

**UTILIZATION OF SAFE MOTHERHOOD PRACTICES
IN RURAL AREA OF WESTERN NEPAL**

**"A Study of Kumal Community in Hastichaur Village,
Gulmi"**



NHRC Library

Accession No. *273*

Call No.

**Submitted to
Nepal Health Research Council
(For Regional Research Grant)
Ramshahpath, Kathmandu, Nepal**



**By
Bishnu Bahadur Khatri
(Principle Investigator)
Regional Research Grantee
Focal Point : Western Region
April, 2005**

C

DEDICATION

Dedicated to my parents
Mr. Durga Bahadur Khatri
&
Mrs. Dhankala Khatri
for

their love and caring since the beginning of my life.

Acknowledgement

First and foremost, I would like to express my thanks to Nepal Health Research Council (NHRC) and family members of NHRC for their help by providing research grant in this research work. Without its support, this study would not have been prepared in this present form.

Similarly, I am also grateful to my parents and elder brother Mr. Hari K.C. (Lecturer, Resunga Multiple Campus, Tamghas), for their continuous strong support during this study. My special thanks go to Mr. Sher Bahadur Kunwar for his kind co-operation. Express my thanks to Mr. Nirbhaya Kumar Sharma (NHRC, Administrative Officer) for his valuable suggestion at various stages of this work.

Last but not least, I acknowledge to all the respondents for providing necessary information. I appreciate the help of K.M. Computer & Communication service for computer setting during the completion of this work.

Thank you.

Mr. Bishnu Khatri
April, 2005

ABSTRACT



Accession No. 101
Call No.

The study on "Utilization of safe motherhood practices in Kumal Community in Hastichaur Village of Gulmi District" was carried out by using the primary data collected in the field survey during January, 2005. By using purposive sampling (non-probability), 85 households including single woman of reproductive age group (15-19 years) who have experienced at least one child from each household of Kumal community, required information were collected through semi-structured questionnaire. The data were entered in Excel program and required tables and statistical test were generated through SPSS program. Through univariate, bivariate and multivariate analysis, objective has analyzed and hypothesis has tested. The specific objectives of the research are as follows.

- Examine the knowledge and utilization of safe motherhood services among women of reproductive age group (WRA) 15-49 years in Kumal Community.
- Demonstrate the accessibility of safe motherhood services at study area.
- Investigate the relationship between knowledge of family planning devices and utilization of safe motherhood services in Kumal community.

In the study, most of the women were familiar with safe motherhood and maternal healthcare. The proportion of utilization is not satisfactory in the study area. The study also agreed with past study series i.e. the utilization of prenatal services is quite satisfactory but the proportion has decreased in safe/clean delivery care, whereas for post natal care, the proportion is least. This means prenatal care is quite familiar some what extent among target women but the major cause and period for high risk of maternal morbidity and mortality, clean/safe delivery practice is not being popular.

The study has found a positive relationship between knowledge about safe motherhood and its services and utilization of safe motherhood services. Similarly, a significant relationship between accessibility of services and utilization of services is found from study.

Besides this, the study has also explained the accessibility of services at study area and has found less better commitment of government sector.

CONTENTS



27
Page

Dedication	
Acknowledgement	
Abstract	
Table of Contents	
List of Tables	
List of Figures	
Abbreviation & Acronyms	
CHAPTER ONE: INTRODUCTION	1-5
1.1 Background of the Study	1
1.2 Research Problems	2
1.3 Research Objectives	4
1.4 Research Hypothesis	5
1.5 Rationale of the Research Work	5
1.6 Organization of the Research Work	5
CHAPTER TWO: LITERATURE REVIEW	6-11
2.1 Theoretical Literature	6
2.2 Past Study Review	7
2.3 Conceptual Framework	9
CHAPTER THREE: RESEARCH METHODOLOGY	12-15
3.1 The Study Site	12
3.2 Sample Design and Sample Size	12
3.3 Tools and Techniques Adopted for Data Collection	12
3.4 Questionnaire Design	12
3.4.1 Household Questionnaires	13
3.4.2 Individual Questionnaire	13
3.4.3 Key Information	13
3.4.4 Observation	13
3.5 Processing and Management of Data	13
3.6 Variables Selection, Tabulation and analysis	13
3.6.1 Variables Selections	13
3.6.2 Tabulation	14
3.6.3 Data Analysis	14
3.6.4 Tools for Data Analysis	14
3.7 Operational Definition of Some Terminology	14
3.8 Limitation of the Study	15
CHAPTER FOUR: SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES	16-22
4.1 Socio-Economic Variables	16
4.1.1 Major Occupation	16
4.1.2 Access of Basic Facilities in the Households	17
4.1.3 Types of the House and Toilet	17
4.1.4 Source of Drinking Water	18
4.1.5 Income Status	18
4.1.6 Education Status of the Respondents	19



4.2	Demographic Variables	19
4.2.1	Age and Sex Composition	20
4.2.2	Age Distribution of Women	21
4.2.3	Age at Marriage	21
4.2.4	Mean Number of Children Ever Born (CEB)	21

CHAPTER FIVE: KNOWLEDGE ABOUT SAFE MOTHERHOOD AND ITS SERVICES **23-27**

5.1	Knowledge about Safe Motherhood	23
5.2	Knowledge by Education	24
5.3	Knowledge by Major Occupation	24
5.4	Knowledge by Distance	24
5.5	Knowledge by Age at Marriage	25
5.6	Knowledge by Children Ever Born	25
5.7	Knowledge by Age of Women	26
5.8	Result of Relationship Between Knowledge and Independent Variable	26
5.8.1	Relation Between Knowledge and Education	26
5.8.2	Relation Between Knowledge and Major Occupation	27
5.8.3	Significance Study Between Knowledge and other Variables	27

CHAPTER SIX: ACCESSIBILITY OF SAFE MOTHERHOOD SERVICES **28-31**

6.1	Accessibility of Services	28
6.2	Distance and Time to Reach to the Health Post for Respondents	29
6.3	Relationship Between Accessibility and Other Determinant Variables (Distance and Knowledge)	30
6.3.1	Relationship Between Accessibility and Distance	30
6.3.2	Relationship Between Knowledge and Accessibility	30

CHAPTER SEVEN: RELATIONSHIP BETWEEN PREVALENCE OF FAMILY PLANNING DEVICES AND UTILIZATIONS OF SAFE MOTHERHOOD SERVICES **32-35**

7.1	Knowledge and use of Family Planning Services	32
7.2	Use of Family Planning Devices by Visits for Antenatal/Postnatal	33
7.3	Use of Family Planning Devices by Visits for Prenatal Care	34
7.4	Contraceptive use by Place of Delivery	34
7.5	Contraceptive use by Visit for Postnatal Care	34
7.6	Relationship Between Prevalence of Contraception and Utilization of Safe Motherhood Service	35

CHAPTER EIGHT: UTILIZATION OF SAFE MOTHERHOOD SERVICES **36-42**

8.1	Prenatal Service Utilization	36
8.2	Frequency of Visits and Time for First Visit	36
8.3	Tetanus Toxoid Immunisation	37
8.4	Acceptance of Prenatal Health Facilities	37
8.5	Destination for Prenatal Services	38



273

8.6	Utilization of Delivery Services	38
8.7	Place of Deliver	38
8.8	Assistance During Delivery	39
8.9	Use of Clean Delivery Kit	39
8.10	Help During Delivery and Problem During Labour	40
8.11	Postnatal Care	40
8.12	Frequencies of Postnatal Visits and Visits after Delivery Problems	40
8.13	Feed After Delivery	41
8.14	Relationship Between Knowledge, Accessibility of Services and Utilization of Safe Motherhood Services	41
	8.14.1 Relationship Between Knowledge of Utilization of Safe Motherhood Services	41
	8.14.2 Relationship Between Accessibility and Utilization of Services	42

CHAPTER NINE: SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS **43-46**

9.1	Introduction	43
9.2	Summary of Findings	43
9.3	Conclusions	45
9.4	Recommendation	45
	9.4.1 Recommendations for Policy Implication	45
	9.4.2 Recommendation for Future Research	46

REFERENCES CITED **47-49**
QUESTIONNAIRE

LIST OF TABLES

LIBRARY

Page

Table 1	Distribution of Households Population by Major Occupation	16
Table 2	Distribution of Household by Types of House and Toilet	17
Table 3	Income Status	18
Table 4	Distribution of Sample Household Population According to Sex by Five Year Age	20
Table 5	Distribution of the Household Population by Board Age Group and Sex	20
Table 6	Distribution of Reproductive Age Women According to their Age	21
Table 7	Distribution of Reproductive by Age at Marriage	21
Table 8	Distribution of Reproductive Age Women by Mean Number of Children Even Born (CEB)	22
Table 9	Distribution of Study Population According to the Source for Knowledge about Safe Motherhood and its Services	23
Table 10	Distribution of Study Population According to Knowledge by Educational Status	24
Table 11	Distribution of Study Population According to Knowledge by Major Occupation	24
Table 12	Distribution of Study Population According to Knowledge of Distance	25
Table 13	Distribution of Respondents According to Knowledge by Age at Marriage	25
Table 14	Distribution of Respondent to Knowledge about Safe Motherhood by Children Even Born	26
Table 15	Distribution of Study Population According to Knowledge by Age of Women	26
Table 16	Relationship Between Knowledge and Literacy, Major Occupation	27
Table 17	Degree of Association Between Knowledge and Other Ordinal Variables	27
Table 18	Distribution of Study Population According to Distance and Time to Reach Health Post	30
Table 19	Value of 'r' Correlation Coefficients Between Accessibility and Distance	30
Table 20	Value of Correlation Coefficient 'r' Between Knowledge and Accessibility	31
Table 21	Current use of Family Planning Services by Target Population	32
Table 22	Distribution of Target Population According to Antenatal/Postnatal Visit by use of Family Planning Services	33
Table 23	Distribution of Study Population According to Contraceptives use by Antenatal Care	34
Table 24	Distribution of Respondents According to Contraceptive Use by Place of Delivery	34
Table 25	Distribution of Respondents According to Contraceptive Use by Place of Delivery	35
Table 26	Value of 'r' Correlation Coefficient Between Use of Contraception and Utilization Safe Motherhood Services	35



Table 27	Distribution of Respondents According to Prenatal Visits Frequencies and First Time, Working During Pregnancy	37
Table 28	Use of TT, Iron and Calcium During Pregnancy by Study Population	37
Table 29	Place for Prenatal Services to Survey Population	38
Table 30	Place for Delivery to Study Population	39
Table 31	Assistance During the Delivery to the Study Population	39
Table 32	Use of Delivery Kit and Sterilized Blade by Study Population	39
Table 33	Distribution of Study Population According to Help Beg During Delivery and Problems During Labour	40
Table 34	Postnatal Care Visits and Postnatal Problems for Study Population	40
Table 35	Distribution of Study Population According to Frequencies of Postnatal Visits and Care of Postnatal Problems and Feed After Delivery	41
Table 36	Coefficient of Correlation Between Knowledge and Utilization of Safe Motherhood Services	41
Table 37	Correlation Coefficient Between Accessibility and Utilization of Services	42

LIST OF FIGURES

		Page
Fig. 1	Conceptual Framework for Safe Motherhood and Maternal Health Care, WHO, 1999.	10
Fig. 2	conceptual Framework for Safe Motherhood Practices	11
Fig. 3	Access of Basic Facilities to the Household Population	17
Fig. 4	Distribution of Household by Sources of Drinking Water	18
Fig. 6	Distribution of Study Population by Knowledge	23
Fig. 7	Accessibility of all Services, to the Study Population	28
Fig. 8	Accessibility of Prenatal Care Services to the Study Population	29
Fig. 9	Accessibility of Delivery Assistance Service to the Study Population	29
Fig. 10	Knowledge about Family Planning Services and Methods Among Study Population	32
Fig. 11	Distribution of Study Population According to use of Family Planning Services by Methods	33
Fig. 12	Prenatal Service Received by Women During Pregnancy	35
Fig. 13	Acceptance of Parental Health Facilities by Study Population	38

ACRONYMS AND ABBREVIATIONS

AD	Anno Domini
AHW	Auxiliary Health Worker
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Visits
ANM	Auxiliary Nurse Mid Wife
ANU	Australia National University
CBS	Central Bureau of Statistics
CDPS	Central Department of Population Studies
DHS	Demographic Health Survey
DOHs	Department of Health Services
EC	European Commission
FHD	Family Health Division
Fig.	Figure
FP	Family Planning
FPAN	Family Planning Association Nepal
FY	Fiscal Year
HA	Health Assistant
HH/H	Household Head
HIV	Human Immunodeficiency Virus
HMG	His Majesty's Government
Hrs	Hours
ICPD	International Conference on Population and Development
Km	Kilo meter
MCHW -	Maternal Child Health Worker
MOH	Ministry of Health
MOPE	Ministry of Population and Environment
NFHS	Nepal Family Health Survey
NHDR	Nepal Human Development Report
NIV	New ERA, Institute for Integrated Development Studies and Valley Research Group
No.	Number
NPC	National Planning Commission
RH	Reproductive Health
RTI	Reproductive Tract Infection
SAARC	South Asian Association for Regional Co-operation
SPSS	Statistical Package for Social Science
STDs	Sexually Transmitted Diseases
TT	Tetanus Toxoid
TU	Tribhuvan University
UN	United Nation
UNFPA	United Nations Fund for Populations Activities
UNICEF	United Nation International Child Emergency Fund
WHO	World Health Organization
WRA	Women of Reproductive Age
Yrs	Years

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Reproductive health is a state of complete physical, mental, and social well being and not merely the absence of disease or infirmity, in all matters related to the reproductive system and to its functions and processes. People are to have a satisfying and safe sex life and they have the capability to reproduce and the freedom to decide if when and how often to do so. Men and women have the right to be informed and to have access to safe, effective, affordable and acceptable methods of their choice for the regulation of fertility which are not against the law, as well as the right of access to health care for safe pregnancy and childbirth. Reproductive health care is defined as the constellation of methods, techniques and services that contribute to productive health and well-being by preventing and solving reproductive health problems (ICPD, 1994:45).

