

314 ✓

**Factors Affecting the Preference for
Acute Respiratory Infection Service Providers Working
under Integrated Management of Childhood Illness
Programme in Nawalparasi District**

NHRC Library
Accession No. 111
Call No.

Submitted to
Department of Community Medicine and Family Health
Maharajgunj Campus, Institute of Medicine
Tribhuvan University
Kathmandu



For Partial Fulfilment of
Masters Degree of Public Health

Submitted by
Madan Kumar Shrestha
February, 2002

MFN '6'



APPROVAL SHEET

NHRC Library
Accession No. 111
Call No.

This is to certify that Mr. Madan Kumar Shrestha has prepared this report entitled "*Factors Affecting the Preference for Acute Respiratory Infection Service Providers Working under Integrated Management of Childhood Illness Programme in Nawalparasi District*" under our guidance and supervision.

This report is prepared as partial fulfilment of the requirement for the University and is recommended for acceptance.

Dr. Mahesh Maskey

Date 19/12/058

Dr. Mahesh Maskey
Assistant Professor
Research supervisor
Community Medicine and Family Health Department
Institute of Medicine, Maharajgunj campus
Kathmandu

Mr. Ramjee Prasad Pathak

Date May 2, 2002

Mr. Ramjee Prasad Pathak
Associate Professor
Co-ordinator, MPH program
Community Medicine and Family Health Department
Institute of Medicine, Maharajgunj campus
Kathmandu

Prof. Dr. Bimala Shrestha

This thesis has been approved [☒] not approved [☐]

Prof. Dr. Bimala Shrestha

Internal Examiner

External Examiner

Date May 5, 2002

Date 5 May 2002

Dr. Mahesh Maskey

Prof. Dr. Bimala Shrestha

ACKNOWLEDGEMENT



NHRC Lib
Accession No.
Call No.

I am grateful to the Research Committee of IOM, Community Medicine and Family Health Department for their valuable guidance and suggestions to complete this study.

I am grateful to the co-ordinator of MPH program, Mr. Ramjee Prasad Pathak (Associate Professor) for his kind support and suggestion to complete this study and managing the required fund.

I wish to express my heartfelt gratitude to Professor Dr. Bimala Shrestha (Head Of Department, Department of Community Medicine and Family Health) for her kind guidance and support.

I also wish to extend my thanks to the respected teachers of Department of Community Medicine and Family Health, Institute of Medicine, TU, Kathmandu.

I take this opportunity to offer my sincere appreciation to NHRC (Nepal Health Research Council) for providing me financial support to accomplish this study.

I would also like to thank WHO, JSI for providing me the necessary documents in accomplishing the research work. I am also grateful to Dr. Sun Lal Thapa, chief of CDD/ARI section Child Health Division for providing me valuable suggestions.

I am also grateful to Dr. Ramji Prasad Chaudhary, District Health Officer, Nawalparasi for providing me valuable support and suggestions to accomplish this study.

I would like to express sincere appreciation to my enumerators for their devotion during data collection

Finally, I am very much grateful to my research supervisor Dr. Mahesh Maskey (Assistant Professor) for his continued guidance, encouragement and support during the entire study period.

Madan Kumar Shrestha

MPH student



SUMMARY

Acute Respiratory Infection (ARI) is a major cause behind high mortality of under-5 children in developing countries. Integrated Management of Childhood Illness (IMCI) has been implemented to improve the case management skill of the health-care workers, overall health systems, and family and community health practices, and to reduce the overall mortality rate of under-5 children.

Community-based ARI/CDD Programme (CBAC) has been implemented in 14 of the districts in Nepal so far. Female Community Health Volunteers (FCHVs) are treating more ARI cases in the communities than Health workers in the health facilities where community-based IMCI program are implemented. Nawalparasi, where this study was done, is one of the CB-IMCI implemented districts. The study took place in Bhujhawa, Amraut & Banjaria (considered as one VDC to complete the sample size) VDCs from the Terai area and Benimanipur and Dibyapuri VDCs from the hill area. The study sample consisted of the cases of ARI management at all levels of the four VDCs.

Method of data collection was interview, observation and reviewing secondary data from both health institutions and FCHVs. The VDCs in the study were selected by using purposive sampling. Total number of cases from the Terai area was 160, and 148 were from the hill area. This study was descriptive and cross-sectional.

This study focused on identifying the reasons why more care-seekers are taking health services for ARI from FCHVs than health institutions. This study was intended to find out the reasons for such behaviours of care-seekers in the study sites. This study focused on identifying the factors leading to satisfaction of the health care-seekers in community and health institutions during ARI cases management. This study describes perceived factors that lead care-seekers to choosing the health service provider for their satisfaction during the management of their sick children.

Based on the eight factors of satisfaction considered in the study, it was found that majority (92%) of the care-seekers were satisfied with the ARI case management provided to the children under IMCI in health institutions, whereas 93.83% of the



care-seekers were satisfied with the ARI case management provided to the children under IMCI by FCHVs. By area, 93.8% of the care-seekers were satisfied in Terai with compared to 91.97% of the care-seekers in the hill area.

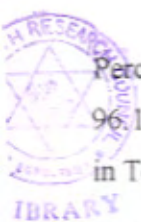
Location of the ARI service providers for ARI case management was found to be satisfactory for 98.1% of the care-seekers of Health institutions and 96.1% care-seekers are satisfied with the location of FCHVs.

Examination procedure under IMCI was found to provide satisfaction for the 94.8% of the care-seekers of the Health institutions and 95.5% care-seekers are satisfied with FCHVs. Based on geographical region, 95.6% of the care-seekers are satisfied in the Terai while 94.6% were satisfied in the hill area.

On the perceived behaviours of the ARI service providers under IMCI, a total of 94.2% of the care-seekers are satisfied with behaviours of Health-Institution staffs and 96.8% of the care-seekers are satisfied with the behaviours of FCHVs. A total of 95.6% of the care-seekers in the Terai and 95.3% of the care-seekers of the hill are satisfied with the behaviour of the ARI service providers.

A total of 92.9% the care-seekers are satisfied with the drug availability in Health institutions and 93.5% of the care-seekers are satisfied with the drug availability with FCHVs. In Terai, 95.6% of the care-seekers are satisfied with drug availability where in the hill area 90.5% of the care-seekers are satisfied with drug availability.

A total of 92.2% of the care-seekers are satisfied with the perceived costs of available drugs in Health institutions compared with 95.5% of the care-seekers with FCHVs. It is found to be 96.9% and 90.5% in Terai and hill area respectively.



Perceived advices given during the ARI case management under IMCI is found to be 96.1% and 93.5% for health institutions and FCHVs respectively. It is found to be 96.3% in Terai and 93.2% in the hill area.

For the users of health institutions, 80.5% care-seekers are satisfied with the follow-up visit, while 85.7% of the care-seekers are satisfied with the FCHVs. In the Terai, it is 78.8% and it is 87.8% in the hill area.

For the perceived results (getting better) of ARI cases being managed under IMCI, 87% of the care-seekers are satisfied with the Health institutions and 94.8% care-seekers with FCHVs. This is found to be 92.5% and 89.2% in Terai and hill area respectively.

In this study, 40.3% of the health-institution users and 40.9% of the FCHV users were found to have been informed of the four general danger signs. Geographically, it is found to be 32.5% and 49.3% for Terai and hill area respectively. However, more than 60% of the care-seekers cannot recall any of the four general danger signs after one year of visit. More than 75% of all care-seekers are found to be informed about nutrition and immunisation status.

It is found that the prevalence rate of ARI is very high; however, care-seekers have sought early treatment and health care-providers have provided a high level of service. Under IMCI, the role played by both health institutions and FCHVs is very positive in reducing complications arising out of ARI and mortality. In fact, the role played by FCHVs is equal to that played by the health institutions in managing ARI cases. IMCI has improved the health system and brought about a positive change in family and community health practices. This could be further improved upon by improving the skill level of ARI service providers and through appropriate form of drugs supplied, i.e. syrup-based, and by encouraging field-visits by the VHWs and MCHWs. The access to FCHVs and health institutions should be made easier by training more manpower. The programme could be made more effective by providing regular refresher courses to the FCHVs and raising awareness level of care-seekers themselves through the use of appropriate IEC material.



Abbreviations

AHW	Auxiliary Health Worker
ANM	Auxiliary Nurse Midwife
ARI	Acute Respiratory Infection
CBAC	Community-based ARI/CDD
CDD	Control of Diarrhoeal Diseases
DDC	District Development Committee
DHO	District Health Office
DoHS	Department of Health Services
FCHV	Female Community Health Volunteer
HA	Health Assistant
HMG	His Majesty's Government
HP	Health Post
IMCI	Integrated Management of Childhood Illness
IOM	Institute of Medicine
JSI	John Snow, Inc
MCHW	Maternal and Child Health Worker
MOH	Ministry of Health
NHRC	National Health Research Council
PHC	Primary Health Care Centre
SEARO	South East Asia Regional Organisation
SHP	Sub-Health Post
UNICEF	United Nation Children's Fund
VHW	Village Health Worker
WHO	World Health Organisation
USAID	United States' Agency for International Development

**Tables:**

1. Sex of children seeking health care in the study	20
2. Preference of care-seekers to visit first during ARI	20
3. Relationship of care-seeker to the child	20
4. Knowledge about available services	21
5. Care-seekers enumeration of available services	21
6. Care provider informing about 4-danger signs	22
7. Recollection of 4-danger signs	22
8. Nutrition and Immunization status	22
9. Care-seekers satisfaction of ARI case management under IMCI by Institution	23
10. Care-seekers satisfaction of ARI case management under IMCI by Area	24
11. Conduct of ARI service provider	27

Charts

1. ARI management at different level of facility under IMCI	25
2. Incidence of ARI per 1000 under 5 children during 057/058 in Nawalparasi district	25
3. Satisfaction of care-seekers with location	26
4. Satisfaction of care-seekers with examination procedure	26
5. Satisfaction of care-seekers with perceived behaviour	27
6. Satisfaction of care-seekers with drug availability	28
7. Satisfaction of care-seekers with perceived cost of ARI drugs	28
8. Satisfaction of care-seekers with advices provided	29
9. Satisfaction of care-seekers with follow-up visit	29
10. Satisfaction of care-seekers with results	30
11. Satisfaction level on ARI case management of FCHV users	30
12. Satisfaction level on ARI case management of health institution users	31
13. Average satisfaction level provided by ARI service providers	31
14. Average satisfaction level by area	32



Contents

APPROVAL SHEET	I
ACKNOWLEDGEMENT	II
SUMMARY	III
ABBREVIATIONS	VI
TABLES:	VII
CHARTS	VII
CHAPTER ONE	1
1. INTRODUCTION	1
1.1 BACKGROUND:	1
Community Based ARI/CDD Program (CBAC)	2
Integrated Management of Childhood Illness (IMCI)	3
1.2 PROBLEM STATEMENT	4
Status of ARI in Nepal:	5
1.3 RATIONALE OF THE STUDY:	5
1.4 RESEARCH QUESTIONS	6
1.5 OBJECTIVE OF STUDY	7
CHAPTER TWO	8
2. LITERATURE REVIEW	8
CHAPTER THREE	13
3. METHODOLOGY	13
3.1 SITE SELECTION	13
3.2 STUDY DESIGN	13
3.3 VARIABLES OF THE STUDY	13
3.4 STUDY POPULATION	13
3.5 EXCLUSION CRITERIA	14
3.6 SAMPLING TECHNIQUE AND PROCEDURE	14
3.7 CONCEPTUAL FRAMEWORK OF THE STUDY	15
3.8 SAMPLE SIZE	15
3.8 SAMPLE SIZE	16
3.9 DATA COLLECTION METHOD	16
Primary source:	16
Secondary source	16
3.10 INSTRUMENTATION	16
3.11 RELIABILITY/VALIDITY	16
3.12 UNIT OF ANALYSIS	17
3.13 ETHICAL CONSIDERATION	17
3.14 ANALYSIS/INTERPRETATION	17
3.15 EXPECTED OUTCOMES	17
3.16 OPERATIONAL DEFINITION	18
CHAPTER FOUR	20
4. GENERAL FINDINGS	20
4.1 SEX OF CHILDREN SEEKING HEALTH-CARE IN THE STUDY	20



