose (s)?
- a)
 - b)
 - c)
- 4.3 What Is Your Suggestion In Motivating the community to take a Complete dose?
- 4.3.1 Health education
 - 4.3.2 Training Local volunteers
 - 4.3.3
 - 4.3.4

- 4.4 Is Cold Chain Maintained With Vaccines? 4.4.2 No
- 4.4.1 Yes
- 4.5 If Not, why
- 4.6 Are Vaccines Fully Utilized? 4.6.2 No
- 4.6.1 Yes
- 4.6.3 If Not, How Much are Wasted and Give Reasons For its wastage.
- 4.7 Do You Face Any Difficulties In Achieving The Immunization Service Target?
- 4.7.1 Yes 4.7.2 No
- 4.7.3.1 If Yes, What are they? (Priority Wise)
- a)
- b)
- c)
- d)
- e)
- 4.8 What Steps Should Be At What level To Make The Immunization programme More Effective?
- 4.8.1 Local Level.....
- 4.8.2 District Level.....
- 4.8.3 Central Level.....
- 4.9 Do You Have Any Other Comments?

Individual Level Questionnaire for Ward Chairman / VDC Secretary

- 1) Introduction:
- 1.1 District: 1.2 Sub Health Post:
- 1.3 Village (VDC): 1.4 Ward No.:
- 1.5 Interviewer: 1.6 Date:
- 2) W. C. / VDC S. Introduction:
- 2.1 Name: 2.2 Ethnicity
- 2.3 Age (years): 2.4 Sex:
- 2.5 Education: 2.6 Marital Statuses:
- 2.7 Occupation: 2.8 Residences:
- 2.8.1 Urban 2.8.2 Rural
- 2) W. C. / VDC. S. Knowledge About Ward No.:
- 3.1 What are the programs runs by the VDC (health programs)?
- 3.2 What are the common health problems?
- 3.3 How is the children condition in this ward?
- 3.4 What are the common problems of mothers?
- 4) W.C. / VDC S. Knowledge About Immunization:
- 4.1 Are you involving to immunize the child?

4) **FCHV' s Knowledge About Immunization:**

- 4.1 Are you involving to immunize the child?
- 4.2 What Are The Common Immunization of Under Two Years Children?
a) BCG
b) DPT
c) Polio
c) Measles
- 4.3 At What Age Should These Immunizations Be Stared?
a) BCG.....
b) DPT.....
c) Polio...
d) Measles.....
- 4.4 What should be the ideal time interval between the two dosages of DPT and Polio?
a) DPT
b) Polio
- 4.5 Where mothers should take their child to get immunizations?
- 4.6 Why do they go there? Give reason.
- 4.7 Which place do you prefer for mother to immunize the child?
- 4.8 Why? Give reason.
- 4.9 What are the main problems facing by mothers to immunize their child?
- 4.10 Do you found any mothers are against to immunize their child?
a) Yes
b) No
If yes, give reason.
- 4.11 In your opinion, what should be done to increase the percentage of the immunization in this ward?
- 4.12 Are you facing with any problems to enhance the mothers to get immunization?
- 4.13 Do you have any other comment?

Individual Level Questionnaire for Village Health Worker/Mother Child Health Worker

- 1) **Introduction:**
 - 1.3 District:
 - 1.5 Village (VDC):
 - 1.7 Interviewer:
 - 1.2 Sub Health Post:
 - 1.4 Ward No.:
 - 1.6 Date:
- 2) **VHW/MCHW' s Introduction:**
 - 2.1 Name:
 - 2.3 Age (years):
 - 2.5 Education:
 - 2.7 Occupation:
 - 2.8.1 Urban
 - 2.2 Ethnicity
 - 2.4 Sex:
 - 2.6 Marital Statues:
 - 2.8 Residences:
 - 2.8.2 Rural
- 3) **VHW/MCHW' s Knowledge About Ward No.**
 - 3.1 What are the programs runs by the S.H.P.?
 - 3.2 What are the common health problems?
 - 3.3 How is the children condition in this ward?
 - 3.4 What are the common problems of mothers?
- 4) **VHW/MCHW' s Knowledge About Immunization:**
 - 4.1 Are you involving to immunize the child?
 - 4.2 What Are The Common Immunization of Under Two Years Children?
 - a) BCG
 - b) DPT
 - c) Polio
 - d) Measles

4.3 At What Age Should These Immunizations Be Started?

- a) BCG.....
- b) DPT.....
- c) Polio.....
- d) Measles.....

4.4 What should be the ideal time interval between the two dosages of DPT and Polio?

- a) DPT
- b) Polio

4.5 Where mothers should take their child to get immunizations?

4.6 Why do they go there? Give reason.

4.7 Which place do you prefer for mother to immunize the child?

4.8 Why? Give reason.

4.9 What are the main problems facing by mothers to immunize their child?

4.10 Do you found any mothers are against to immunize their child?

- a) Yes
- b) No

If yes, give reason.

4.11 In your opinion, what should be done to increase the percentage of the immunization in this ward?

4.12 Are you facing with any problems to enhance the mothers to get immunization?

4.13 Are you satisfying with government policy for immunization?

4. 14 Are you satisfying with SHP programs?

4.15 Do you have any other comment?



1a- Interviewing with a mother from Muslim religion in Pragatinagar VDC, Nawalparasi



1b- Interviewing with a mother in Pragatinagar VDC, Nawalparasi



2a- Interviewing with Female Community Health Volunteer in Gaidakot VDC, Nawalparasi



2b- Interviewing with Maternal Child Health Worker in Rajahar VDC, Nawalparasi



3a- Interviewing with Maternal Child Health Worker in Pragatinagar VDC, Nawalparasi



3b- Interviewing with Sub-Health Post Incharge in Pragatinagar VDC, Nawalparasi



4- Interviewing with Distrit Health Offiør in Parasi, Nawalparasi



5a- A mother participated in interview in Rajahar VDC, Nawalparasi



5b- A participated mother in interview and sharing the experiences during monitoring from Nepal Health Research Council, Kathmandu