Safe Motherhood is a vital component of reproductive health (RH) and prime concern along with fertility. Reproductive programme provides people with information and service; they need to protect their health and health of their families. But in many developing countries like Nepal, such services are severely limited and consequences are tragic. As it has been the concerning issue, that the avocation of Cairo International Conference on Population and Development (ICPD) 1994, says the reproductive health of a women is, therefore, being primary concern to health researchers, demographers and fertility and mortality (maternal, infant) experience are highly correlated with reproductive health and vice-versa.

On the concerning with RH, the safe motherhood takes the central focus and is a demographic term related to the health and its concern at the period of gestation, duration of labour and antenatal stages. According to a definition suggested by Feuerstein (1996), the safe motherhood means increasing the circumstances within which a woman is enabled to choose whether she will become pregnant, and if she does, ensuring she receives care for prevention and treatment of pregnancy complications, has access to trained birth assistance, has access to emergency obstetric care if she needs it and care after birth so that she can avoid death or disability from complications of pregnancy and childbirth" (Feuerstein, 1993 Cited in Pudasaini, 1994).

Similarly, Feuerstein has also suggested eight keys to safe motherhood.

1. Provision of essential obstetric services.
2. Effective referral mechanisms.
3. Proper ante-natal cares and risk detection.
4. Trained delivery and postnatal care.
5. Availability of family planning information and services.
6. Delayed marriage and childbirth.
7. Provision of nutrition food and proper care for baby girls.
8. Increased female literacy.

Parental care is the care after conception and before live birth. This includes regular health check-up, provide nutrition diet, relief from hard physical work, taking iron calcium and vitamin tablets, TT immunization.

Safe delivery refers to the place for delivery and under whose supervision, either at health post, or hospital or under doctors, HA, AHW or mid-wife or TBAS. This also deals about the equipment that is used at the duration of labour. The forceps delivery or operations is also the major thing for safe delivery.

Postnatal care mainly relates after delivery care such as providing nutrition diet for mother, breast-feeding and sanitation related facilities for infant.

Among these three stages, former two are very important and play a vital role in determining the level of maternal mortality i.e. safe motherhood.

In developing countries, rural areas are of particular concern because regional disparities in income and accessibility put rural population at disadvantages in terms of living standards and access to health care. Moreover, limited administrative capacity in rural areas make it harder to manage whatever financing scheme is implemented especially in areas where large portion of population are engaged in subsistence activities, cut off from formal sector (Khoman, 1997).

Early marriage is still taken as a normal thing in many parts of the world. It usually leads to early motherhood. In many developing countries, at least 20 percent of women give to their first birth before age 18. Expectations of parents-in-laws and society are reasons to compel mothers to produce a child soon after marriage. Many young wives feel pressure to bear sons. This results in pregnancies being spaced too closely in addition to occurring soon in the young mother's life (UNFPA, 2000).

In Nepal, about 14.20 percent of the total population live in urban area. Large families are common in rural communities i.e. 85.8 percent (CBS, 2001). In rural area, children are important to agricultural productivity (especially on large land tracts), often joining their parents in the fields, or households gardens, tending domestic animals and assisting with household resources needs fetching water and foraging for fuel wood and edible and medicinal plants. Rural women are married early and have many pregnancies. As a result, high maternal mortality ratio occurs.

1.2 Research Problems

Nepal, country of poor and home of rural countryside habitant, is suffering from reproductive complications as a major cause of maternal and child morbidity and mortality, which are being major public common health problem. The major responsible causes for such problems are lack of education, poor access of health, water and sanitation facilities, and low per capita income.

Every minute of every day, somewhere in the world, a woman dies as a result of complication arising during pregnancy and childbirths. But the situation of all area is not same. Among developed societies maternal mortality and morbidity has been happening increasingly rate by 1940s; whereas in the developing countries, persistence of high level of maternal mortality is symptomatic of a pervasive neglect, affects most actually the poor women due to powerlessness. For more than half of a

million women, death is the last episode due to continued pain and suffering, on the other hand some mass are suffering from damage and disability and are gone beyond the purely physical disorder, which affects women's ability to undertake their social and economic responsibilities and to share in the development of their communities. The high maternal mortality are not the only problems of women but are affecting every one through mainstays of familiar, health care providers, care of young and old alike, farmers, traders, the key educators of children (UNFPA, 1999).

Among the SAARC countries, the situation of Nepal is very poor. In Nepal there is 515 deaths per 100,000 live births whereas in Bangladesh (468), Bhutan (380), India (376), Maldives (200), Pakistan (300) and Sri-Lanka (only 40) death were accounted. This is the overall figure but the situation for countryside (rural area) is very serious and problematic. More than 90 percent deliveries occur outside the supervision of skilled birth attendant (Midwife/doctor/AHW) (MOPE, 1990). In our context, the situation is not better than developing countries; even it is found worse than over all developing countries. According to international agencies (UN, 1998) out of 100,000 women of reproductive ages, 1500 die due to causes related to pregnancy complications. Where as the formal source of country, have measured 539 deaths per 100,000 lives births (CBS, 1996).

Since the Fourth Conference to women held in Beijing in 1995, women health issues are increasingly being included in development agenda. In the South-East Asia region, women's health programmes promoted the integration of gender perspective in both World Health Organization and National Programme. They also promote the health policies; a technical unit for women's health was established in the regional office in 1997 (WHO, 2000). Maternal deaths are grossing under reported, mainly due to non-registration and misclassification. Research shows that, in same situation, more than 70 percent of maternal deaths are not reported. In 1998, the estimated Maternal Mortality Ratios (MMR) in South-East Asia region were 350 for Bangladesh, 380 for Bhutan, 105 for Korea, 407 for India, 373 for Indonesia, 200 for Maldives, 180 for Myanmar, 539 for Nepal, 23 for Sri-Lanka and 44 for Thailand per 100,000 live births (World Health Organization, 2000).

Nepal is a developing country with poor socio-economic conditions and transportation facilities mostly in rural areas. Human resources development in concerned with the development of the human beings health, education, nutrition, sanitation, drinking water facilities and other factors. Poor socio-economic condition could be another major reason for a high maternal mortality ratio in Nepal.

In Nepal, women of childbearing age 15-49 years constitute 23 percent (21 million) of the total population in 1996. It is estimated that approximately 900,000 women become pregnant in 1997. Out of the total pregnancies 40 percent are said to be high-risk pregnancy. Family health survey carried out in 1996 estimated the total fertility rate 4.6 and national maternal mortality ratio 539/100,000 live birth. The causes of maternal mortality were haemorrhage, sepsis, toxæmia and obstructed labour. Most of which are preventable with the provision of adequate antenatal care, safe delivery, timely referral and well-organized and accessible family planning services (MOH, 1998).

One of the poor safe-motherhood services in Nepal is the poor access to health services in rural Nepal.

By 2001, the access to health services as a whole in Nepal includes the followings. There were 83 hospitals, 5250 government hospital beds, 700 health posts, 10 health centres, 3171 sub health posts, 180 primary health centres, 3600 doctors, 5295 health assistants (H.A., AHW), 32614 Nurses (till 2059-2-27), 302 Kavi Raj, 337 Vaidya, 285 Ayurvedic service centres, 3321 health workers (maternal child health workers), 3985 village health workers 62546 other members (Trained Sudeni, female community health volunteers), 10169 PHC out reach clinic (Gaunghar Clinic) registered in Nepal Medical Council and Nursing Council (CBS, 2002).

Although the physical access to health post/health institutions has improved in the district over the years, still there are several groups particularly Dalit who have poor access to health services. This is because all the development indicators suggest that their level of utilization of health services, safe motherhood services should be far lower as compared to other caste/ethnic groups in the district. According to the Human Development Report 1996, the life expectancy of Brahmin, Chhetri, Newar and Dalits are 60.8 years, 56.3 years, 62.2 years and 50.3 years respectively. Similarly, another components of Human Development Index, literacy ratio are Brahmin 58.0 percent, Chhetri 42.00, Newar 54.80 and Dalits 23.80. In such manner, another component per capita income of Brahmin 9,921 Rupees, Chhetri 7,744, Newar 11,953 and Dalits 4,940 (Nepal Human Development Report, 1998). On the basis of Human Development Report, we can generalize that the impact of quality of life in minority people is low and are facing various problems related to safe motherhood practice as compared to other caste/ethnic groups. This is because they have lack of knowledge and awareness about its possible consequences, lack of money for paying hospital charge, and lack of adequate access to health facilities in health institutions.

The above descriptive statistical figures show that the utilization of safe motherhood is in ill condition and the quality of life is very poor. The limited facilities and services in safe motherhood have been provided to the accessible people only on urban area and most of the rural women are outreach from safe motherhood services. Nepal is economically fragile, socially backward and culturally bind agricultural based rural countryside. Furthermore, the minority people (marginalized) are really outreach from the modern resource in the each and every steps. So, study purposes to investigate the utilization of safe motherhood, services and their accessibility in rural area of Nepal.

1.3 Research Objectives

The overall objective of the study is to examine the knowledge and utilization of safe motherhood practices among Kumal community.

Specific objectives:

The specific objectives of the study are to:

- i. Examine the knowledge and utilization of safe motherhood services among women of reproductive age groups (WRA 15-49 years) in Kumal community.
- ii. Demonstrate the accessibility of safe motherhood services at study area.
- iii. Investigate the relationship between knowledge of family planning devices and utilization of safe motherhood services in Kumal community.

1.4 Research Hypothesis

- Higher the level of education and income, higher the knowledge about safe motherhood.
- Higher information and communication in terms of distance and knowledge reflect the higher accessibility of services.
- Higher the knowledge of family planning, higher the utilization of safe motherhood services.
- Higher the knowledge and accessibility of services, higher the utilization of safe motherhood services.

1.5 Rationale of the Research Work

The study is designed to obtain the care during the gestation, delivery and post delivery stage and its relation and impact on other demographic events.

On the one hand, the pregnant women are suffering from iron deficiency, calcium deficiency and vitamin 'A' deficiency and on the other hand, the attitude of maternal health in terms of nutrient food and kindred diet is very poor and miserable. In the rural area, women have to do hard physical work during the gestation period and antenatal stage and are probably poorly feeding and habituating.

The major causes of death are poor sanitation and unhygienic environment. Clean water supply is poorly managed and health condition during pregnancy is very bad. So the study has provided the actual figure for nation by generalizing the village level study in the area of reproductive health, especially on safe motherhood. Furthermore, the study has sought to seek the practice and knowledge of safe motherhood in rural area of Nepal, especially the hill area and will be helpful for other scholar who is willing to get more information on same field and area.