LIBRARY

4.2 PREFERENCE OF CARE-SEEKERS TO VISIT FIRST DURING ARI	20
4.3 RELATIONSHIP OF CARE-SEEKER TO THE CHILD	20
4.4 KNOWLEDGE ABOUT AVAILABLE SERVICES	21
4.5 CARE-SEEKERS ENUMERATION OF THE AVAILABLE SERVICES	21
4.6 CARE-SEEKERS' AWARENESS	22
Care-provider informing about 4-Danger Signs	22
Recollection of 4-Danger Signs	22
Nutrition and Immunization Status	22
4.7 SATISFACTION LEVEL	23
Care-seeker Satisfaction of ARI Case Management under IMCI by Institutions	23
Care-seeker Satisfaction ARI Case Management under IMCI by Area	24
4.8 ARI CASE VISITS IN DIFFERENT LEVEL OF HEALTH FACILITY	25
4.9 FACTORS LEADING TO SATISFACTION	26
Location	26
Examination Procedure	26
Perceived Behaviour	27
Drug Availability	28
Cost of Available Drugs	28
Advices Provided	29
Follow-up Visits	29
Results (Getting Better)	30
FCHV Users	31
Health Institution Users	31
Average Satisfaction Provided by Health-care Provider	32
Average Satisfaction Level by Area	32
CHAPTER FIVE	33
5. DISCUSSION	33
CHAPTER SIX	38
6. CONCLUSION/RECOMMENDATION	38
CHAPTER SEVEN	40
7. REFERENCES	40
ANNEX	41
Question form	41
Interview Guidelines for Enumerators	44
Work Plan	45

Chapter One

1. Introduction

1.1 Background:

History of ARI program in Nepal:

- In 1987, the national program for the control of ARI was initiated by Ministry of Health, His Majesty's Government of Nepal.¹⁵
- In 1993, a Working Group consisting of representatives from MOH, WHO, USAID/JSI and UNICEF decided to initiate an ARI-strengthening program and help to establish national policy concerning management of ARI. The Working Group accepted the role of FCHVs, but recommended for improved training, follow-up and supervision.²
- In 1994/1995, the ARI-strengthening program was initiated by MOH in co-ordination with UNICEF, WHO and USAID/JSI. In this period, 2 districts were chosen as treatment districts (Makawanpur and Chitwan) and other 2 districts were chosen as referral districts (Morang and Sunsari).¹³
- In 1997/1998, the 2 referral districts were converted into treatment districts. During this year, another 2 additional districts were added.
- In 1998/1999, other 5 districts were chosen and the ARI-strengthening program was established in 11 districts (Makawanpur, Chitawan, Morang, Sunsari, Jhapa, Parsa, Bara, Rautahat, Rasuwa, Bajura, and Siraha) and renamed Community-based ARI/CDD program. Three districts were added as CB-IMCI districts (Bardia, Kanchanpur and Nawalparasi).²

It is recognized that ARI is one of the major public health problems in Nepal among under-5 children. The national ARI control program covers 75 districts, 14 of which have a special strengthening program. The program focuses on children under 5 years of age because the majority of deaths in this age group are ARI-related. The MOH recognizes the need to follow the WHO guidelines for the classification of ARI cases. Therefore, all cases of ARI assessed by health workers have been classified into one of the following categories:

- Very severe diseases
- Very severe pneumonia
- Pneumonia and
- No pneumonia

Objective of the National ARI program

"The main objective of the ARI program is to reduce under 5 ARI related morbidity and mortality and to improve the situation of child health in Nepal."²

Targets:

- "To reduce the mortality from pneumonia in under 5 children through proper diagnosis and management of cases;
- "To reduce morbidity from ARI in under 5 children."²

Community Based ARI/CDD Program (CBAC)

The ARI Strengthening program was introduced initially in 1995 in four districts with support of WHO, UNICEF and USAID/JSI. In Makawanpur and Chitwan districts FCHVs were trained to manage ARI cases. They were made capable to treat Pneumonia with Cotrimoxazole and to refer severe pneumonia cases to health facilities. In 1997, an assessment was done of this new intervention. The findings were very encouraging, and were as follows;

Total number of treated pneumonia found to have increased.

Total number of treated severe pneumonia also increased

Over-use of Cotrimoxazole by FCHVs was very insignificant (only 2.6%).

Community Health workers treated more pneumonia cases than health workers treated in health facility. The successful intervention of CBAC was replicated into other two districts in 1999. The ARI strengthening program has been renamed the Community Based ARI and CDD Program (CBAC).⁹

Integrated Management of Childhood Illness (IMCI)

Integrated Management of Childhood Illness (IMCI) is a strategy for reducing the mortality and morbidity associated with the major causes of childhood illness. Its development by WHO and UNICEF started in 1992, it was decided to initially focus on improving care at the first level health facilities where millions of children arrive sick each day, most of them with one or more of the major causes of illness and death.^{5, 14}

IMCI interventions take place at home, in the community and in the health system. The aims are to reduce child deaths, illness, and disability and, to improve children's growth and development with a particular focus on the poorest and most disadvantaged children.¹¹

The main objective of IMCI strategies is not to leave any underlying disease undetected, which may prove to be fatal, when a child is brought to health facility with signs and symptoms of an apparent disease, which health workers mostly pay attention to, and miss other underlying causes.⁹

Implementation of the IMCI strategy involve following three main components:⁵

- Improvements in the case management skills of health staff through IMCI guidelines and to promote their use.
- Improvements in the health system required for effective management of childhood illness.
- Improvement in family and community practices.

"IMCI is a strategy that in each country addresses the major health problems of children under five years of age. It includes preventive and curative interventions, such as improved infant and child nutrition, breastfeeding promotion, immunization, and use of bed nets in areas with malaria". It responds to the needs of care-seekers and seeks to improve their satisfaction with child health services.¹¹

A set of generic guidelines for management of childhood illness at this level was completed in 1996 and is now starting to be used as the basis for introducing this component of IMCI in other countries. The Division of Child Health and Development of World Health Organization and the United Nations Children's Fund has responded to this challenge by developing strategies for Integrated Management of Childhood Illness.

1.2 Problem Statement

About 10.5-12 million children in low and middle-income countries die before their fifth birthday. Seven in the ten of these deaths are due to just five preventable and treatable conditions: pneumonia, diarrhoea, malaria, measles and malnutrition and often a combination of these conditions.¹⁴

Every day, millions of parents seek health care for their sick children, taking them to hospitals, health centres, pharmacists, doctors and traditional healers. Surveys revealed that many sick children are not properly assessed and treated by these ARI service providers, and that their parents are poorly advised.⁷

Every year 99000 children under the age of five years are estimated to die in Nepal. It is estimated that children suffer in average 5 episodes per child per year from ARI and about 30000 deaths are due to ARI, particularly pneumonia. Another 30000 children are estimated to die from diarrhoeal dehydration each year. Approximately, 0.5 percent of under-3 children are suffering from night blindness. Only 45% of children have received complete vaccination.⁹

To overcome with these problems, in 1994/1995, the ARI-strengthening program was initiated by Ministry of Health of Nepal in coordination with UNICEF, WHO and USAID/JSI. To meet the objective of reducing childhood morbidity and mortality, several strategies were emphasized in this program. Based on WHO guidelines for standard ARI case management, training for health workers of all level of health facility, provision of essential drugs and training of community level health workers including Female Community Health Volunteers (FCHVs) were developed and managed.

Status of ARI in Nepal:

- Incidence of ARI per 1000 under 5 children is 166 in 1999/2000, it was 144 in 1998/1999.²
- The percentage of pneumonia cases increased slightly to 43.7% in 1999/2000 from 39.8% in 1998/1999.²
- The percentage of severe pneumonia cases at the national level is 5.3% (1999/2000), which is same as in the previous year. This may be the positive indication of an ARI related mortality.²
- Case fatality rate due to ARI among under-5 children decreased from 1.6 in 1999/2000 to 0.5 per 1000 in 1998/1999.²
- Treatment by antibiotics is declining from 44.6% (1998/1999) to 41.55% (1999/2000).²
- The proportion of home treatment for ARI cases increased from 41.6% (1998/1999) to 48.2% (1999/2000).²
- The percentage of ARI referral cases decreased from 2.1% in 1998/1998 to 1.3% in 1999/2000.⁹

1.3 Rationale of the study:

ARI is the second major killer disease of under-5 children in Nepal. Almost 5 episodes of ARI occurred to Nepalese children of under five years of age. The Infant Mortality Rate (IMR) is 72 per 1000 live births and Under-5 Mortality Rate (U5MR) is 118 per 1000 live births in Nepal. The Ninth Five Year Plan targeted to reduce the IMR to 61.5 per 1000 and U5MR to 102.3 per 1000 live births. Many strategies have been made and improved to overcome these problems.⁹

Though the National ARI Control Program was initiated in 1987 to achieve the objective of reducing child morbidity and mortality due to ARI, the results were not encouraging. With the support WHO, UNICEF and USAID/JSI the MOH/HMG, Nepal initiated ARI-strengthening program in 1993, accepting the role of FCHVs. Starting with 2 districts now the program has expanded to 14 districts of the country.

Nawalparasi district is one of the districts where CB-IMCI is implemented. The training for improving the skill of health workers, Female Community Health Volunteers (FCHVs), drug retailers and traditional healers were done during 1998/1999. The existing health facilities and FCHVs are providing the ARI case management services since then. Among 9 FCHVs in each VDC, only 5 active FCHVs are chosen for this purpose. They are provided sound timer, Cotrimoxazole paediatric tablets. They are trained for recognizing ARI cases and made able to give treatment or refer if necessary. Health workers are providing ARI case management as per WHO treatment protocol. The result in 1999/2000 was very encouraging with the incidence of ARI per 1000 under-5 children is 170, while it was only 111 per 1000 under-5 children in 1998/1999. Annual incidence of pneumonia per 1000 under-5 children is 78.5, it was only 50.6 in 1998/1999. Proportion of pneumonia among new cases is 46.3, it was 45.3 in 1998/1999.²

It is believed that only 18% of ARI cases are managed by health facilities and 34% ARI cases are managed by FCHVs. The Annual Report of 1999/2000 shows that among 14 ARI strengthening districts FCHVs are treating more pneumonia cases than health worker in health facilities.¹³

This study may able to add some new information about the preference of care-seekers for care-providers and their satisfaction level, and will be useful for further planning, improvement, and expanding of the programme.

1.4 Research questions

- What are the proportion of ARI cases visited in health institutions and FCHVs?
- What are the factors of satisfaction with ARI service providers?
- Are there any differences between the preferences of health care-seekers for ARI service providers?

1.5 Objective of study

1.5.1 General objectives

To determine the incidence of ARI and to compare the determinants for preference for ARI service providers.

1.5.2. Specific Objectives

- To find out the number of ARI cases managed by FCHVs
- To find out the number of ARI cases managed by Health personnel (HA, Staff Nurse, AHW, ANM and MCHW)
- To identify the factors leading to satisfaction of the healthcare-seekers with FCHVs and health personnel (HA, Staff Nurse, AHW, ANM and MCHW)
- To compare the preference of the health-care seeker for ARI service provider

Chapter Two

2. Literature Review

Of the 10.5-12 million under-5 deaths in the world, 40% occurs in the South-East Asia Region (Bangladesh, Bhutan, India, Indonesia, Myanmar and Nepal). The reasons behind it might be the inability of parents to timely recognize the seriousness of the disease, to reach an appropriate facility, and the inability of health workers to provide good care at the facility. The global equity gap in health is largest among children, and is concentrated in communicable diseases.¹²

- Children under five years of age account for more than 50% of the global gap in mortality between the poorest and richest quintiles of the world's population.⁷
- Children under-5 bear 30% of the total burden of disease in poor countries.
- Almost 70% of the 10.5-12 million children of under five years of age who died in 1999 were from developing countries. Of these children, 36% died in Asia, 33% in Africa.¹¹

More than 50% of all child deaths are due to just five communicable diseases, which are preventable and can be treated: pneumonia, diarrhoea, measles, malaria and HIV/AIDS. Malnutrition is another underlying factor that increases the risk of dying from these diseases.⁶

Distribution of deaths among children under 5 years old in all developing countries in 1995 are ARI 19%, Diarrhoea 19%, Peri-natal 18%, Measles 7%, Malaria 5% and others 32%. Approximately 70% of childhood deaths are associated with one or more of these 5 conditions.¹⁰

A prospective study conducted in 1987 in southwest edge of Kathmandu valley shows remarkable reduction of ARI related mortality during the intervention years by the use of Community Health Workers. The ARI specific death rate was 59% in the first year of study and it was found only 1 to 6 per 1000 after two years of intervention by the use of Community Health Workers.¹⁶

As one of the poorer countries in the world, Nepal has numerous factors that contribute to the high child mortality rate estimated to be 118 under-5 deaths per 1000 live births. A strong argument can be made that childhood pneumonia is a major player in this regard. There are many factors that make children susceptible to pneumonia, but these are more difficult to change, and it will take decades to change the environment in which children are born and raised. In the mean time, some interventions directed at treatment of simple pneumonia can save children's lives.³

In 1998/99 there were just 3262277 under-5 children in Nepal. In the same year, 468260 children were recorded in the health management information system as being seen for ARI. Of these, there were nearly 200000 new cases of pneumonia and nearly 20000 repeat cases of pneumonia recorded.²

The Family health survey conducted in 1996 estimated that 34% of children had symptoms of ARI, with the highest incidence among under-5 children. The same survey reported an under-5 mortality of 118 per 1000 live births meaning that about 1 in 8 children die before reaching age five. Earlier studies estimated that pneumonia was responsible for 30-40% of childhood deaths. While there have been world-wide improvements in mortality, the incidence of pneumonia remains high, which combined with a high case-fatality rate and a low proportion receiving care at health facilities, makes pneumonia perhaps the most serious threat to the well-being of children.³

In 2000, only 18% of expected pneumonia cases received treatment through the Nepali health infrastructure, leaving the vast majority untreated, or treated through other means with no assurance of any quality of care. This figure was 17% in 1995, suggesting that if the trend continued, it would take decades for even 50% of cases to be treated. In 14 CB-IMCI intervened districts, however, the situation is different. In these pilot districts, the percent of expected cases treated has dramatically increased consistently each year, reaching over 50% in 2001. Most of these cases were treated within the patient's community by unpaid community volunteers – the FCHV. In addition, there is more self-referral to health facilities, there is increased capacity for

diagnosis and treatment among health workers, and there is improved availability of antibiotics at health facilities.³

With high under-5 mortality, high pneumonia incidence, high case-fatality, and low utilization of the limited services available, Nepal has a perfect environment for pneumonia to remain the leading cause of death in children. It is possible to try to improve the capacity of health infrastructure to manage cases, as was done with improved training programs.¹³

In support of the ARI-strengthening program, UNICEF assisted the MOH in qualitative survey in all 4 districts.

The results from this work are pertinent to the evolution of the program:²

- Mothers did not recognize fast breathing or chest in-drawing as critical signs
- Most mothers used herbal or other home remedies first, then consulted a local traditional healer, and only then sought care at the health facilities—often pharmacies.
- Help was not sought at health facilities because they were too far, because they often did not have medicine, or because they had irregular hours.

In the past decade, major progress has been made to reduce and contain childhood mortality and morbidity through universal childhood immunization, control of diarrhoeal diseases and acute respiratory infections, nutrition programmes (including breast-feeding promotion) and through implementation of other primary health care activities. In spite of this progress, major challenges remain, as mortality rates are still unacceptably high, especially in the sub-Saharan Africa and South Asia including Nepal.

To address such killer diseases the country initiated the IMCI strategy with holistic approach. IMCI was introduced in Nepal in June 1995 with support of WHO, SEARO. The CDD/ARI section of the Child Health Division introduced the Integrated Management of Childhood Illness (IMCI) program in Mahottari district to address five major killer diseases of under-5 children with holistic approach. The

Working Group of IMCI then recommended and decided to include the community component, enabling mobilization of community level health workers (VHWs and MCHWs) and FCHVs to provide CDD, ARI, nutrition and immunization services to the communities. As a result, the Community-based ARI/CDD program merged into IMCI in 1999 and now it is renamed to Community-based IMCI.^{2, 9}

To improve the skill of health workers, training were conducted in IMCI implementing phase (January 1998 to July 1999). The Working Group then further expanded IMCI in 3 other districts with the name of Community-based IMCI with the realisation that without entering the community, it is difficult to achieve the objectives. Thereafter, the 5 days IMCI-condensed course for basic health workers was developed by WHO, SEARO/CARE-India and translated into Nepali. The Working Group decided that for FCHVs, the same existing CB ARI/CDD training materials should be used for time being.⁹

A total of 203106 pneumonia cases was treated in 14 ARI strengthening districts while only 230771 pneumonia cases were treated in other non-CB-IMCI-implemented 61 districts among 433877 pneumonia cases treated in the country. Over 55% pneumonia cases were treated only in 14 ARI strengthening districts.²

More than 35 countries have expressed an interest in IMCI. In the countries that have taken an early lead in implementing IMCI, locally adapted guidelines on management of childhood illness have already been developed in ten countries – Bolivia, Dominican Republic, Ecuador, Indonesia, Nepal, Peru, Philippines, Tanzania, Uganda, Zambia, and in six of these, the first round of training at district level has been carried out. This early experience has demonstrated the feasibility of the approach, provided encouraging evidence of improved care and identified important issues that will need to be addressed in expanding beyond a few districts.⁸

Early experience with IMCI implementation has underlined the importance of involving all stakeholders in the process of consensus building. It has also highlighted the importance of national capacity building and the identification of local, national and external resources and institutions to support the introduction, and expansion of the coverage, of IMCI activities.¹⁴

As IMCI activities expand in countries, it is anticipated that single disease programmes focused on childhood diarrhoea (CDD) and ARI will be phased out. It is important, however, that support to these programs continue in countries and districts where IMCI is not yet implemented so as not to lose the considerable gains already made.¹²

In Brazil, after receiving IMCI nutrition counselling, mothers were able to recall feeding recommendations, modified their feeding practices and as a result their children had significantly better nutritional status than control groups.¹⁰

In Tanzania, in districts where IMCI is in place, health worker performance has improved and care-seekers are more satisfied with the care their children receive. In rural Kenya, IMCI led to savings of at least 50% in the cost of drugs per child treated.¹⁰

The World Development Report 1993 identified IMCI as one of the most cost-effective services – it could avert 14% of the global burden of disease for only US\$1.60 per capita per year.¹⁴

In those countries where IMCI implementation has not yet started, efforts should be made toward greater integration in the planning and implementation (including training) of CDD and ARI programs. Such integration will enable countries to be in a better position to implement IMCI. As part of this early preparatory phase, policy makers and program managers should strengthen the foundation for IMCI introduction by addressing key issues such as improving the availability of essential drugs, organization of services and on-going support for preventive and promotive child health action including communication activities for CDD, ARI and other programmes.¹⁰

Chapter Three

3. Methodology

3.1 Site Selection

This study was conducted in Nawalparasi district of Western Region of Nepal. This is one of the Community-based Integrated Management of Childhood Illness programme implemented district in Nepal. Nawalparasi district is divided into two distinct geographical divisions, where 37 VDCs are in hilly remote areas and 35 VDCs and 1 municipality are in Terai. For the purpose of the study, four Village Development Committees were chosen randomly for the study in Nawalparasi District with different levels of health-care infrastructure. Among them, two VDCs from Hill area and two VDCs from Terai were chosen on the basis of ARI incidence during FY 057/058.

3.2 Study Design

It was a cross-sectional and descriptive type of study.

3.3 Variables of the Study

Independent Variables

- Appropriate location of the health-care Providers
- Examination procedure during ARI case management
- Perceived behaviour of ARI service providers
- Availability of drugs
- Perceived cost of ARI case management
- Advice given to health care-seekers
- Follow-up by care-seeker
- Results by ARI Case management

Dependant Variable

Preference for ARI service providers

3.4 Study Population

The following were the study population for this study,

- Care-seekers who received the management of their under-5 children for ARI case management after IMCI intervention.

3.5 Exclusion Criteria

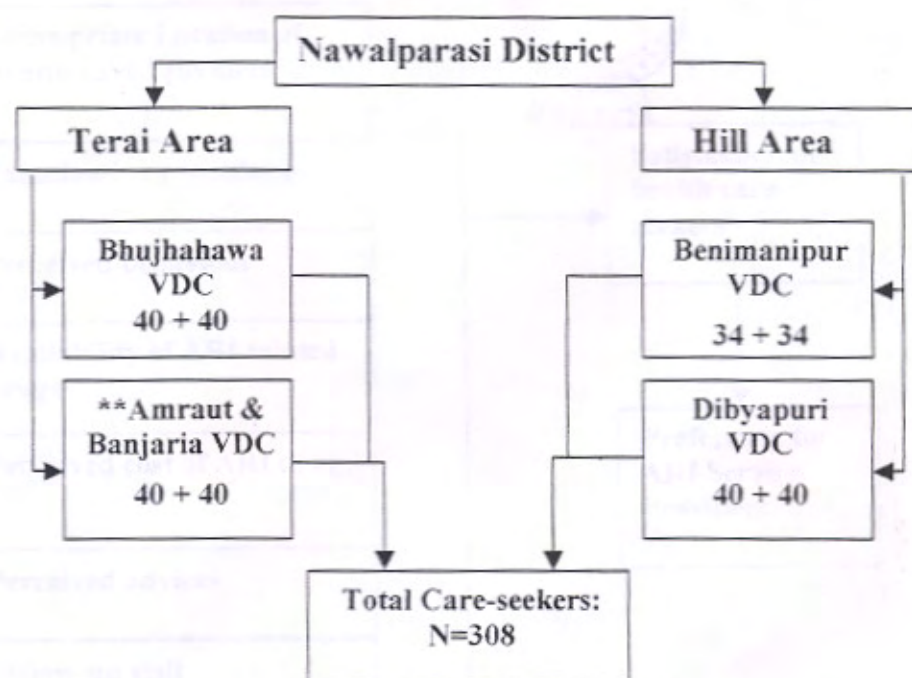
The following criteria were used to exclude respondents from the study sample:

- Respondents who were not willing to respond for study.
- Referral cases by FCHVs to health institutions.

3.6 Sampling Technique and Procedure

Records of total ARI cases of under-5 children in health institutions' and FCHVs' register of selected VDCs were listed. A total of 160 respondents from Terai and 148 respondents from Hill (there were not enough cases found in one of the selected VDCs of the hill) were selected for interview. These respondents represent almost all the cases of ARI in the VDCs selected. Out of 308 respondents 154 from health institutions users and 154 respondents from FCHV users were taken for the study. The sample size is within error margin.