Similarly, the study may be useful for local level government organizations, NGOs, & INGOs as baseline study in the field of reproductive health.

1.6 Organization of the Research Work

This study is organized into nine chapters. The first chapter introduces the research problems and objectives with rationale of research work. The second chapter discusses the literature review for the study concerned with conceptual frame work. The third chapter designs the research methodology and fourth chapter describes the socio-economic and demographic variables of study population. The fifth chapter discusses and analyses the knowledge about maternal healthcare and its services. Accessibility of services are covered in chapter six and use of contraception and its relation to maternal healthcare is explained in chapter seven. The eight chapter describes the utilization of safe motherhood services by women of reproductive age. The last chapter i.e. ninth chapter highlights the summary of the findings, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

The research attempts to the extensive review of relevant past studies regarding maternal health care in Nepal as well as world. The research is not possible without literature review. It is a kind of tool, which provides a proper guideline and idea to formulate conceptual framework.

2.1 Theoretical Literature

The safe motherhood unlike maternal/child health has taken vital role in reproductive health and major concern on the field of population policy formulation.

The attention in (maternal and child health) safe motherhood was appeared during the mid of 1980s. The avocation of the Cairo conference 1994 has also spread out it so, that it is being the one major topic under the current concern of population. It relates pure demography (fertility) with family planning as well as basic human rights of female and their status. The limited extent to which safe motherhood was translated into effective services for the specific benefit to mother rather than their children was highlighted to almost a decade ago (Rosenfield and Mine, 1985). The pregnancy related morbidity, mortality of woman are nowadays described under the safe motherhood as a major study under RH and its first conference at Nairobi 1987 has been focussing on the health of women (Mohler, 1987, cited in Pokherel 1997).

The Cairo conference on population and development emphasis in the field of safe motherhood twist toward the information needs instead of progression from advocacy to action. All countries including developed as well as developing have made attention towards the reproductive health especially on safe motherhood. The practices and knowledge vary along with developing and developed societies. The lifetime risk of pregnancy related death in developing countries is far higher comparing to that for developed countries.

According to Royston and Armstrong, the death related to pregnancy in developing countries is prevented by 88 percent to 98 percent of all deaths with more scientific health care (Royston and Armstrong, 1989). This means the practice and knowledge about safe motherhood is very poor in developing countries because of the inaccessibility of the facilities and lack of proper knowledge about it. The short-term strategies emphasize improving attitude of family planning and maternity care service, while on a longer-term enhancement of status of women is important and play vital role for practicing the safe motherhood (Tinker and Boblinky, 1993). This focus on program options highlighted a major information gap concerning to the effectiveness both of comprehensive maternal health program and their individual components.

The potential importance of prenatal care is to reduce maternal mortality or serious morbidity. Morbidity in developing countries has not been systematically assessed, despite widespread confidence in its effectiveness (Rooney, 1992). The assessment is

poor for developing countries due to knowledge and attitude towards desire family size, role of female in fertility decision-making, and their social status.

It has found that only eight out of 100 women in SAARC countries get maternal care from trained health personal including TBS during the delivery period (Khanal, 1998). But situation of Sri-Lanka is far better than other countries and the situation of Nepal, Bhutan and Bangladesh is very poor. In our context, Nepal has also advocated the major issues of ICPD (1994) and implemented the several aspects related to RH and especially safe motherhood. The major goal of the program is not only to reduce maternal mortality and morbidity and to improve R.H. status through the adoption of both health and non health related measures, but it also advocated to increase the socio-economic status including the education, status of women, power for female as her right in accordance with the National health policy and is highly affiliated with ICPD (Cairo, 1994) by the year 2000 AD (MOH, 1994/95). This means that the national strategy do not directly reduce the maternal mortality but also enhance to reduce it through indirect tools.

The TT immunization and iron/folate supplementation are also provided from village level health centers. The most effective way of reducing the risk of deaths among pregnant women is by increasing accessibility and use of essential obstetric services (WHO, 1991).

An integrated R.H. care package has been adopted for Nepal and included following essential component for package program.

- Family planning
- Safe motherhood
- Child health (new born care)
- Prevention and management of complications of abortion.
- RTI/STD/HIV/AIDS
- Prevention and management of sub-fertility.
- Adolescent reproductive health.
- Problems of elderly women i.e. uterine, cervical and breast cancer treatment at the tertiary level or in the private sector.

The ninth five year plan has targeted 2.06 million for ante-natal visits during pregnancy and 1.12 million women for receive at least 100 tables iron/folate. Similarly 30 percent of expected pregnancies will be attended by trained health personnel and volunteer trained TBAs (NPC, 1997).

2.2 Past Study Review

Among several studies, some have taken attention towards the education whereas other put their focus on ethnicity and caste, other has considered family size and type of residence as independent variable and relates then with dependent variable i.e. safe motherhood practice and knowledge.

The empirical studies have been conducted specially in developing countries because in developed countries the practice of safe motherhood is greater than 95 percent and death related to pregnancies are below than 5 per 100,000 live births. Since the 1940s

the maternal deaths have become increasingly rare in developed countries (WHO, 1998).

Costarica, Sri-Lank and Kerala (state of southern part of India) have low maternal mortality relative to their average income due to ethnicity, religion and culture (Caldwell, 1986). This means the effect of level of education is positive towards the practices of the safe motherhood. From the experience of Srilanka, Kerala and Costarica, (Caldwell, 1991). Concluded that low maternal mortality unlike high prevalence of safe motherhood would be achieved because of sufficient autonomy, considerable inputs in to both health services and education, health services accessible to all poor or socially inferior to these providing them, achieving the universal immunization, providing antenatal and post natal health services and having deliveries performed by trained personnel.

There are several studies in the field of maternal mortality unlike safe motherhood in global study accordance along with countries level. Among the SAARC countries the practice of safe motherhood unlike prenatal, antenatal and postnatal care is very poor, only 33 percent births are attended by trained personnel (WHO, 1992:12). In Nepal and Bangladesh the situation is still lower but in Sri-Lanka the percentage is greater than 90 (WHO, 1991, cited in HMG/MOPE, 1998).

In India 90 percent deliveries took place at home (Khan et al 1989:193). In Nepal 90 percent deliveries took place at home. In rural communities of Nepal most deliveries are conducted by the mother-in-law, who will seek additional help if she thinks it is needed (HMG/MOPE, 1998) and are conducted in unhygienic condition and certain food taboos are observed (WHO, 1991). Similar kind of unhygienic and unsanitary practices are also common in India (Bhatia, 1983:173) and other SAARC countries (WHO, 1991).

In our context, in the field of reproductive health unlike safe motherhood study was carried out around late 1980s (1988-89) and 15 percent women had received prenatal services from doctor nurse, HA, AHW, mid wife and TBA at that time and same study in 1995/96 found 24 percent women receiving such facilities at that time (NFHS, 1996). It has found that illiterate women are 1.4 times likely to bear a baby with low birth weight comparing to the literate one. Similarly mothers who did not go for prenatal care are 1.29 times likely to bear a baby of low birth weight than those who have 2 three or amore prenatal care visit (Pant, 1997). Similarly a study by Acharya and Pant deals about residence and has found 33 percent higher risk of dying of infant of those whose mother are rural habitant comparing to that from urban habitant (Pant & Acharaya, 1997:56). A study by HMG/N-NPC, (1997) found following situation for country level.

The literate women make 1.8 ANC visits comparing to the illiterate (0.4) by residence (2.8) urban and (0.6) by rural women. More than third-fourth women who received the antenatal care received at last double shots of TT and only 9 percent women utilize institutional or modern health facilities for delivery and 5 percent of women received assistance from trained/skilled health personnel during pregnancy. About 61 percent received food within four hours after delivery (NPC, 1997).

Only one fifth (20%) of the Nepalese women receive antenatal care services. On average women make 0.7 ANC visits during very after a pregnancy, which severely falls short from the recommendations of safe motherhood program. But theoretically it should be made at least three times during the pregnancy (CBS, 1997). This shows the actual situation of Nepal and is how far from WHO standard. This observed situation is highly influenced by the urban facilities availability. This observed situation is highly influenced by the urban facilities availability and gives the figure uplift. The situation of rural area is very poor comparing to the National level.

Nepal Fertility, Family Planning and Health Survey (NFPHS, 1991) have examined the knowledge, attitudes and practices about safe motherhood including prenatal care. TT injection during pregnancy, delivery services and type of assistance during delivery which was conducted by Ministry of Health, EP/MCH Division and NIV joint venture. The outcome of the study was that only 18 percent delivery were taken place under the supervision of trained health personnel (11% Doctor, 4.2 from nurse/mid wife and 2.3% TBA), only 42 percent of woman received TT injection during pregnancy including 15 percent single dose and 27 percent double dose. More than 90 percent delivery cases were observed at home.

Safe motherhood services have received increasing priority over the past several years. There was a rise in the total number of antenatal care (ANC) first visits from 189,817 in FY (1996/97) to 235,530 in FY (1997/98). Similarly, there was also a noted increasement in postnatal care first visits, from 53m762 in FY 1996/97 to 73,042 in FY 1997/98. The number of recorded deliveries by trained personnel (including TBAs) increased from 53,105 in FY 2053/54 to 73,662 in the FY 1997/98 40,265 deliveries were recorded in different hospitals in year 1997/98 71,397 delivery was assisted by TBAs. However, overall coverage of ANC, delivery and postnatal services were 25.8, 8.2, and 8.0 percent respectively (MOH, 1997/98).

In Nepal, marriage and childbearing for many women still occurs at an earlier age than the legal age of marriage. The civil act of 1963 fixed legal age of marriage for girls 16 years A girl can many after age of sixteen years with consent of her parents or parents or guardian at 18 years. She cans many with out consent. Only 49 percent of women receive ANC, out of them 17 percent from doctor, 11 percent Nurse/ANM, 3 percent MCHW, 6 percent VHW and 5 percent of women TBD (NDHS, 2001). More then 90 percent of women occurred delivery at hens, assistance during delivery by doctor 8 percent and relative from 55 percent. All of the children were immunized only less than one percent is not immunized.

In south central Asia, the high rates of MMR are estimated for Afghanistan, Nepal and India whereas the ratio of Japan is 10 (UNFPA, 2004:103).

2.3 Conceptual Framework

It is universal truth that the knowledge about something or accessibility of something reflects the higher utilization i.e. those who are more exposed are likely to get more benefits from any program than other.

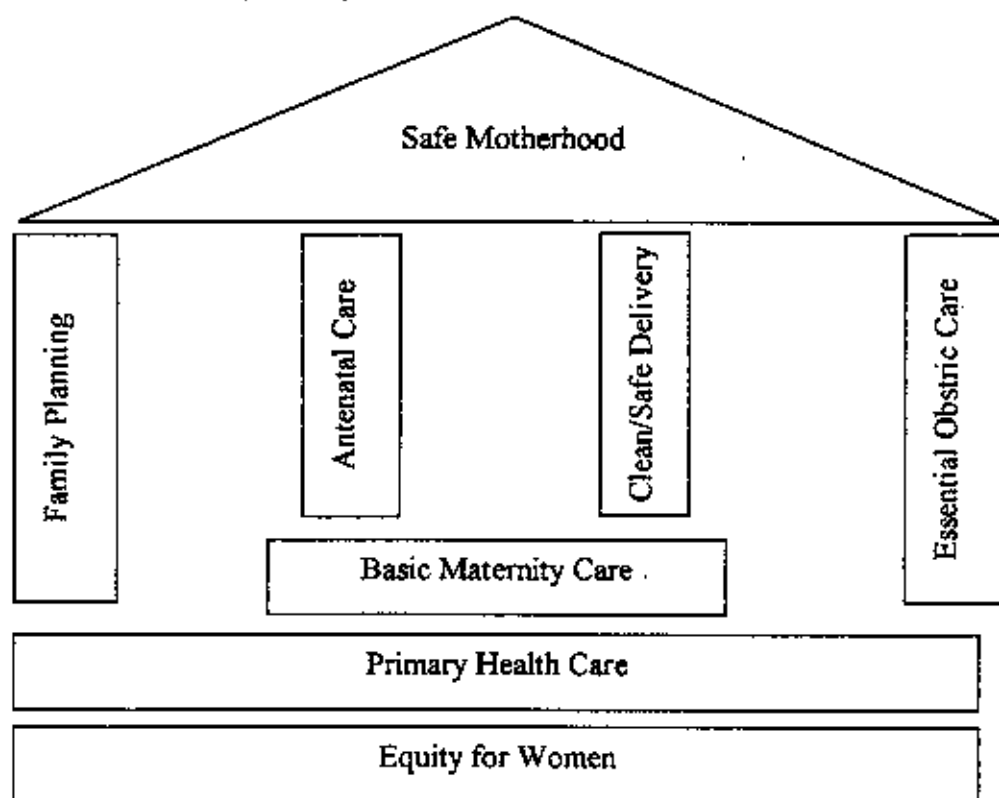
In our context, those targeted people get more services comparing to the other, who have higher knowledge about safe motherhood services and the accessibility.