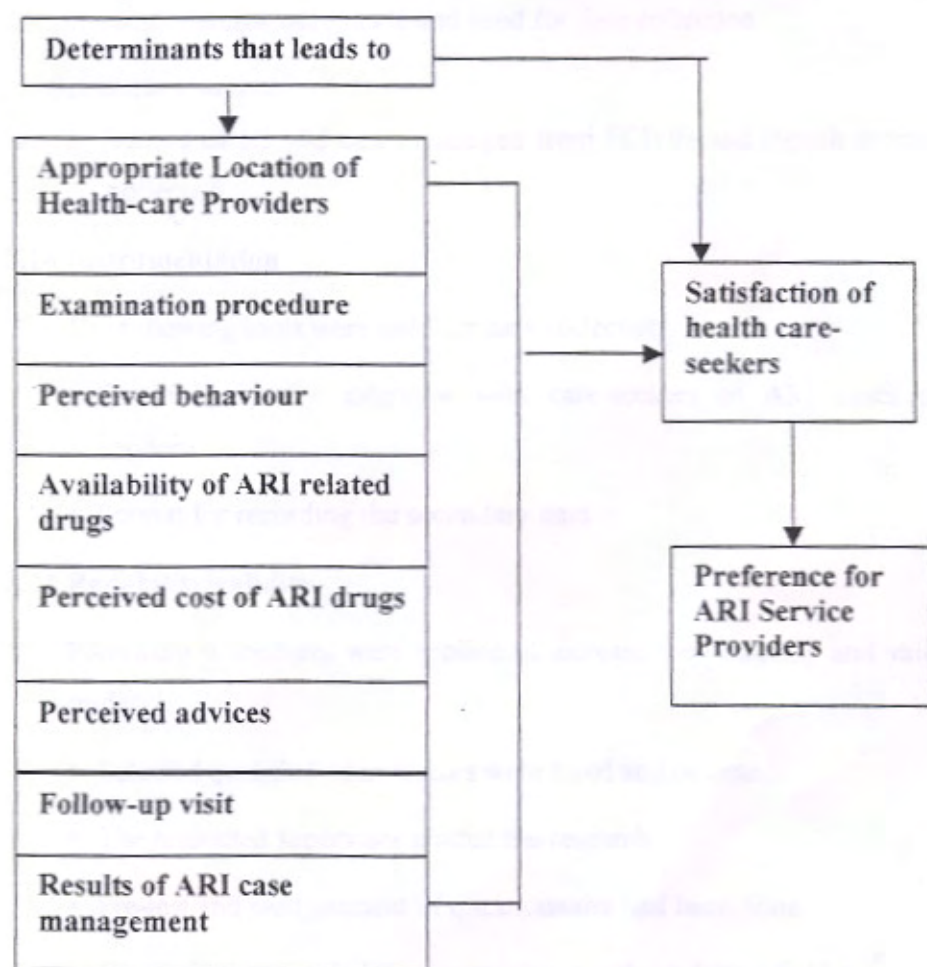
The figure below represents the sampling scheme and number of respondents using health institutions and FCHVs of the survey:



** Due to the insufficient number of respondents in Amraut VDC, additional respondents were selected from the adjoining VDC of Banjaria, which has similar social background, infrastructure and health facilities.

3.7 Conceptual Framework of the Study

Every care-seeker wants to get their children better soon. Each child has the right to have quality health care. To achieve desired results, reliable diagnosis, effective treatment and well-trained health service providers in the place are not enough. There are various other factors influencing to satisfy the care-seekers. Each care seeker wants to get good response (behaviour), good advice, good examination, and diagnosis and treatment from any health-service providers. Follow-up after each case management by service providers and care-seekers also builds good relationship between them and make good environment for assessing the child's condition. Since the satisfaction is a composite variable, the above- mentioned and other relevant variables were considered to assess the satisfaction of care-seekers.



3.8 Sample size

The sample size is taken using the following formula:

$$\frac{4PQ}{L^2} = \frac{4 \times 25 \times 75}{5^2}$$
$$= 300 (\pm 8)$$

The total sample size was 308.

The allowable error is 20% (it is because of time limitation) at 5% risk.

(The assumed prevalence of ARI in under-5 children is 25% in Nawalparasi district)

3.9 Data Collection Method

Primary source:

- Data were collected by interviewing the care-seekers. Necessary questionnaires were made and used for data collection.

Secondary source

- Record of all ARI cases managed from FCHVs and Health institutions were collected.

3.10 Instrumentation

The following tools were used for data collection.

- Questionnaire for interview with care-seekers of ARI cases of under-5 children.
- Format for recording the secondary data

3.11 Reliability/validity

Following procedures were applied to increase the reliability and validity of the study:

- Selected qualified enumerators were hired and oriented.
- The respected supervisor guided the research.
- Pre-test and readjustment of questionnaire had been done.
- Cross-checking and close supervision was done during field activities.

3.12 Unit of analysis

Care-seekers of ARI cases of under-5 children in selected VDCs

3.13 Ethical consideration

- All types of respondents of this study were clearly explained about the purpose of interview and ensuring them confidentiality before the interview was started.
- Consent of all respondents was taken at the time of interview.
- Permission of DHO and DDC had been taken.

3.14 Analysis/Interpretation

- The collected data were edited at the end of each day.
- If some incomplete or wrongly filled questionnaire was found, it was completed and corrected in same day.
- Coding was done, when all necessary data had been collected.
- All quantitative data were entered in computer.
- Data analysis and interpretation was done in Kathmandu in (EPI INFO - 6) with close supervision and guidance of the respected supervisor.

3.15 Expected Outcomes

- This study may able to create positive impression among FCHVs and Health workers to perform their tasks effectively and efficiently.
- The study is intended to describe the health seeking behaviour of parents of under five children suffering from ARI and their determinants for preference of ARI service providers. It is hoped that the information gained from this study may be useful to the managers/planners involving in ARI control program to understand the problem from care seeker's perspective and develop appropriate strategies for the improvement of the program.

3.16 Operational Definition

- **Examination procedure:** all process or acts of health service provider, or the way in which the health service provider acts for diagnosis and treatment.
- **Perceived Behaviour:** all action or acts of ARI service providers arise out of a resultant mental decision and combination of all acts, or the way in which the ARI service providers provide the ARI case management.
- **Health service provider:** person who are involved in ARI case management (health workers in health institutions and FCHVs in the community)
- **Care seeker:** person who takes care of their child when they become ill.
- **Satisfaction:** verbal response of respondents about the health service providers in ARI case management. That stage of feeling when a care seeker choice and decides when and where s/he will take care of their child from on the basis of previous experiences and information. It includes belief toward ARI service providers.
- **Perceived Cost:** the expenses in term of time, money and manpower for ARI case management felt by care-seekers
- **FCHV:** the unpaid community health workers who are providing many health services in the community including CDD/ARI case management where this program is implemented.
- **Follow-up:** the visits done for improvement in health of sick children by health service providers and care-seekers.
- **CB-IMCI:** in this study it is concentrated only in ARI cases.
- **Health institutions:** The existing health institutions in governmental infra structure. In this study only PHC,HP and SHP are included.
- **Availability of drugs:** The drugs used in ARI case management of under 5 children according to the WHO protocol.
- **ARI:** In this study those ARI cases are included which are standardize by WHO and DoHS/MOH/ Nepal and managed through existing health facilities and FCHVs.

- **Perceived advices:** Advices given during ARI case management with other possible underlying diseases and conditions.
- **4- general danger signs:** The 4- general danger signs mentioned in format used for ARI case management (Can not drink/breast feeding, lethargic or unconscious, convulsion, vomit all the eaten materials)

Chapter Four

4. GENERAL FINDINGS

The pertinent findings of the study are as below:

4.1 Sex of Children seeking Health-care in the Study

Sex of Children	FCHV Users	Health Institutions Users	Terai	Hill
Male	58.4%	53.9%	54.1%	58.1%
Female	41.6%	46.1%	45.9%	41.9%
Total	100%	100%	100%	100%

Table 1

The number of male children brought for care seems to be disproportionately high in the study irrespective of ARI service providers or the geographical area. It might be due to the preference of the society for a male child and the attention paid to them or it might be that female children are less susceptible to ARI than male children.

4.2 Preference of Care-seekers to visit First during ARI

Preference of Care-seekers	Health Institutions Users	FCHV Users	Terai	Hill
Health Institutions	66.9%	26.6%	45.6%	48.0%
FCHV	16.2%	58.4%	33.8%	41.2%
Drug Retailers	12.3%	12.3%	13.8%	10.8%
Dhami/Jhakri	4.6%	2.7%	6.8%	0.0%
Total	100%	100%	100%	100%

Table 2

The preference of care-seekers for health institutions is high in both Terai and hill, followed by FCHV and drug retailers. The preference for dhami/jhakri is high (6.8%) in the Terai area compared to nil in the hill area.

4.3 Relationship of Care-seeker to the Child

Care-seekers' relation to Child	FCHV Care-seekers	Health institutions Care-seekers	Terai	Hill
Mother	72.1%	80.5%	75.0%	77.7%
Father	10.4%	9.7%	8.7%	11.5%
Grandmother/father	10.4%	7.2%	9.4%	8.1%
Uncle/Aunt	7.1%	2.6%	6.9%	2.7%
Total	100%	100%	100%	100%

Table 3

It is found from the study that the majority of care-seekers were brought to the attention of the health-care workers by the mothers of the sick child, irrespective of the choice of the care-giving institution or the geographical region.

4.4 Knowledge about Available Services

Particulars	Health institutions Users	FCHV Users	Terai	Hill
Yes	67.5%	82.5%	80.6%	68.9%
No	32.5%	17.5%	19.4%	31.1%
Total	100%	100%	100%	100%

Table 4

The knowledge about the available services in the health institutions and the services provided by the FCHVs was not as high as would be expected for the care-seekers to seek proper treatment in time.

4.5 Care-seekers Enumeration of the Available Services

Number of Services	Health Institutions Users	FCHV Users	Terai	Hill
0 Services	32.5	17.5	19.4	31.1
1 Service	9.7	24.7	29.4	4.1
2 Services	7.8	18.2	15.5	10.1
3 Services	17.5	20.2	20.0	17.6
4 Services	16.3	11.7	11.3	16.9
5 Services	6.5	4.5	3.1	8.1
6 Services	9.7	3.2	1.3	12.2
7 Services	0	NA	0	0
8 Services	0	NA	0	0
Total	100	100	100	100

NA: Not Applicable

Table 5

The knowledge about the number of services available in the health institutions and the services provided by the FCHVs was quite low. None of the respondents could enumerate the eight services available in the health institutions. Perhaps due to the limited services provided by the FCHVs, more respondents could enumerate the services provided by them. In hills the awareness about the services available appears to be low.

4.6 Care-Seekers' Awareness

This section pertains to the visit of the care-seeker for ARI treatment and the level of service provided by the health-care provider and/or the recollection of the visits by the respondents (The visit refers to at least 1 year ago).

Care-provider informing about 4-Danger Signs

Particulars	Health Institutions Users	FCHV Users	Terai	Hill
Yes	40.3%	40.9%	32.5%	49.3%
No	59.7%	59.1%	67.5%	50.7%
Total	100%	100%	100%	100%

Table 6

The awareness of 4-danger signs among the respondents was equal between both health institutions users; however, it was comparatively less in the Terai, which might be due to their social backwardness.

Recollection of 4-Danger Signs

No of Signs	Health Institutions Users	FCHV Users	Terai	Hill
0	66.9%	70.8%	74.4%	62.8%
1	13.0%	7.1%	16.8%	2.7%
2	15.6%	15.6%	6.9%	25.0%
3	4.5%	6.5%	1.9%	9.5%
4	0.0%	0.0%	0.0%	0.0%
Total	100	100	100	100

Table 7

The number of respondents being not able to recollect any of the 4-danger signs was very high between both the groups of users in either geographical region. The hill area had comparatively better recollection and understanding of 4-danger signs. However, none of the respondents could recollect all 4-danger signs, which might be attributed to the lapse of about 1 year after the visit or not being explained properly.

Nutrition and Immunization Status

Inquired	Health Institutions Users	FCHV Users	Terai	Hill
Yes	75.3%	83.7%	81.3%	77.7% (115)
No	24.7%	16.3%	18.7%	22.3%
Total	100%	100%	100%	100%

Table no.8

The awareness level of the nutrition and immunisation status in the hill was low compared to Terai. The FCHV users were found to be well informed about the nutrition and immunisation status.

4.7 Satisfaction Level

Care-seeker Satisfaction of ARI Case Management under IMCI by Institutions

Factors of Satisfaction	Care-seekers of FCHVs		Care-seekers of Health Institutions	
	Satisfied	Not satisfied	Satisfied	Not Satisfied
Appropriate Location	96.1%	3.9%	98.1%	1.9%
Examination Procedure	95.5%	4.5%	94.8%	5.2%
Perceived Behaviours	96.8%	3.2%	94.2%	5.8%
Drug Availability	93.5%	6.5%	92.9%	7.1%
Perceived costs	95.5%	4.5%	92.2%	7.8%
Perceived Advices	93.5%	6.5%	96.1%	3.9%
Follow-up Visit	85.7%	14.3%	80.5%	19.5%
Results	94.8%	5.2%	87%	13%
Total	93.9%	6.1%	92%	8%

Table 9

Of all the factors under consideration, FCHVs were found to be providing quality services comparable to the health institutions; however, location and perceived advice under Health institutions were marginally better. FCHV users had better satisfaction level for examination procedure and perceived behaviours. The follow-up visits also yielded better satisfaction for FCHV users, leading to success rate of 94.8% as compared to 87% for the health-institution users.

Considering the fact that the health institutions have to care for the severe and complicated cases and all other health-related cases, the results obtained under health institutions are very encouraging. The results might be due to the appropriate location of the health institutions and better-trained manpower for handling the cases.

Care-seeker Satisfaction ARI Case Management under IMCI by Area

Factors of Satisfaction	Terai		Hill	
	Satisfied	Not Satisfied	Satisfied	Not Satisfied
Appropriate Location	99.4%	0.6%	94.6%	5.4%
Examination Procedure	95.6%	4.4%	94.6%	5.4%
Perceived Behaviours	95.6%	4.4%	95.3%	4.7%
Drug Availability	95.6%	4.4%	90.5%	9.5%
Perceived Costs	96.9%	3.1%	90.5%	9.5%
Perceived Advices	96.3%	3.7%	93.2%	6.8%
Follow-up Visit	78.8%	21.3%	87.8%	12.2%
Results	92.5%	7.5%	89.2%	10.8%
Total	93.8%	6.2%	91.97%	8.1%

Table 10

The location of care-providers and perceived cost in the Terai area had better satisfaction rate which might be due to the ease of accessibility and low cost of transportation in the area. The follow-up advice in the hill area had higher satisfaction rate, which might be due to the close-knit community pattern and awareness prevalent in the area. For other factors, the satisfaction rate was comparable.

4.8 ARI Case Visits in Different Level of Health Facility

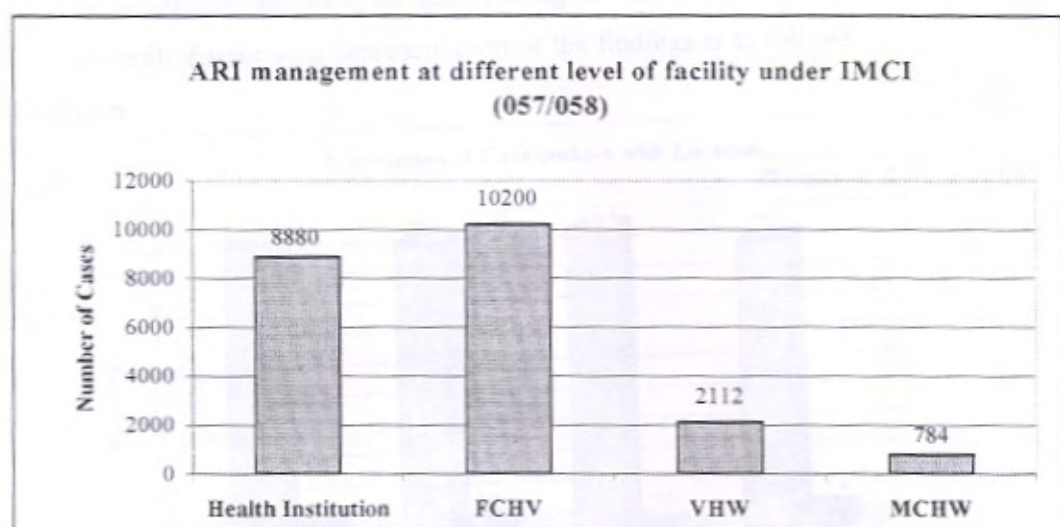


Chart 1

It is found that ARI management at community level is very high as compared to the health institutions. Even at the community level, the number of cases seen by FCHVs was very high.

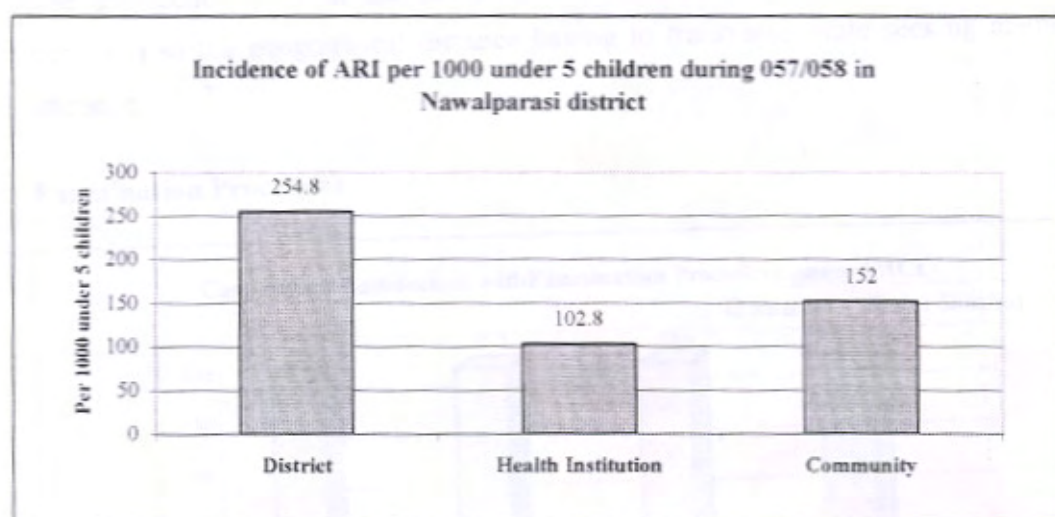


Chart 2

The ARI incidence per 1000 children under-5 children is 166 in national level and 170 in Nawalparasi district during 056/057. After the implementation of IMCI in the district, the total incidence has shot up to 254.4, which is an increase of 84.8 points. It is statistically significant ($p=0.000034$). Majority of the cases have been handled at the community level. Implementation of IMCI has resulted in the early reporting of ARI and screening of other disease conditions of under-5 children, which has reduced mortality and morbidity.

4.9 Factors Leading to Satisfaction

The satisfaction among respondents using the services under IMCI was generally very high. Factor-wise representation of the findings is as follows:

Location

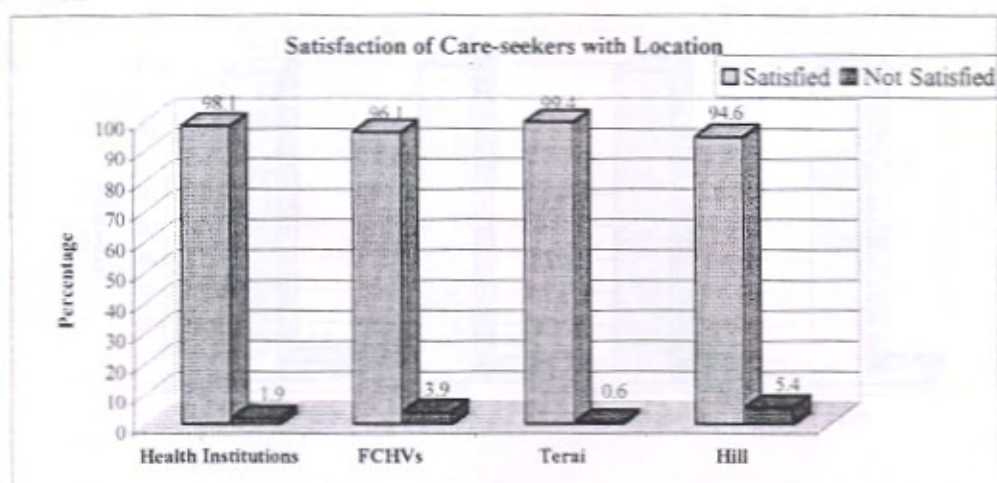


Chart 3

Respondents were found to be satisfied with the location of the ARI service providers. The satisfaction level in the hill area was comparatively lower which might be attributed to the geographical distance having to transverse while seeking medical attention.

Examination Procedure

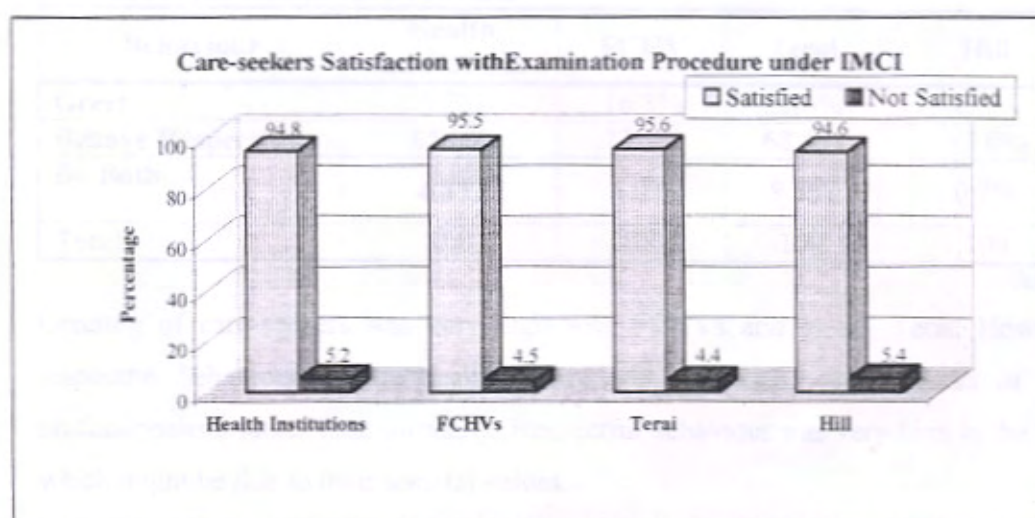


Chart 4

The satisfaction level with examination procedure under IMCI during ARI visit was very high irrespective of health-care provider or geographical area.