The causes of maternal deaths are avoidable and one of the most effective means to prevent them is knowledge (WHO, 1998). This means that the knowledge about safe motherhood and its services can prevent maternal death. Many women lose their lives due to lack of adequate access to quality maternal health care (WHO, 1998). Family planning can minimize the risk to the lives of mothers and their babies (WHO, 1998).

The above conclusion of World Health Organization indicates the determinants of practices of safe motherhood services.

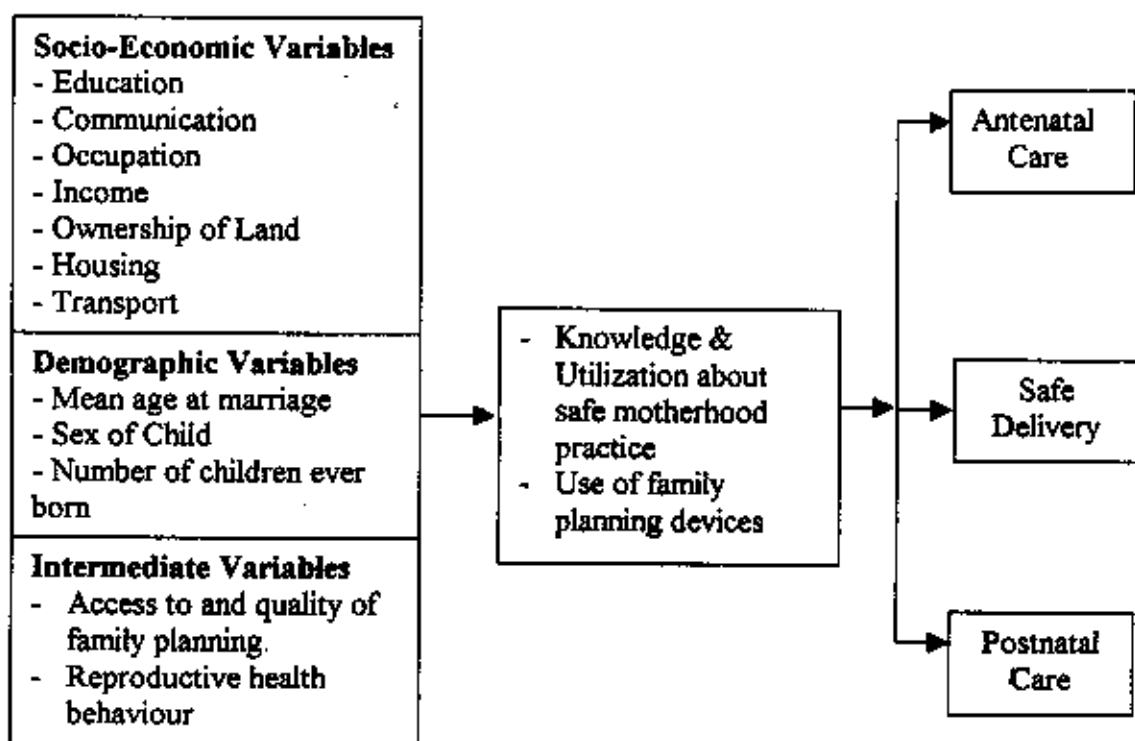
WHO in 1998 has given a framework for safe motherhood serviced as:

Fig. 1 : Conceptual Framework for Safe Motherhood and Maternal Health Care, WHO, 1999.



Source : WHO, 1999.

Fig. 2 : conceptual Framework for Safe Motherhood Practices



CHAPTER THREE

RESEARCH METHODOLOGY

Since, the objective of the research requires both quantitative and qualitative information, methods and tools of data collection in present study. There are various aspects to understand the reproductive health but the study is mainly based on limited area with certain indicators such as knowledge and utilization of safe motherhood, accessibility and knowledge of family planning.

3.1 The Study Site

The study site is Hastichaur village of Gulmi district, which is situated in Lumbini zone, western part of Nepal. The study site is a complete remote village of hilly region. The study area is a habitant of different caste along with ethnicity. In the past, the study population were called 'Mukhiya' (Kumale) and they were totally involved in making clay pots, alcohol productions, porters and fishings as a major occupation. But later on they were also attracted towards daily wages works (road construction, porters and carpenters) and Lahure (abroad labourer). Even though some of them had changed their title, and their traditional occupation. Mainly, the study village consists of Bramin, Chhetri, Kumal, Kami, Damai, Sarki, Newar population. Among them, Kumal were selected for study population of this VDC. In case of Kumal community, the high density of Kumal were distributed in wards 3, 6, 7, 8, 9 of total population 1037 having average household 170 in this village, were selected for study by non-probability sampling as purposive sampling.

3.2 Sample Design and Sample Size

This study is descriptive. The total number of population of Hastichaur VDC is 7325 and total households are 1308 having average family size 5.6 (CBS, 2001). The total population of the Kumal caste/ethnicity is 1037 having average households are 170.

Based on non-probability sampling as purposive sampling 3, 6, 7, 8 and 9 wards were selected. Out of total 170 households, the study covered 85 households and one reproductive age woman were selected from each sample household who have experienced at least one child. So, the sample size (85) were selected as purposive sampling.

3.3 Tools and Techniques Adopted for Data Collection

The study is based on primary data collected through field survey in January, 2005. Survey was conducted by using de jure as well as defacto methods and gathered qualitative and quantitative information with the help of checklists and questionnaire. The study was taken 85 households as target population. So, the information provided by them were considered as sources of data. Besides, this information by health personals and self-observation were included as sources of data.

3.4 Questionnaire Design

There were two types of questionnaire (a) structured questionnaire (b) open-ended questionnaire.

3.4.1 Household Questionnaires

The questionnaire was designed to cover information about household including socio-economic and demographic characteristics such as age, sex, marital status, educational attainment, occupation and economic variables (Appendix I).

3.4.2 Individual Questionnaire

An individual questionnaire was intended to target population (women of age 15-49, who have at least single experience of child bearing within last five year). The main objective of the individual questionnaire were designed to obtain detail information about utilization of safe motherhood Kumal community and its accessibility and utilization of family planning services (Appendix I).

3.4.3 Key Information

This was informal discussion, which concerned with local leaders, social workers and health personnel to know about experience and behaviour of health related activities and services accessibility in the study area.

3.4.4 Observation

This method was used to collect relevant information directly. This was useful to know what was currently happening in the research area. This helped to verify the statements made by the respondents in the context of questionnaire.

3.5 Processing and Management of Data

Data were collected through structural interview during the field survey with help of two employees. The questionnaire were tested before the collection. Before entering the data for computer, all responses were pre-coded and questionnaire should be manually checked. So that error and mistakes could be minimized. The data were entered on the software programme Excel and translating on SPSS (Statistical Package for Social Science) to generate required dummy tables.

3.6 Variables Selection, Tabulation and analysis

3.6.1 Variables Selections

- a. Dependent variable: utilization of safe motherhood services.
- b. Independent variables
 - Knowledge about safe motherhood.
 - Knowledge about safe motherhood services.
 - Accessibility of the services.
- c. Determinant variables
 - Antenatal care: Check up, TT, Iron, calcium, rest, counselling.
 - Clean/Safe delivery: use of kit, assistance during delivery, and place of delivery.
 - Post-natal care
 - Practice of family planning devices.

3.6.2 Tabulation

- a. One way tabulation: It represents the frequencies and percentage distribution of univariates.
- b. Cross tabulation: It represents two variables in single table. In this study, the dependent and independent variables have tabulated i.e. by cross tabulation.

3.6.3 Data Analysis

Collected data through field survey, the study presents it through simple statistical measures like frequency tables, mean, graph and complex statistical measures like correlation and test of significance, which are appropriate to the stated objectives. According to D.A. De Vans to measure association between ordinal/ordinal variables, the test of significance is suitable correlation coefficient on regression is suitable for interval/interval variables. In this way Eta (correlation ratio) is permitted for ordinal/interval variables (Vans, 1984:156-158).

So, chi-square test and correlation coefficient are used to study the association between independent and dependent variables as well as determinant and dependent variables in this study.

3.6.4 Tools for Data Analysis

Frequency tables (tally bar), Graphic representation (pie chart, bar diagram, multiple bar diagram), mean, correlation and test of significance (χ^2 test) has been presented in analysis.

3.7 Operational Definition of Some Terminology

Safe motherhood is one of the major components of reproductive health. Safe motherhood programme is important for effective safe pregnancy and childbirth. It includes antenatal care, delivery care and postnatal care.

Antenatal care: Antenatal care is the care after conception and before live births. It includes regular health check up, nutrition, TT immunization, calcium, vitamin, and protein, iron and aware from hard physical work.

Delivery care: It refers to the place of delivery and under whose supervision the delivery is occurred. A pregnant woman should never be left alone to deliver by herself. The family members should request help from a trained health workers, trained birth attendant, auxiliary nurse midwife and maternal and child health workers as soon as labour begins. If a trained health worker is unavailable, the family members should assist the mother during childbirth when labour begins.

Postnatal care: Postnatal care is mainly related after delivery care such as providing nutrition, diet for mothers, breast-feeding and sanitation related facilities for infant. Specially, postnatal care includes care within 42 days of delivery. Postnatal care is important in safe motherhood to reduce maternal deaths.

Target Population: In the study, the target population (85) is women of reproductive age (15-49) of Kumal community having at least one child (single delivery experience).

Accessibility of Services: Available in study area in terms of economic point of view and time to travel and distance to reach there measure the accessibility.

Utilization of the Services: Practice of accessible services by target population.

3.8 Limitation of the Study

On the basis of time available, logistic supports, information available and other constrains, the study was limited on following boundaries. The study has covered the sample targeted population (women of reproductive age who have at least single live birth experience or even experience of pregnancy and delivery within five years) of Kumal community of Hastichaur village, Gulmi district. The household questionnaire seek from any HH head and individual questionnaire from targeted population only. The major focus has attended on:

- Antenatal care during pregnancy.
- Care during delivery.
- Postnatal care, only maternal but not child. The breast-feeding and child care will be excluded from study.
- Knowledge about family planning services.

Besides this, the study also analyses the knowledge and utilization of safe motherhood services in the study area. The study were ignored the practice against STDs. The study is based on particular area, so result may or may not be generalized to other community of the country.

CHAPTER FOUR

SOCIO-ECONOMIC AND DEMOGRAPHIC VARIABLES

This research work has conducted on the basis of utilization of safe motherhood practices in Kumal community of rural area at Hastichaur VDC, Gulmi district. This research work is much important because Kumal is one of the socially dominated and economically deprived society in Nepal. In the research study, socio-economic and demographic characteristics play important role in the development of society. In this section, socio-economic and demographic characteristics of study population are discussed.

4.1 Socio-Economic Variables

The people belonging to Kumal community are socially deprived caste. They have poor socio-economic status. This community has been regarded as one of the poorest and backward from the access and use of government facilities. They observe Hindu religious and follow own culture.

4.1.1 Major Occupation

The occupation is one of the important factor of economic development of society. Hastichaur VDC is located in hill area. In the past, these people were called 'Mukhiya' (Kumale) and they were totally involved in making clay pots, alcohol productions, porters and fishings as a major occupation. But later on they were also attracted towards daily wages works (road construction, porters and carpenters) and Lahure (abroad labour). Even though some of them had changed their title, and their traditional occupation.

Generally occupation is defined as the work done by a person at least six month of a year. The data collected in this study showed that out of 85 households, about 41 percent households were found to be engaged in agriculture and 8.2 percent are still continuing fishing and alcohol production as their main occupation. According to the study, it showed that 35.3 percent were engaged in daily wages as agriculture (15.3 percent) and non-agriculture (20.0 percent) sectors as major and subsidiary occupation.