Perceived Behaviour

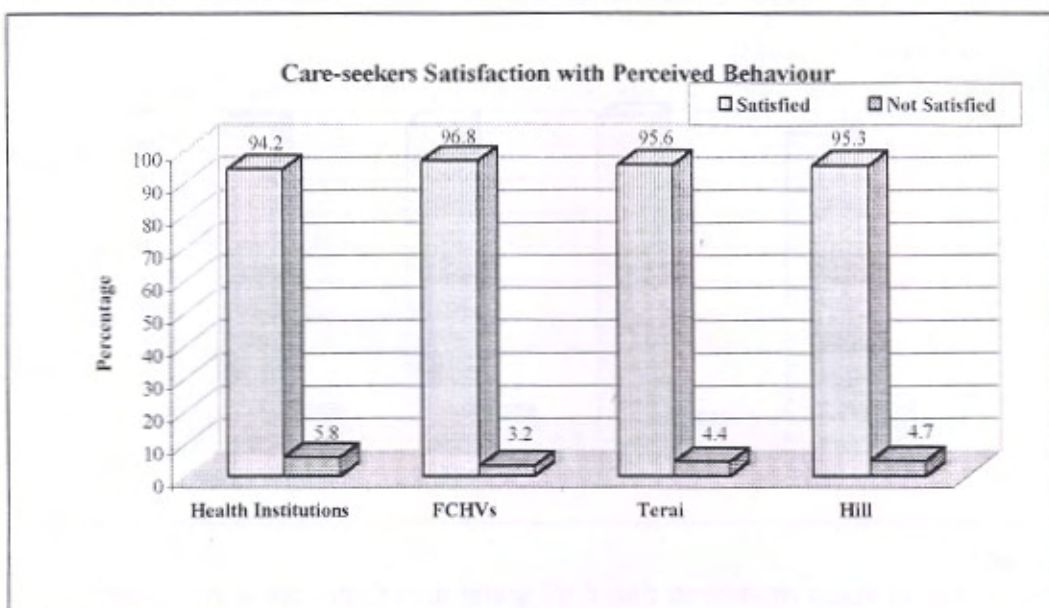


Chart 5

The perceived behaviour of the ARI service providers was very high. The comparatively lower satisfaction rating of the health institutions might be attributed to the workload that they have to bear during the course of their duty. There was minimal difference in the terai and hill area.

Conduct of the Health-care Provider

Behaviour	Health Institutions	FCHV	Terai	Hill
Greet	9.7%	16.8%	21.6%	4.3%
Behave Respectfully	85.5%	77.2%	68.6%	95.0%
Do Both	4.8%	6.0%	9.8%	0.7%
Total	100	100	100	100

Table 11

Greeting of care-seekers was very high with FCHVs and in the Terai. However, respectful behaviour of the health institutions was high which speaks of their professionalism rather than formality. Respectful behaviour was very high in the hills, which might be due to their societal values.

Drug Availability

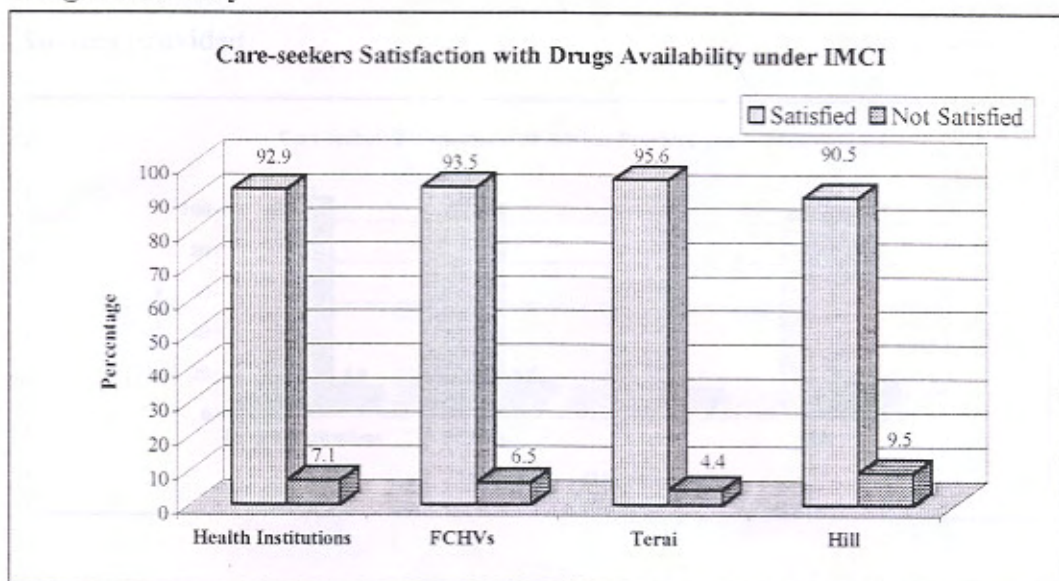


Chart 6

The comparatively lower satisfaction rating for health institutions might be due to the severe and high number of cases and higher expectation from the care-seekers. The lower satisfaction for hill area might be due to the remote geographical area, which renders it inaccessible to early and easy replenishment of drugs.

Cost of Available Drugs

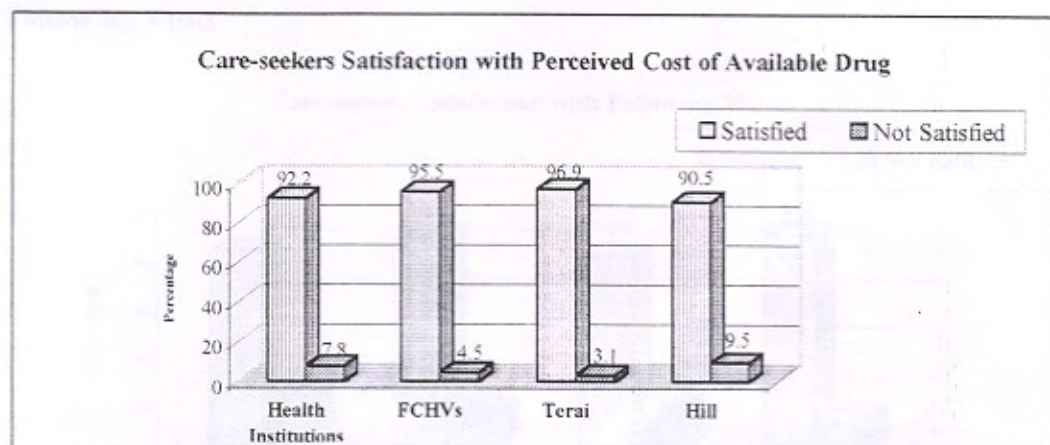


Chart 7

The care-seekers satisfaction with perceived cost of drugs was high among the respondents. The slightly lower rating for health institutions might be due to the registration fee charged by them. The geographical distance between the care-seeker and the care-provider might explain the lower rating for the hills.

Advices Provided

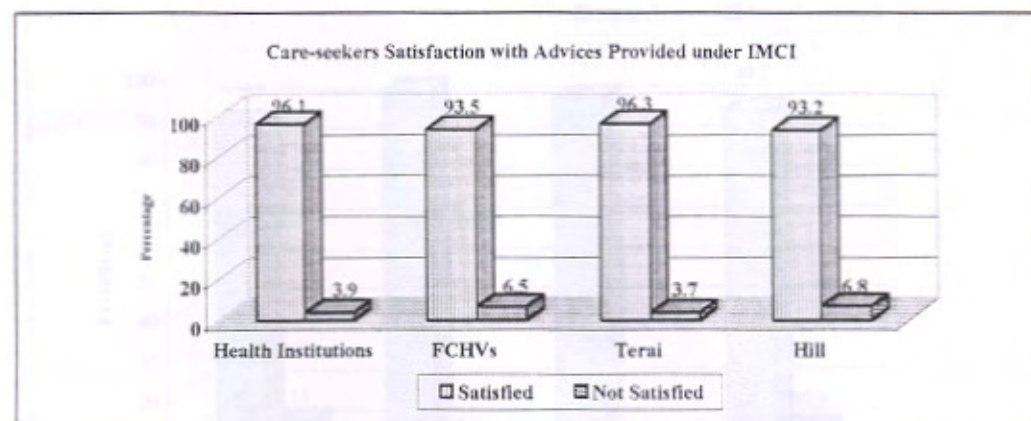


Chart no.8

The advice about nutrition, home-care, feeding habit, immunisation, proper way to take medicines, and importance of follow-up visits with 4-danger signs, given under IMCI has yielded very high satisfaction results. The follow-up visit after 2 days under IMCI has been very successful. The lower rating for health institutions might be attributed the severe and many number of cases handled by them. The lower rating for he Terai might be attributed to the care-seekers not following instructions.

Follow-up Visits

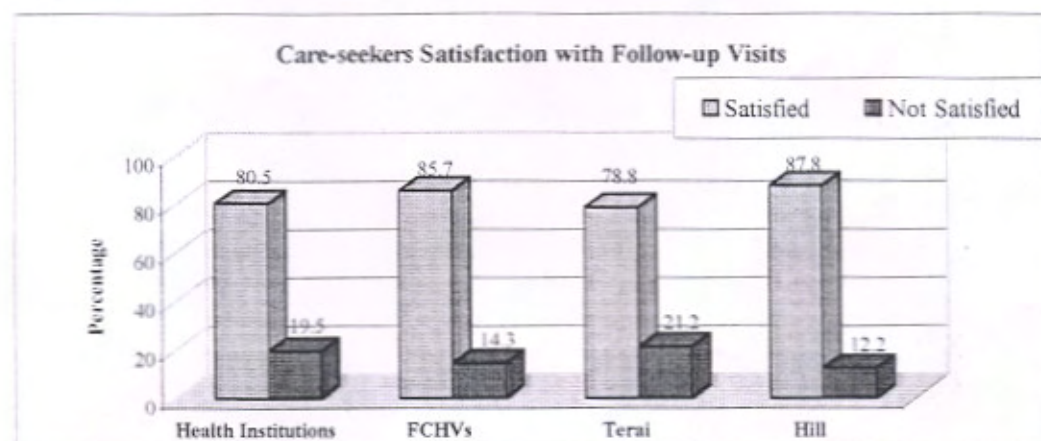


Chart no.9

The care-seeker's satisfaction with the follow-up visits is very high. The lower rating for the health institution users may be due to the number of caseloads handled by them and the expectation of the care-seekers. The low level of awareness and backwardness of the society may explain the lower rating for the Terai area in general.

Results (Getting Better)

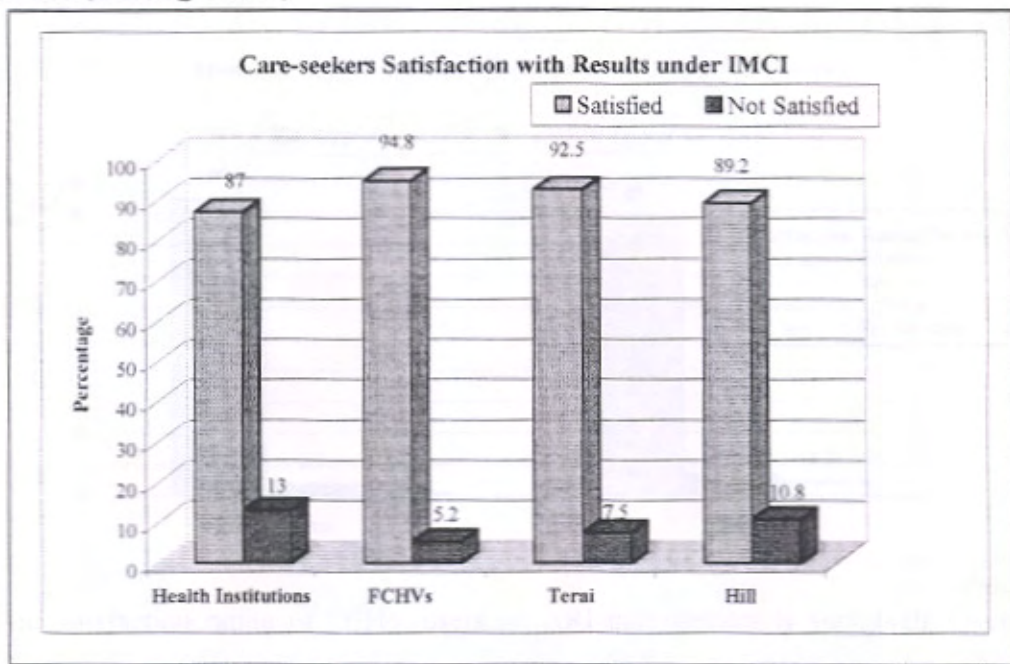


Chart 10

The care-seekers' satisfaction is very high for ARI cases under IMCI. The higher rating for FCHV may be due to the fact they see cases in the early stages and only less severe cases. The lower rating for the health institutions can be attributed to the care-seekers expecting quick for complicated and severe cases.