Table 1 : Distribution of Households Population by Major Occupation

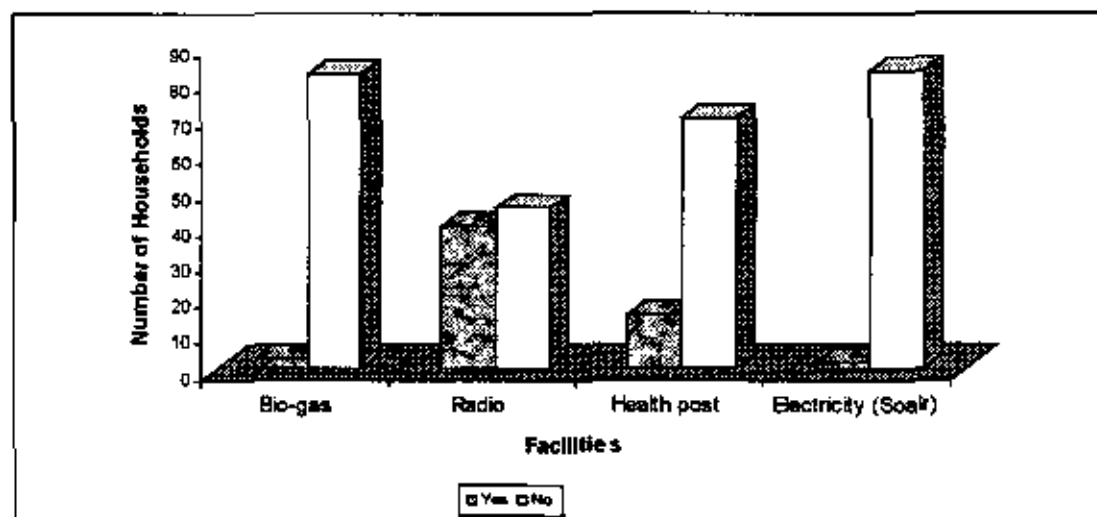
Occupations	Types			
	Major		Subsidiary	
	No.	Percent	No.	Percent
Agriculture	35	41.2	15	17.6
Daily wages (Agriculture)	13	15.3	17	20.0
Daily wages (Non-Agriculture)	17	20.0	13	15.3
Fishing and alcohol production	7	8.2	19	22.4
Carpenter	4	4.7	5	5.9
Lahure	6	7.1	7	8.2
Others	3	3.5	9	10.0
Total	85	100.0	85	100.0

Source: Field Survey, 2005.

4.1.2 Access of Basic Facilities in the Households

Figure 3 provides the information on the access of basic facilities (Bio-gas, Radio, Health post, Electricity) to the households. These information helps to reflect the basic infrastructure development (basic needs approach) in the study area. As seen in figure 3, most of the household had excluded from the basic facilities. Out of total households (85), about 47 percent households had access to Radio for listening and 17.6 percent reported that they had available health post facilities easily. Radio is considered as the most powerful mass media to determine the personal hygiene and health. In the study area, only 3.5 percent households had access to bio-gas facility and 2.4 percent had access to electricity (solar) facility.

Figure3 : Access of Basic Facilities to the Household Population



Source: Field Survey, 2005.

4.1.3 Types of the House and Toilet

Types of the house are considered as proxy for economic status of the respondents. In the study area, out of 85 households, there were 85.9 percent house which were jointed by stone with mud and 9.4 percent were hut. The majority of the households (63.5 percent) lived in the thatched house, and 30.6 percent house were roofing by tin and 5.9 percent by tyle. However, in the study area, out of total households (85), majority of households (32.9%) had no access to the toilet facility. They used bush/field toilet as the spot of toilet and 23.5 percent had no fixed area to go to toilet. They used everywhere as a toilet spot. Only 27.1 percent had access to traditional pit toilet. Similarly, 3.5 percent used pit toilet and 9.4 percent did not specified their types of the toilet.

Table 2: Distribution of Household by Types of House and Toilet

Types of house	Number	Percent
Hut	8	9.4
Stone with Mud-joint	73	85.9
Stone with concrete joint	4	4.7
Roof		
Thatched	54	63.5
Tin	26	30.6
Tyle	5	5.9

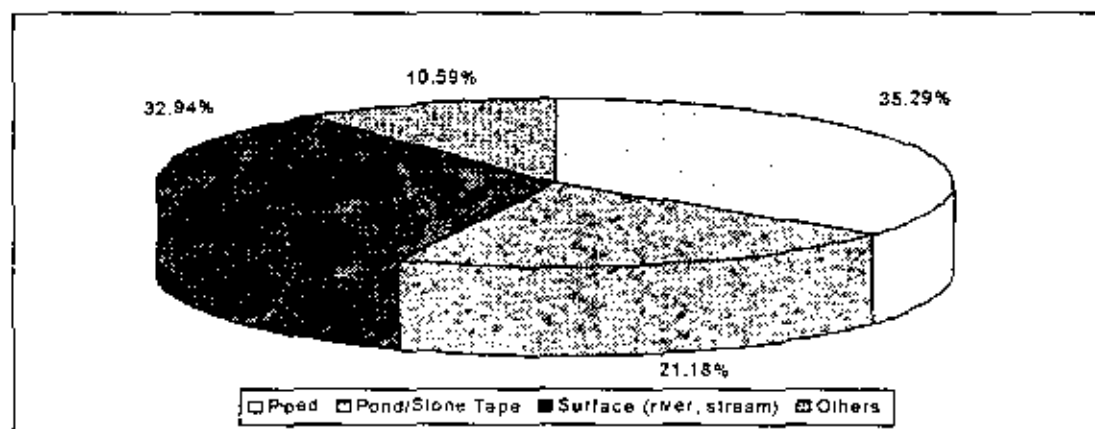
Types of Toilet		
Pit toilet	3	3.5
Traditional pit toilet	23	27.1
Bush/field toilet	28	32.9
Public toilet	3	3.5
Others	8	9.4
No toilet	20	23.5
Total	85	100.0

Source: Field Survey, 2005.

4.1.4 Source of Drinking Water

Drinking water determines the health status of human. Figure 4 presents the distribution of the households by sources of drinking water. Out of total households (85), 35.3 percent had access to the piped water, followed by surface (river/streams) (32.9%), pond/stone tape (21.2%) and 10.6 percent households did not specified his source of drinking water.

Fig. 4: Distribution of Household by Sources of Drinking Water



Source: Field Survey, 2005.

4.1.5 Income Status

The level of income is one of the main indicator which determine the economic status of the people. In the study area, it was found that 15.3 percent household had monthly income ranging less than 1000 rupees, followed by 22.3 percent households with monthly income ranging between 1001-2000, 30.6 percent had 2001-3000 rupees, again 22.3 percent had 3001-4000, 9.4 percent had monthly income 4001 and above.

Table 3: Income Status

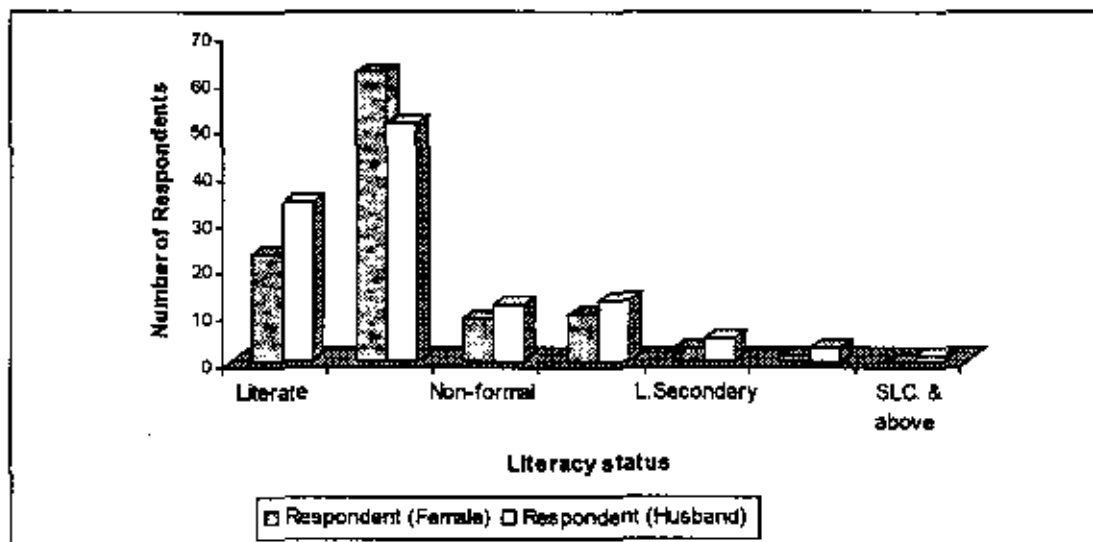
Level of income (Rs.)	Number of households	Percent
Less than 1000	13	15.3
1001-2000	19	22.3
2001-3000	26	30.6
3001-4000	19	22.3
4001 +	8	9.4
Total	85	100.0

Source: Field Survey, 2005.

4.1.6 Education Status of the Respondents

Education is one of the most important factor which effects all aspect of human life. It is believed that educated people are more aware of their family and health. The data on educational status were collected only from eligible women (respondents) and their husband. Education is one of the basic component which enhances the social, political and economic development of a society. In this study area, however it is found that a large number of female were uneducated. The following figure 5 shows the educational status of the respondents and their husbands.

Fig. 5: Educational Status of the Household Distribution of Respondents and their Husband by Educational Attainments



Source: Field Survey, 2005.

The Fig. 5 shows that among 85 respondents, only 27.05 percent of female and 40 percent of their husband were literate. Whereas 72.9 percent of female and 60 percent of male were illiterate. This implies that more than two third of women were illiterate. This fact indicates lower social status in Kumal community. The male and female literacy rate were lower than national figure in the study area. The national figure is 42.8 and 65.5 percent for female and male respectively according to 2001 census.

Out of total literate (23), 43.5 percent of female had primary education and 39.1 percent and 13 percent had non-formal and lower secondary education. No one had SLC and above, only one female had secondary education. Turning towards male, out of total literate, 38.2 percent had primary education and 35.3 percent had non-formal education and only 2.9 (1) percent had SLC and above.

4.2 Demographic Variables

Respondents' demographic characteristics is analyzed on the basis of age sex structure, age distribution of women, marital status, family size, children ever born and age at marriage of the respondents and their family in this study.

4.2.1 Age and Sex Composition

Age-sex composition plays a important role in determining the population distribution of the area. According to Table 4, information about age and sex of each household member was obtained from head of the household and respondent of the study area which is an important variables in the study of the population dynamics. Out of the total population (485) of 85 sample households among them, 237 (48.9) were males and 248 (51.1) were females. Among the study population higher number is found in age group 5-9 (16.7%) for both sex, the higher number of males population is observed in age 5-9 (17.7%) and female population is also found in age group 5-9 (15.7%). Similarly, in the total population, below age 15 years was 43.1 percent and the population aged 60 and above was 3.3 percent. The sex ratio is 95.6 and the dependency ratio is 75.7. This dependency ratio shows that high dependent population and backward society in development discourse.

Table 4: Distribution of Sample Household Population According to Sex by Five Year Age

Age group	Male		Female		Total		Sex Ratio
	No.	Percent	No.	Percent	No.	Percent	
0-4	38	16.0	34	13.7	72	14.8	111.8
5-9	42	17.7	39	15.7	81	16.7	107.7
10-14	31	13.1	25	10.1	56	11.5	124.0
15-19	17	7.2	30	12.1	47	9.7	56.7
20-24	23	9.7	31	12.5	54	11.3	74.2
25-29	17	7.2	21	8.5	38	7.8	81.70
30-34	14	5.9	20	8.5	34	7.1	70.0
35-39	19	8.0	17	6.9	36	7.4	111.8
40-44	13	5.5	10	4.0	23	4.7	130.0
45-49	9	3.8	6	2.4	15	3.1	150.
50-54	4	1.7	3	1.2	7	1.4	133.3
55-59	4	1.7	2	0.8	6	1.2	200.0
60 & above	6	2.5	10	4.0	16	3.3	60.0
Total	237	100	248	100	485	100	95.6

Source: Field Survey, 2005.

Table 5: Distribution of the Household Population by Board Age Group and Sex

Age group	Male		Female		Total		Sex Ratio
	No.	Percent	No.	Percent	No.	Percent	
< 14	111	46.8	98	39.5	209	43.1	113.26
15-59	120	50.6	140	56.4	260	53.6	85.71
60+	6	2.5	10	4.03	16	4.5	60.0
Total	237	100.0	248	100.0	485	100.0	95.6

Source: Field Survey, 2005.

The distribution of total population according to broad age group and sex has shown in the table 5, which showed that out of 485 population, 43.1 percent were below age 15 and the population that fall under reproductive age group was 50.9 percent. The sixty and above age group people were 4.5 percent. The dependency ratio of the study population was 75.7, which was higher than national average. The male and female dependency ratio was 97.5 and 77.14 respectively. The difference between male and

female dependency ratio was 20.36 which meant more females were dependent than males.

4.2.2 Age Distribution of Women

Women of reproductive age (15-49) of 85 households were covered in this study as target population and these respondents were distributed in five years age group in Table 6, out of total respondents (85), largest number of respondents were in the age group 25-29 which was 25.9 percent, followed by age group 30-34 with 24.7 percent, 20-24 with 20 percent, respectively and lowest in age group 45-49 was 2.35 percent. In this study, more than 70 percent of women belong to the appropriate fertile age groups (20-34 years).

Table 6: Distribution of Reproductive Age Women According to their Age

Age group	No. of women	Percent
15-19	8	9.4
20-24	17	20.0
25-29	22	25.9
30-34	21	24.7
35-39	12	14.1
40-44	3	3.5
45-49	2	2.35
Total	85	100.0

Source: Field Survey, 2005.

4.2.3 Age at Marriage

Women's age at marriage is another important factors which determines utilization of the maternal health care practices. The age at marriage of women under study was very low, lower than to national figure. This low age at marriage may be due to various social, cultural and economic background of the community. The data shows that 20 percent of respondent got married before reaching 15 years of age. The highest percent i.e. 48.2 percent female were married between the age 15-19 years and only more than 32 percent of respondents were married after 20 years of age. The mean age at marriage of the women in this study was 17.

Table 7: Distribution of Reproductive by Age at Marriage

Age group	No. of respondents	Percent
10-14	17	20.0
15-19	41	48.2
20-24	22	25.9
25-29	3	3.5
30 +	2	2.3
Total	85	100.0

Source: Field Survey, 2005.

4.2.4 Mean Number of Children Ever Born (CEB)

CEB is one of the most important indicator of fertility. CEB is calculated by number of ever born children divided by number of ever-married women aged 15-49 years. The

CEB to a woman in the study area was found to be 3.6, which means that on an average Kurnal women aged 15-49 has had more than three and half births.

Older women have longer exposure to child bearing than the younger ones. So, they have more likely to have high number of CEB even the average number of children born in the high age group. If we categorized the mean CEB by age group, we found that maximum average CEB were in age group 45+ and minimum average CEB were in age group under 19.

Table 8: Distribution of Reproductive Age Women by Mean Number of Children Even Born (CEB)

Age group	Mean CEB	No. of women
15-19	1.62 (13)	8
20-24	2.82 (48)	17
25-29	2.95 (65)	22
30-34	3.80 (80)	21
35-39	5.8 (70)	12
40-44	6.33 (19)	3
45-49	7.00 (14)	2
Total	3.63	85

Source: Field Survey, 2005.

CHAPTER FIVE

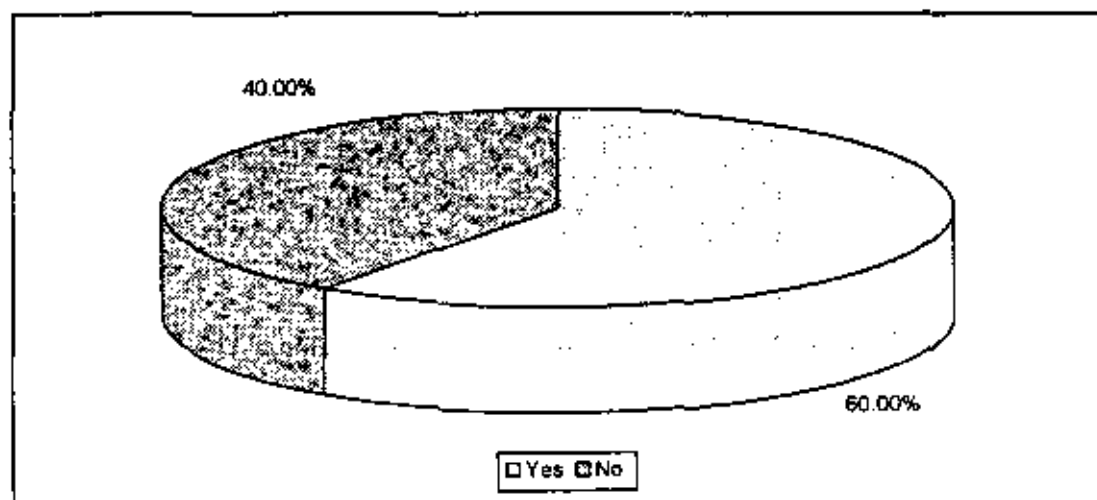
KNOWLEDGE ABOUT SAFE MOTHERHOOD AND ITS SERVICES

This chapter explains the knowledge about safe motherhood among the targeted women and also express the sources from which they come to know about safe motherhood. Besides this, this chapter also explains the respondents' opinion about the topic and services.

5.1 Knowledge about Safe Motherhood

Among 85 cases, 60 percent (51) respondents were quite familiar with subject matter, i.e. safe motherhood through different media including 43.1 percent (22) through radio, 29.4 percent (15) through friends/guys, 13.7 percent (7) through health personnel and 9.8 percent (5) through posters/pamphlets, magazine. 3.9 percent (2) respondents were familiar through training/awareness program and others media. About 40 percent (34) respondents did not hear about safe motherhood although some of them (2 women) were using safe motherhood services at the pregnancy and delivery period.

Fig. 6 : Distribution of Study Population by Knowledge



Source: Field Survey, 2005.

Table 9: Distribution of Study Population According to the Source for Knowledge about Safe Motherhood and its Services

Sources	Number	Percent
Radio	22	43.1
Poster/Pamphlets	5	9.8
Friends	17	29.4
Health personnel	7	13.7
Others	2	3.9
Total	51	100.0

Source: Field Survey, 2005.

5.2 Knowledge by Education

From the study, it is found that literate women were more exposure to the program where as illiterate women had little idea about safe motherhood. Among the 85 cases, 27.05 percent (23) were literate and 100 percent women had known the subject matter among them. In illiterate, (62) 72.9 percent of total, 45.2 percent said yes for knowledge. From the study, it is true that the knowledge is increased with increasing level of education because those women who had educated, as they had also familiar with safe motherhood.

Table 10: Distribution of Study Population According to Knowledge by Educational Status

Knowledge	Literate	Illiterate	Level of Edn				Total
			Non formal	Primary	L. Sec.	Sec.	
Yes	23 (100)	28 (45.2)	9 (100)	10 (100)	3 (100)	1 (100)	51 (60)
No	-	34 (54.8)	-	-	-	-	34 (40)
Total	23	62	9	10	3	1	85

Source: Field Survey, 2005.

5.3 Knowledge by Major Occupation

In study, 35 respondents household were engaged in agriculture. Out of them, 51.4 percent said yes for knowledge and those people who had survived from daily wages in agriculture sector and fishing and alcohol production as major occupation, they had low knowledge of safe motherhood. Among them, 38.5 percent respondents of daily wages in agriculture sector and 42.8 percent respondents of fishing and alcohol production had knowledge about safe motherhood. 70.6 percent respondents had knowledge who were involved in daily wages in non-agriculture sectors. Remaining occupation holder had more or less knowledge because they said yes during enumeration. The table 11 gives the idea about knowledge and occupation.

Table 11: Distribution of Study Population According to Knowledge by Major Occupation

Knowledge	Occupations							Total
	Agri.	Daily wages (Agri.)	Daily wages (non-agri.)	Fishings alcohol prod ^a	Carpenter	Lahure	Other	
Yes	18 (51.4)	5 (38.5)	12 (70.6)	3 (42.8)	4 (100)	6 (100)	3 (100)	51 (60.0)
No	17 (48.5)	8 (61.5)	5 (29.4)	4 (57.1)	-	-	-	34 (40.0)
Total	35	13	17	7	4	6	3	85 (100)

Source: Field Survey, 2005.

5.4 Knowledge by Distance

If we discuss according to distance, the knowledge varies along with distance. The knowledge is higher for middle distance comparing to the less than 1 km and more than 4 km. This occurred due to awareness and some cultural factor about maternal health.

The socio-economic status is also poor for those people who are living near by health post. The table 12 shows the knowledge by distance.

Table 12: Distribution of Study Population According to Knowledge of Distance

Distance (km)	Knowledge		Total
	Yes	No	
Less than 1	2 (66.6)	1 (33.3)	3
1-2	5 (83.3)	1 (16.6)	6
2-3	17 (70.8)	7 (29.2)	24
3-4	12 (70.6)	5 (29.4)	17
4-5	8 (50.0)	8 (50.0)	16
5-6	5 (45.4)	6 (54.5)	11
6+	2 (25.0)	6 (75.0)	8
Total	51 (60.0)	34 (40.0)	85

Source: Field Survey, 2005.

5.5 Knowledge by Age at Marriage

The knowledge by age at marriage is varied along with age. For early age group (less than 14) 52.9 percent women were quite familiar with knowledge. Similarly, 58.50 percent for age group (15-19) and 68.2 percent for group (20-24) had knowledge about maternal child health care for pregnancy and delivery. Table 13 shows that the knowledge increases with increment of age at marriage for first three age group but last age group (30+) has not followed this order because sample may be biased or not representable comparatively or time factor.

Table 13: Distribution of Respondents According to Knowledge by Age at Marriage

Age group	Knowledge				Total
	Yes	Percent	No	Percent	
> 14	9	52.9	8	47.1	17
15-19	24	58.5	17	41.5	41
20-24	15	68.2	7	31.8	22
25-29	2	66.6	1	33.3	3
30+	1	50.0	1	50.0	2
Total	51	60.0	34	40.0	85

Source: Field Survey, 2005.

5.6 Knowledge by Children Even Born

Women who had little number of children had more knowledge about maternal healthcare because they got child in suitable time and made gaping between two successive birth. The observation of the survey study has shown that women who had two children, had more knowledge and 68.2 percent women were quite well known about maternal healthcare in this category whereas only 50 percent women, who had six or more children were familiar with maternal health care. This may be affected by age factor also. Women who had large number of CEB probably older and were not able to hear about services related to health care needed for pregnancy and delivery.

Table 14: Distribution of Respondent to Knowledge about Safe Motherhood by Children Even Born

No. of CEB	Knowledge				Total
	Yes	Percent	No	Percent	
One	5	56.6	4	44.4	9
Two	15	68.2	7	31.8	22
Three	13	61.9	8	38.1	21
Four	7	63.6	4		11
Five	7	58.3	5	41.6	12
Six	3	50.0	3	50.0	6
Seven	1	25.0	3	75.0	4
Total	51	60.0	34	40.0	85

Source: Field Survey, 2005.

5.7 Knowledge by Age of Women

Younger generation are more exposure to the new events comparatively. This hypothesis strongly fits on knowledge by age of women i.e. younger women had better knowledge about maternal healthcare and its services.

Women below age group 29 were more exposure than women of age group 30 and above years. Similarly the ratio for age group below 30 and above 30 is more or less 1.35.

Table 15: Distribution of Study Population According to Knowledge by Age of Women

Knowledge	Age of women							Total
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Yes	5 (62.5)	12 (70.6)	14 (63.6)	13 (61.9)	6 (50.0)	1 (33.3)	-	51
No	3 (37.5)	5 (29.4)	8 (36.4)	8 (38.1)	6 (50.0)	2 (66.6)	2 (100)	34
Total	8	17	22	21	12	3	2	85

Source: Field Survey, 2005.

If we discuss age group wise, 70.6 percent respondent of age group 20-24 had better information where as the percentage for age group 40-44 were 33.3 percent and that for 45-49 were zero.