FCHV Users

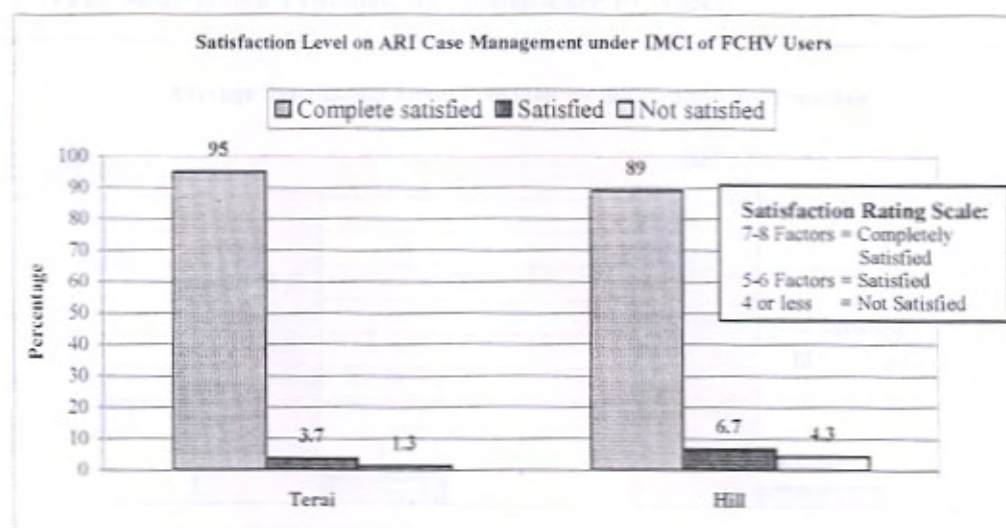


Chart 11

The satisfaction rating of FCHV users on ARI management is very high. Overall, satisfaction rating in Terai is higher than in the hill area. The level of not satisfied is comparatively high in the hill than in the Terai area.

Health Institution Users

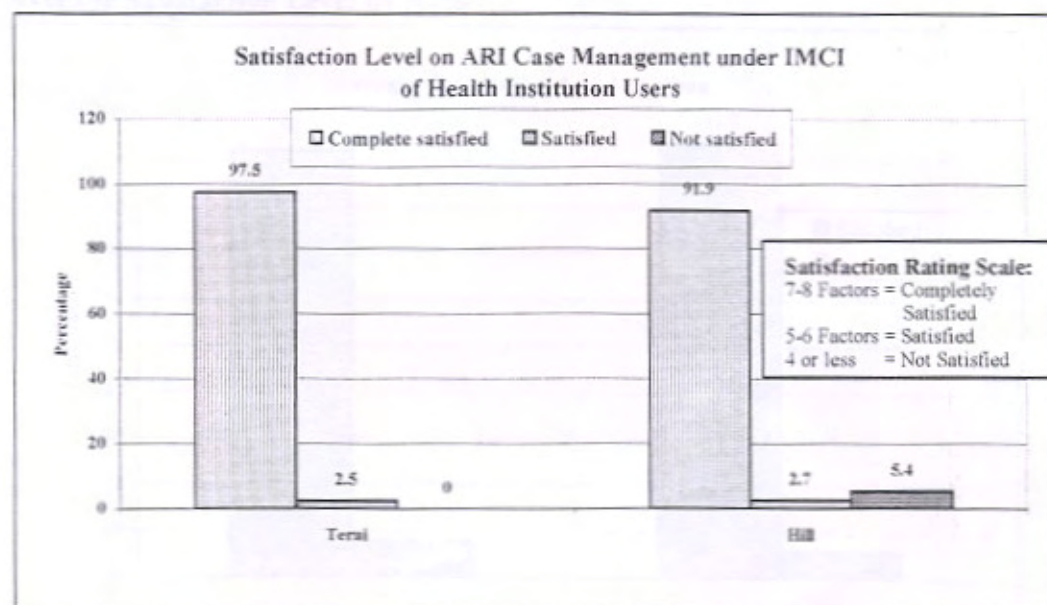


Chart 12

The satisfaction level of health institutions users is very high. The comparative level of satisfaction is higher in the Terai than in hill area. The level of not satisfied in the hill area (5.4) is quite high compared to nil in the Terai area.

Average Satisfaction Provided by Health-care Provider

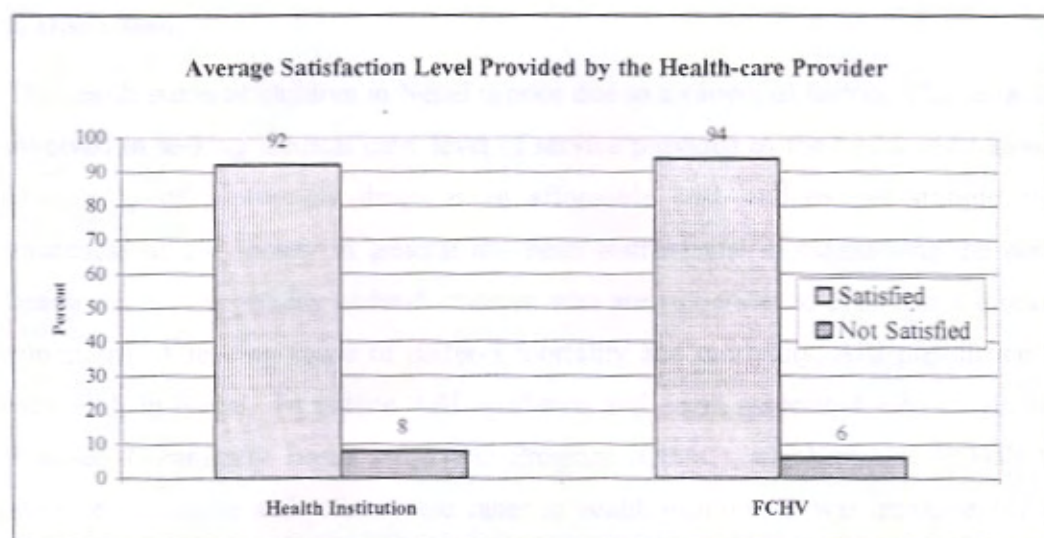


Chart 13

The care-seekers' satisfaction with the services provided under IMCI for ARI case management is very high. Both health institutions and FCHVs have very high average satisfaction rating from the care-seekers.

Average Satisfaction Level by Area

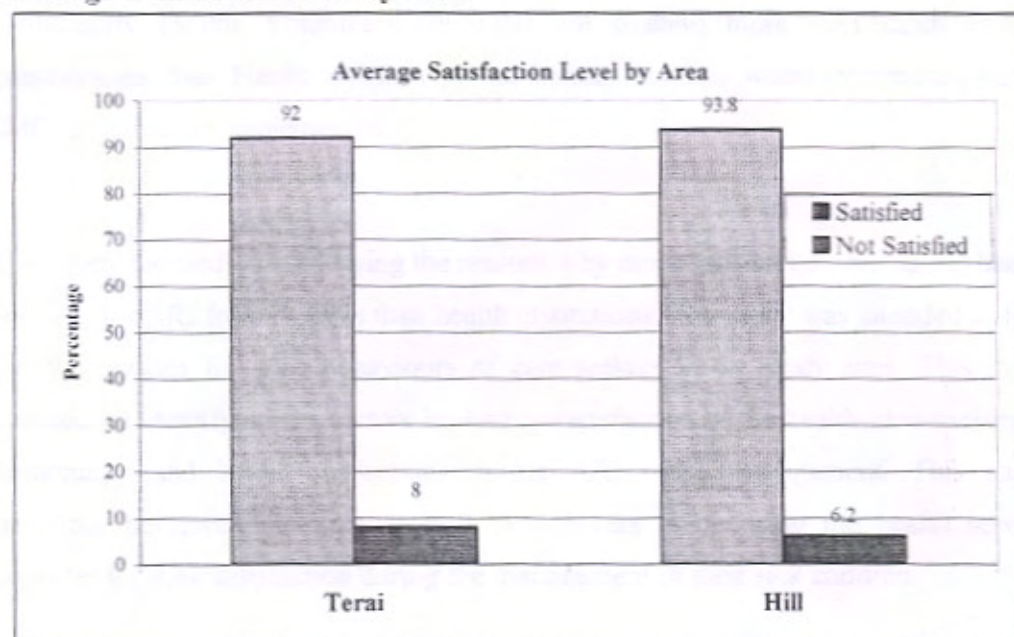


Chart 14

The care-seekers' satisfaction with the services provided under IMCI for ARI case management is high in both Terai and hill area. The satisfaction level in the Terai is slightly higher than in the hill area.

Chapter Five

5. Discussion

The health status of children in Nepal is poor due to a variety of factors. The distance involved in seeking medical care, level of service provided by the health institutions, availability of appropriate drugs at an affordable cost, and overall attitude and awareness of the society in general has been instrumental in maintaining the poor health status of especially under-5 children who are vulnerable to even minor disease conditions. A leading cause of under-5 mortality and morbidity, ARI prevalence is very high in Nepal. To reduce ARI incidence and death associated with childhood diseases, Community Based ARI/CDD Program (CBAC), which trained FCHVs to use Cotrimoxazole and refer severe cases to health institutions, was implemented in Nepal in selected districts in 1995. The IMCI programme with the aim of detecting possible underlying diseases and causes, and improving case management skills of health-care workers through use and promotion of uniform guidelines, overall improvement in health system and family and community health practices, has been implemented in some districts to date with highly encouraging results. Female Community Health Volunteers (FCHVs) are treating more ARI cases in the communities than Health workers in the health facilities where community-based IMCI program are implemented.

This study focused on identifying the reasons why more care-seekers are taking health services for ARI from FCHVs than health institutions. This study was intended to find out the reasons for such behaviours of care-seekers in the study sites. This study focused on identifying the factors leading to satisfaction of the health-care-seekers in community and health institutions during ARI cases management. This study describes perceived factors that lead care-seekers to choosing the health service provider for their satisfaction during the management of their sick children.

The study found that the cases of male child being brought for management of ARI cases was in all level of health-care facilities was more irrespective of geography, which was 58.4%, 53.9%, 54.1% and 58.1% in FCHVs, health institutions, Terai and

hill area respectively. This disproportionate representation may be explained by the preference of society for a male child.

The preference of health institutions was high in both Terai and hill area, except for user of FCHVs who preferred to go to the FCHVs. More than 10% of the respondents preferred to go to the drug retailers to seek management of sick child. Though both users of health institutions and FCHVs showed a preference for going to dhama/jhakri in times of medical distress, the study showed that there was no preference among hill respondents to go to them to seek management of sick child. They might be due to the familiarity and ease of reach of FCHVs and quality and effective service provided the preference for FCHVs. The habit of going to drug retailers is still high which might be due to the convenience and quick services provided by them, therefore, the quality of services provided by them needs to be closely monitored. The use of dhama/jhakri by the respondents in Terai may be due to the low level of awareness in the society in general.

It is important to note that the majority (70)% of the sick children were taken to the health care-provider by their mothers. It shows a close relationship between children and their mothers which is typical in Nepalese context. It also shows that the mother, usually the busiest person in the household, also has additional burden when the children get sick. It was also found that the care of sick child was limited to the immediate family members which is a positive indication of family values.

Overall Satisfaction

Based on the eight factors of satisfaction considered in the study, it was found that 92% of the care-seekers were satisfied with the ARI case management provided to the children under IMCI in health institutions, whereas 93.83% of the care-seekers were satisfied with the ARI case management provided to the children under IMCI by FCHVs. By area, 93.8% of the care-seekers were satisfied in Terai with compared to 91.97% of the care-seekers in the hill area.