5.8 Result of Relationship Between Knowledge and Independent Variable

5.8.1 Relation Between Knowledge and Education

The Karl Pearson's correlation coefficient is used to study the relation between knowledge about maternal health care and level of education as dependent and independent variables respectively. The analysis was done in SPSS programme and found positive relation between literacy and knowledge.

The estimated value is 0.497. This shows that they are correlated moderately positive but not strongly.

5.8.2 Relation Between Knowledge and Major Occupation

The relation between knowledge about subject matter with major occupation is observed negative. This means who engaged in white collar job had more knowledge about maternal health care comparing to the blue collar job holder. The value for 'r' is -0.312 is negative but not strongly negative probably this occurred due to skewed distribution, bias weighting and coding error.

Table 16: Relationship Between Knowledge and Literacy, Major Occupation

Variables	Knowledge about safe motherhood
Literacy	0.497
Major Occupation	-0.312

Source: Field Survey, 2005.

5.8.3 Significance Study Between Knowledge and other Variables

The chi-square test (χ^2) is suitable to the study the level of association between ordinal and ordinal variables. So, the chi-square test is used to study the association. The following table 17 gives the level of significance, degree of freedom calculated values and standard values.

Table 17: Degree of Association Between Knowledge and Other Ordinal Variables

Ordinal variables	Level of significance	Degree of freedom	Calculated χ^2	Tabulated χ^2
Literate/illiterate	5 percent	1	21.022	3.84
Major occupation	5 percent	6	13.902	12.6
Education	5 percent	4	21.022	9.49

Source: Field Survey, 2005.

The Table 17 clearly shows, calculated value of chi-square for major occupation is smaller difference than tabulated value. So the hypothesis is true for major occupation. So major occupation effects to the knowledge. But the chi-square of calculated value for literacy/illiteracy and education are found larger than that are gives as standard. From this result, we can say that knowledge is strongly affected by ordinal variables namely occupation, literacy/illiteracy and level of education (internal variable). Hence, from the logic we can say that the results of these experiment do not provide any evidence against hypothesis.

CHAPTER SIX

ACCESSIBILITY OF SAFE MOTHERHOOD SERVICES

In this chapter we discuss about the availability and accessibility of safe motherhood services at the study area. Availability and accessibility are similar; accessibility is a continuum and availability is a limiting case (Hermalin and Entwisle, 1985 cited in Pathak, 1996). Accessibility has many dimensions and in studying the accessibility different aspect would appear (Harmanlies and Entwisle, 1985: 445-56 cited in Pathak, 1996). But in this study accessibility is measured on basis of distance, time required to reach up to the services, it is necessary to pay for services or not and it is payable for targeted population.

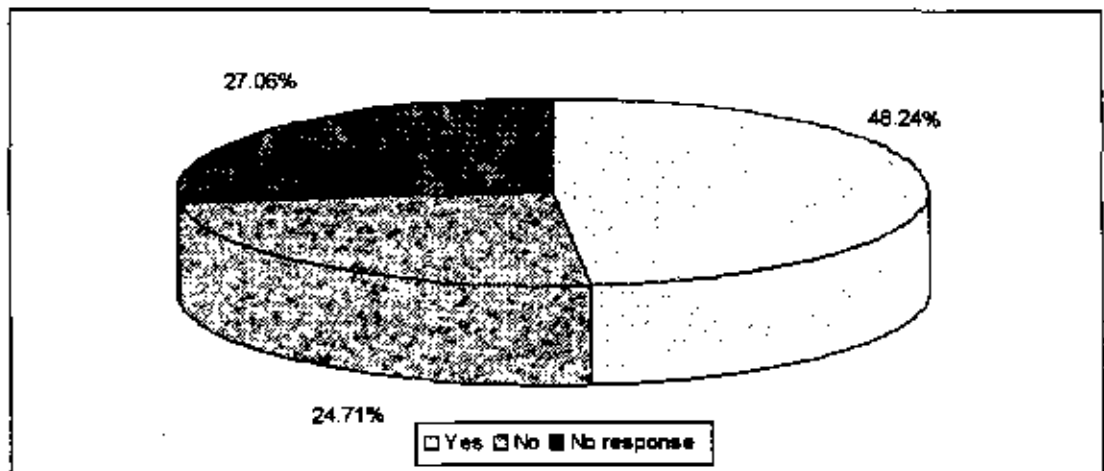
6.1 Accessibility of Services

Here prenatal services, delivery services and overall services are used as analytical variable. The individual questionnaire was asked to 85 women. Among them only 48.2 percent (41) women said it is free of cost and 27.1 percent (27.1) women ignored the question and 24.7 percent (21) respondents said all services are out of their reach.

Similarly, 81.2 percent (69) women did not pay for prenatal care including TT vaccine, iron tablets and calcium tablets whereas 8.2 percent (7) women claimed that they had to pay for antenatal visits and 10.6 percent (9) women did not respond for the question 'Are you able to pay?' 76.5 percent (65) women said that they were unable to pay and 7.1 percent (6) women said 'yes' and 17.6 percent (15) women did not speak about the question.

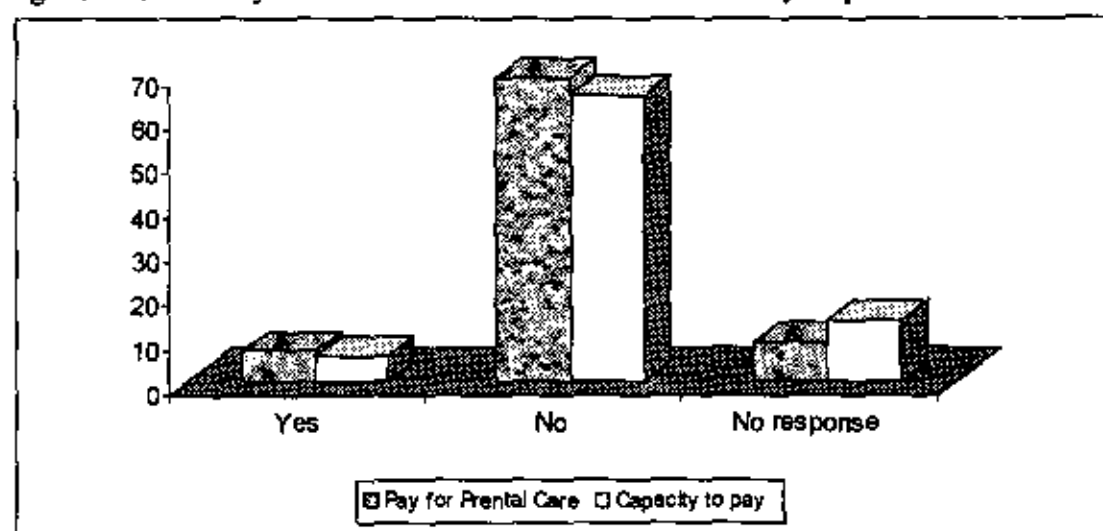
During the delivery, 12.9 percent (11) women had to buy the services for assistance but 72.9 percent (62) women got it free where as 14.1 percent (12) women were quite for question. Among them, 10.6 percent (9) women able to pay but 71.8 percent (61) women had to beg from other on credit. 16.5 percent (14) women said no idea about capacity to pay. The figure 7, 8 and 9 give in depth idea about accessibility of the services among targeted population.

Fig. 7: Accessibility of all Services, to the Study Population



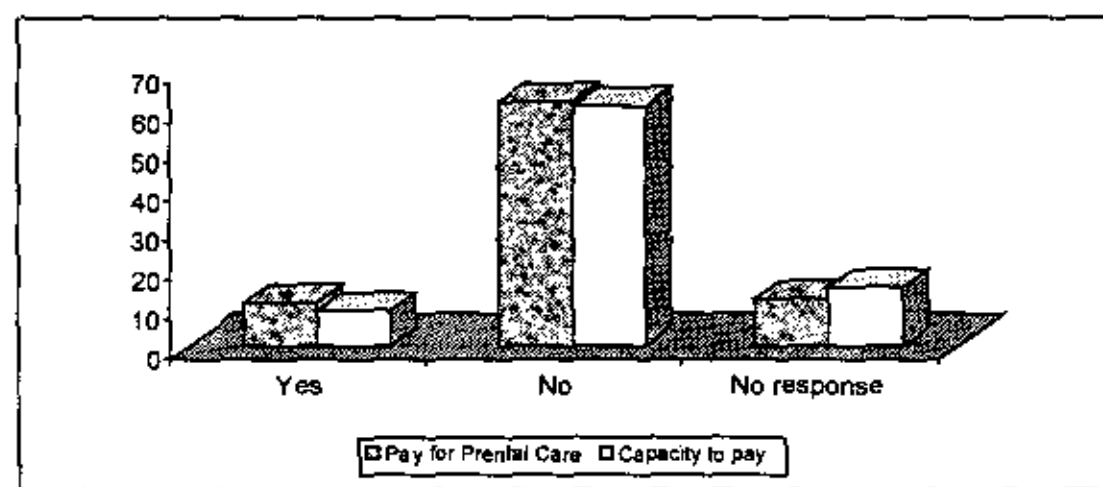
Source: Field Survey, 2005.

Fig. 8: Accessibility of Prenatal Care Services to the Study Population



Source: Field Survey, 2005.

Fig. 9: Accessibility of Delivery Assistance Service to the Study Population



Source: Field Survey, 2005.

6.2 Distance and Time to Reach to the Health Post for Respondents

According to responses of respondent, they had to walk 0 to 6 hours to reach up to the health post and they had to cover the distance up to 7 and ½ km from less 1 km. There was no alternative transportation except foot walk. Local stature is popular for transportation of patient. The following table 18 shows the time required to reach and number of respondents and distance by respondents. On analyze the table 18 we can say that people who were near by health post had higher exposure i.e., communication plays major role to use and accessibility.

Table 18: Distribution of Study Population According to Distance and Time to Reach Health Post

Time (Hrs.)	Number of respondents	Distance (km)	Number of respondents
> 0.5	2	Less than 1 km	3
0.5-1.0	7	1-2	12
1.0-1.5	12	2-3	13
1.5-2.0	20	3-4	15
2.0-2.5	18	4-5	20
2.5-3.0	12	5-6	13
3.0-3.5	9	6-7	7
3.5-4.0	5	7+	2
Total	85	Total	85

Source: Field Survey, 2005.

6.3 Relationship Between Accessibility and Other Determinant Variables (Distance and Knowledge)

6.3.1 Relationship Between Accessibility and Distance

The distance is measured on the basis of time to reach at services from residence and how far the service station is located in terms of distance from the household. Similarly, the accessibility is measured on the of ability to pay or not for services and is it payable or not for individual.

From study and application of statistical tools the relationship between accessibility and distance are positive. Probably we can say that these variables are moderately correlated with each other.

Table 19: Value of 'r' Correlation Coefficients Between Accessibility and Distance

Accessibility	Time to reach	Distance
Pay or not for prenatal care	0.744	0.725
Capable or not for pay	0.807	0.746
Pay or not for delivery	0.828	0.795
Capable or not for pay	0.852	0.789

Source: Field Survey, 2005.

From the above table, we can say that the hypothesis "higher communication in terms of distance reflect the higher accessibility of services" is true.

6.3.2 Relationship Between Knowledge and Accessibility

In study hypothesis is set as "higher communication in terms of knowledge, reflect the higher accessibility of services." To test this hypothesis correlation coefficient is used as taking knowledge as independent variable and accessibility as dependent variable (this assumption is not more applicable for purpose). The level of relationship and degree is found as below:

Table 20: Value of Correlation Coefficient 'r' Between Knowledge and Accessibility

Dependent Variables	Knowledge about safe motherhood and its services
Pay for prenatal care	0.455
Capacity to pay for parental care	0.545
Pay for delivery	0.536
Ability to pay for delivery	0.575
Availability of all services	0.862

Source: Field Survey, 2005.

From above cross tabulation, we can say that the relationship between knowledge and availability of all services is moderately positively. This means those who are quite familiar with maternal healthcare and its services, say they are not far from the reach of maternal health services provided. Finally, we conclude that the result of experiment does not provide any evidence against the hypothesis.