The high satisfaction rate of FCHV users can be attributed to the following reasons:

- They do not care for the children under-2 months old
- They do not care for severe cases, they are trained to refer them to health institutions

- Appropriate use of drugs by the FCHV providers
- Care-seekers go to them in early stage of disease
- Usually intimate relation between the care-seeker and the care-provider

Location: Location of the ARI service providers for ARI case management was found to be satisfactory for 98.1% of the care-seekers of Health institutions and 96.1% care-seekers are satisfied with the location of FCHVs. The satisfaction level for the Terai was 99.4% and for the hill area it was 94.6%. The high satisfaction level for Terai might be explained by ease of accessibility to the health-care provider due to easy geographical terrain.

Examination Procedure: Examination procedure under IMCI was found to provide satisfaction for the 94.8% of the care-seekers of the Health institutions and 95.5% care-seekers are satisfied with FCHVs. Based on geographical region, 95.6% of the care-seekers are satisfied in the Terai while 94.6% were satisfied in the hill area. The high satisfaction level for examination procedure can be attributed mainly to the protocol set under IMCI programme which makes it mandatory for the health-care provider to thoroughly screen for other disease conditions and underlying causes, which encourages better interaction between the health-care provider and the care-seeker.

Perceived Behaviour: On the perceived behaviours of the ARI service providers under IMCI, a total of 94.2% of the care-seekers are satisfied with behaviours of Health-Institution staffs and 96.8% of the care-seekers are satisfied with the behaviours of FCHVs. A total of 95.6% of the care-seekers in the Terai and 95.3% of the care-seekers of the hill are satisfied with the behaviour of the ARI service providers. The slightly better satisfaction level for the FCHVs might be explained by the fact that they greet more (16.8% as compared to only 9.7% for the health institutions) because they know the care-seeker. Otherwise, the professional conduct (85.5%) of the health institutions staffs is very positive.

Drug Availability: A total of 92.9% the care-seekers are satisfied with the drug availability in Health institutions and 93.5% of the care-seekers are satisfied with the drug availability with FCHVs. In Terai, 95.6% of the care-seekers are satisfied with drug availability where in the hill area 90.5% of the care-seekers are satisfied with

drug availability. High satisfaction level for drug availability might be due to that under IMCI, drug availability and replenishment rate is regular. The higher satisfaction rating for FCHVs might be due to the limited number of cases and the increased assistance provided by the VDCs. The lower rating for the hill area may be due to the distance and difficult terrain, which makes it difficult for timely supply of drugs.

Perceived Cost of Available Drugs: A total of 92.2% of the care-seekers are satisfied with the perceived costs of available drugs in Health institutions compared with 95.5% of the care-seekers with the FCHVs. It is found to be 96.9% and 90.5% in Terai and hill area respectively. High rating for the perceived cost of available drugs may be due to the fact that during the period under study the drugs were available freely. The lower rating for the hill area may be due to the fact that one of the villages in the study, Dibyapuri, had decided through a VDC-level decision to levy a nominal charge for the services; however, the satisfaction level is still very high.

Perceived Advices: Perceived advices given during the ARI case management under IMCI is found to be 96.1% and 93.5% for health institutions and FCHVs respectively. It is found to be 96.3% in Terai and 93.2% in the hill area. The satisfaction level for perceived advices is very high because the care-seekers receive advices on nutrition, immunisation, feeding habit, home care, four general danger signs, and follow-up visits. The higher rating for health institutions maybe due to the trained manpower providing the services.

Follow-up Visit: For the users of health institutions, 80.5% care-seekers are satisfied with the follow-up visit, while 85.7% of the care-seekers are satisfied with the FCHVs. In the Terai, it is 78.8% and it is 87.8% in the hill area. The higher rating for FCHVs might be due to the ease of accessibility and familiarity with them. The higher satisfaction level in the hill area may be due to raised awareness level among the hill people which might lead to regular and timely follow-up visits that results in higher level of satisfaction perceived by the care-seekers.

Results of ARI Case Management: For the perceived results (getting better) of ARI cases being managed under IMCI, 87% of the care-seekers are satisfied with the Health institutions and 94.8% care-seekers with FCHVs. This is found to be 92.5% and 89.2% in Terai and hill area respectively. The satisfaction level for getting better

under IMCI is very high even though the programme follows community level treatment and recommends simple remedies like home care and first-line antibiotic use.

Awareness of Care-seekers: In this study, 40.3% of the health-institution users and 40.9% of the FCHV users were found to have been informed of the four general danger signs. Geographically, it is found to be 32.5% and 49.3% for Terai and hill area respectively. However, more than 60% of the care-seekers cannot recall any of the four general danger signs after one year of visit. More than 75% of all care-seekers are found to be informed about nutrition and immunisation status. the level of awareness generated in the care-seekers under IMCI is very encouraging.

Chapter six

6. Conclusion/Recommendation

Incidence of ARI has increased significantly in the study district after the implementation of IMCI.

More than 90% of care-seekers are satisfied with the current ARI management system under IMCI in all level of health facilities. There is not any remarkable difference in satisfaction level between geographical regions and/or between health facilities.

The program should be strengthened and replicated to other districts of the nation to improve the current ARI management system.

Most of the respondents suggested the replacement of the tablets, which are used presently, with easier forms of drug administration, i.e. syrups. Large number of ARI cases are managed by FCHVs.

The study shows that maximum level of satisfaction with them. FCHVs should be provided refresher training on a regular pre-determined basis to raise their effectiveness by improving their skill level.

Large number of ARI cases are managed by health institutions. The study shows that maximum level of satisfaction with them. Staff of the health institutions should be provided refresher training regularly.

Visits from VHWs and MCHWs in the community for ARI is low. There should be maximum visits from their side. The managers should take steps to ensure high penetration level from the VHWs and MCHWs.

Simple antibiotics have been successful in treatment of ARI. There should be regular drug supply system. Though there is Community Drug Programme, there should be encouragement and monitoring from higher authorities.

The awareness level about the 4-danger signs is very low, therefore, there should be emphasis on effective health education as well.

Further study is needed to gauge the effectiveness of the IMCI programme in IMCI-implemented districts. The scope of the study did not include the incidence of pneumonia and severe pneumonia, therefore, further study is recommended.

The study does not include the prevention of ARI, it only includes incidence of ARI or the control of ARI, so the preventive measure should highly recommended.

Chapter seven

7. References

1. Annual report: DoHS/MOH, 1998/1999: 50-56
2. Annual report: DoHS/MOH, 1999/2000:53-59
3. Robin Houston, MD, MPH: A short History of Nepal's community-Based Pneumonia Program ,JSI/Nepal ,2001: 3-17
4. A Focused Ethnographic Study In Selected Districts on Acute Respiratory Infection (ARI) Among Children in Nepal ,1994 : HMG/MOH
5. IMCI Information: Department of Child and Adolescent Health and Development, WHO-Geneva , 1999
6. Biennial Report of the Regional Director, New Delhi, India 1997-1999 dated 1st July 1997 to 30 June 1999
7. A report on IMCI: int/child-adolescent-health/-imci: WHO,1999
8. A report on IMCI: Department of Child and Adolescent Health and Development, WHO-Geneva : 2000
9. Dr. Thapa SL, DoHS/MOH: IMCI preliminary report, 2000: 1-8
10. Global update on child health: WHO Department of Child and Adolescent Health and Development, 1999
11. PH at a Glance Child Health: Report of the world bank group, 2000
12. IMCI report: Division of Health System And Community Health, WHO, Regional Office for South-East Asia, New Delhi, 2000
13. Dr. Penny Dawson and Jean Anne Ware: ARI case Studies from Chitwan and Morang District, Nepal, JSI/Peace corps/Nepal and MOH:1996, 2-14
14. WHO report: IMCI a joint WHO/UNICEF initiative, 2000
15. National ARI control Program: MOH/HMG, Technical Guidelines on the Control of ARI, 1994, 1-5
16. M.R. Pandey et al.: Impact of a pilot acute respiratory infection (ARI) control programme in a rural community of the hill region of Nepal, 1987, 2-3

Annex
Question form

Tribhuvan University, Institute Of Medicine
Department Of Community Medicine and Family Health
Central Campus, Maharajgunj
Kathmandu

(Question form to be used for Care-seekers who received the ARI case management under IMCI)

A. Personal Information

Date: ---/---/---

VDC: --- Ward no. ---

Interviewers' name: ---

Child's name: ---

Age: --- year /months

Sex: ---

Care-seeker's name: ---

Relationship to child: ---

B. History of Case Management

1. How many children have you given birth to?
----- children
2. How many living children do you have at present time?
----- children
3. How many of your children are under 5 years of age?
----- children
4. Normally when your child suffered with ARI, where do you go first?
 - FCHV
 - Health institutions
 - Dhami/Jhakri
 - Drug Retailers
5. Do you know what types of services are available from Health institutions?
 - Yes
 - No

If yes, enumerate the services

- Immunization
- Family Planning

- MCH
- Nutrition
- CDD/ARI
- TB/Leprosy
- Others (specify)

6. Satisfaction from ARI Case Management

6a. Is the health institutions is located in appropriate place?

- Yes
- No

6b. Are you satisfied with the examination procedure done by the ARI service providers?

- Yes
- No

6c. Are you satisfied with the behaviour of the ARI service providers during your visit?

- Yes
- No

If yes, do they

- Greet
- Behave respectfully
- Both

6d. Are all prescribed drugs for ARI available?

- Yes
- No

6e. Are the drugs for ARI affordable?

- Yes
- No

6f. Are the advices given by health-care provider good for your children?

- Yes
- No

6g. Would you visit when ARI service providers ask to visit for follow-up?

- Yes
- No

6h. Did your children get better with ARI management given by ARI service providers?

- Yes

- No

7. Did the health-care provider tell you about the 4-danger signs during your visit?

- Yes

- No

8. Did the health-care provider ask you about your child's nutrition and immunisation status?

- Yes

- No

9. Do you have or hear any public comments regarding ARI service providers?

- Yes

- No

If Yes, What are they?

10. What recommendations do you suggest to improve the ARI case management providing from Health institutions?

Interview Guidelines for Enumerators

General Guidelines;

- Eighty households (care-seekers) should be covered from assigned wards. Out of eighty households (care-seekers), there should be 40 households (care-seekers) from Health institutions users and 40 households (care-seekers) from FCHV users for ARI case management.
- Interview should be started after informing the participants about the study and taking verbal/written permission of the participants.
- Greet the head of household then identify the interviewee and conduct interview in a systemic manner.
- First ask the necessary questions then immediately fill up the questionnaire.
- Always use pencil to fill up the questionnaire.
- Put the (✓) marks in front of correct answer.
- If answer is other then put the circle marks in front of other and specify.
- Behaviour during History taking
- Examination process (according to the IMCI rules)
 - All examination as mentioned on the examination format. (yes)
 - Only the complained symptoms. (no)
 - None
- Availability of prescription drugs for ARI
 - For Health institutions,
 - Amoxycillin
 - Cotrimoxazole
 - For FCHVs,
 - Cotrimoxazole
- Perceived cost of prescribed drugs.
 - Affordable (can pay/free of cost)
 - Non- Affordable (hardly payable)
- Asking for Follow-up visit
 - When to come immediately
 - When to come for next visit
- Let the participants tell the 4-danger signs themselves. Do not give any hints.

Work Plan

Months →	October	November	December	January	February
Weeks →	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Activities ↓					
Literature review	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
Topic selection	1				
Submission of draft proposal	1				
Finalization of proposal	2				
Presentation of proposal at IOM	2				
Final proposal submission	2				
Preparation of field visit		4			
Departure to study area			1		
Meeting at DHO			1		
Recruitment and orientation of interviewers			2		
Pre-testing of the questionnaire			2		
Revision of questionnaire			2		
Data collection			4 3	1	
Data processing and analysis				2 3 4	
Initial report preparation					1
Report presentation at DHO					1
Final report writing					2
Submission of desertion paper to faculty IOM					2



LIBRARY