CHAPTER SEVEN

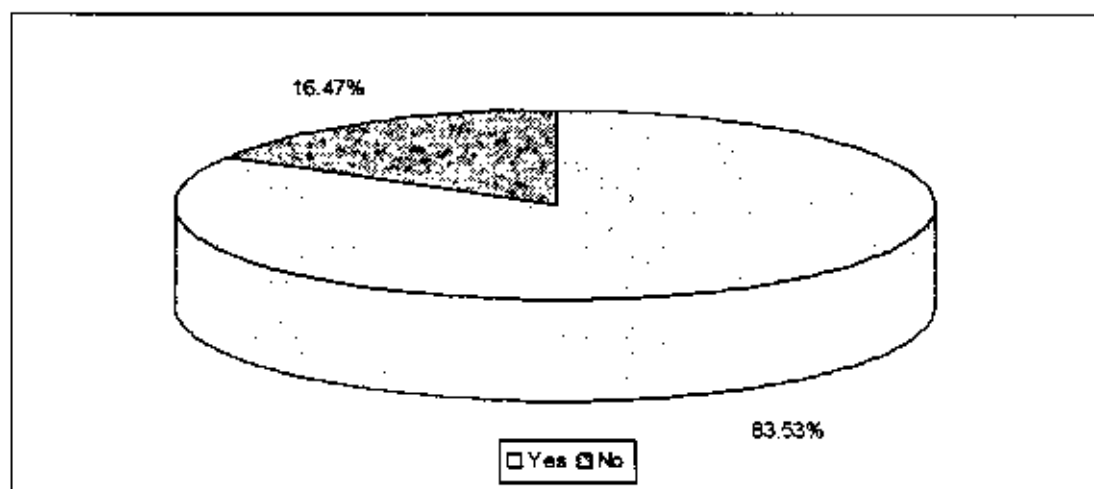
RELATIONSHIP BETWEEN PREVALENCE OF FAMILY PLANNING DEVICES AND UTILIZATIONS OF SAFE MOTHERHOOD SERVICES

This chapter is organized to describe knowledge and practice of family planning service and methods. In this chapter the relationship between prevalence of family planning methods and utilization of safe motherhood services are also explained.

7.1 Knowledge and use of Family Planning Services

The study survey has asked 85 women for knowledge. Among 85 women, 83.5 percent (71) women said they were quite familiar to the family planning methods through different sources and only 16.5 percent (14) women were out side the circle of knowledge. 43.1 percent women had heard from radio and 29.4 percent gave credit for knowledge to friends/neighbours. Only 13.7 percent had listen through health personal. 13.8 percent women had known about family planning through other different media including poster/pamphlets and magazines. Figure 10 shows the observations from survey study about family planning knowledge.

Fig. 10: Knowledge about Family Planning Services and Methods Among Study Population



Source: Field Survey, 2005.

If we categorized women according to the use of family planning methods. Among them (71), 35.2 percent (25) women reported that they were used family planning methods and most of them (64.8 percent) said that they were not using family planning methods. The table 21 describes the all categories.

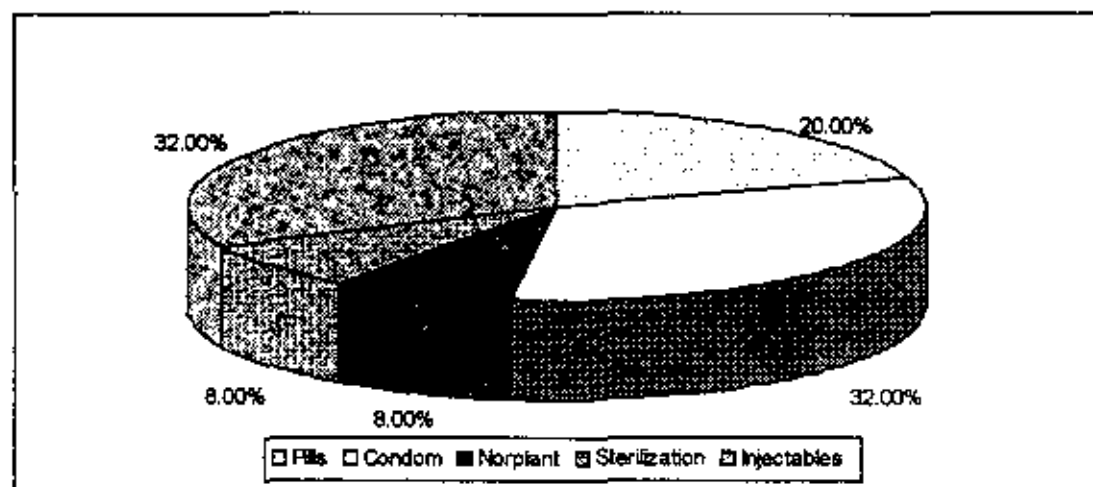
Table 21: Current use of Family Planning Services by Target Population

Use	Number	Percent
Yes	25	35.2
No	46	64.8
Total	71	100.0

Source: Field Survey, 2005.

Among 25 women, 20 percent (5) women using pills for spacing or controlling the child. Similarly, 32 percent (8) women had given chance to their husband to stop arrival of new face. 32 percent (8) women were using injection to avoid next birth. The prevalence of Norplant and sterilization is very low compared to condom, pills or injectables. Only 8 percent (2) women were using Norplant as a means to control birth. The prevalence of permanent method, including male as well as female methods, is low level i.e. 8 percent (2) women or their husbands had already disturbed the path to meet ovum and sperm separately. The figure 11 shows the actual figure for use by methods.

Fig. 11: Distribution of Study Population According to use of Family Planning Services by Methods



Source: Field Survey, 2005

7.2 Use of Family Planning Devices by Visits for Antenatal/ Postnatal

Women who have better knowledge or idea towards family planning probably visit more for antenatal/postnatal care. The study has supported this assumption. Among 45 women, 25 women had gone for antenatal or postnatal care who did not use any contraceptives. Out of total 60 non users, only 41.7 percent went for prenatal/postnatal visits. Whereas pills and condom users had visited at least single time during pregnancy. For injectable users, the percent for visits were 75 and that for Norplant and sterilization were 50 percent. The table 22 shows the actual figure.

Table 22: Distribution of Target Population According to Antenatal/ Postnatal Visit by use of Family Planning Services

Use of FP	Use of Antenatal/Postnatal Visit				Total	
	Yes		No		Number	Percent
	Number	Percent	Number	Percent		
None	25	41.7	35	58.3	60	70.6
Pills	5	100.0	-	-	5	5.9
Condom	7	87.5	1	12.5	8	9.4
Injectables	6	75.0	2	25.0	8	9.4
Norplant	1	50.0	1	50.0	2	2.4
Sterilization	1	50.0	1	50.0	2	2.4
Total	45	52.9	40	47.1	85	100.0

Source: Field Survey, 2005.

7.3 Use of Family Planning Devices by Visits for Prenatal Care

Similarly, assumption can be fitted as utilization of services for prenatal care. Out of 85, 20 were using contraceptives and went for prenatal visits whereas 5 women were using contraceptives but did not attend even prenatal visit 22 women were not any contraceptives but went health post/hospital for check up and received iron or calcium. Out of 85 women, 38 women neither received any prenatal visits nor use any contraceptives. Among the users 80 percent had received at least single visit for prenatal care but non users found only 36.7 percent.

Table 23 : Distribution of Study Population According to Contraceptives use by Antenatal Care

Use of FP	Visits for Antenatal Care				Total	
	Yes		No			
	Number	Percent	Number	Percent	Number	Percent
Yes	20	80.0	5	20.0	25	29.4
No	22	36.7	38	63.3	60	70.6
Total	42	49.4	43	50.6	85	100.0

Source: Field Survey, 2005.

7.4 Contraceptive use by Place of Delivery

Another way of receiving safe motherhood services is place of delivery and to study the relationship between contraceptive use and service utilization, it is better to analyze contraceptive use by place of delivery.

Among the contraceptive uses, 84 percent women had ended their labour at their own house where as 16 percent had attended delivery at hospital. But Among the contraceptives non-users, only 6.7 percent women had attended at hospital for delivery. the following table 24 presents detail information on discussed subject matter.

Table 24: Distribution of Respondents According to Contraceptive Use by Place of Delivery

Use of FP	Place of Delivery				Total	
	House		Hospital			
	Number	Percent	Number	Percent	Number	Percent
Yes	21	84.0	4	16.0	25	29.4
No	56	93.3	4	6.7	60	70.6
Total	77	90.6	8	9.4	85	100.0

Source: Field Survey, 2005.

7.5 Contraceptive use by Visit for Postnatal Care

The field study has observed different information for analysis. The study accounted that 40 percent (10) women were using contraception, they had attended postnatal care visits whereas 60 percent (15) women did not meet health personnel after successive delivery. Among the contraceptive non users (60), 13.3 percent (8) women knocked the health personals door but 86.7 percent (52) respondents silent for appointment with health personnel especially health assistant, auxiliary health worker or nurse. In study and self observation postnatal care is completely ignored by the targeted women. The table 25 below explains the above description in systematic matrix form.

Table 25: Distribution of Respondents According to Contraceptive Use by Place of Delivery

Use of FP	Visits for Postnatal Care				Total	
	Yes		No		Number	Percent
	Number	Percent	Number	Percent		
Yes	10	40.0	15	60.0	25	29.4
No	8	13.3	52	86.7	60	70.6
Total	18	21.2	67	78.8	85	100.0

Source: Field Survey, 2005.

7.6 Relationship Between Prevalence of Contraception and Utilization of Safe Motherhood Service

The relationship between dependent variable and independent variables are determined by using statistical tool namely Karl Pearson's correlation coefficient. The utilizations variables; prenatal care, postnatal care and care during delivery. On the basis of survey data, through the SPSS programme the correlation coefficient between use of contraception with utilization of prenatal services, receive of TT vaccine, utilization of delivery kit and beg help during delivery are found as below. This means the dependent variable is correlated with each independent variables. The following table 26 shows the magnitude of coefficient.

Table 26: Value of 'r' Correlation Coefficient Between Use of Contraception and Utilization Safe Motherhood Services

Utilization	Prevalence of contraception
Prenatal care (check up)	0.439
TT vaccine	0.409
Use of Delivery Kit	0.099
Help during delivery	0.729

Source: Field Survey, 2005.

From above table we can easily say that the hypothesis of our study "higher the prevalence of contraception, higher the utilization of safe motherhood services" is neither true nor false.

CHAPTER EIGHT

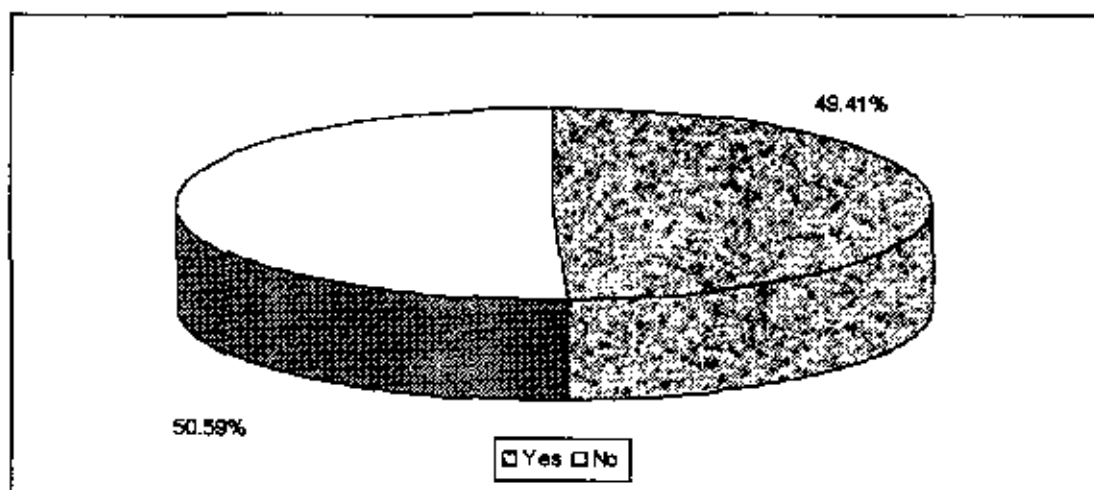
UTILIZATION OF SAFE MOTHERHOOD SERVICES

This chapter is organized to explain the utilization of maternal care services by targeted women. Major subject matter for this chapter is visit for prenatal care, receiving of TT vaccine, iron tablets, calcium tablets, other care as rest during pregnancy. The services use pregnancy and postnatal care are also included in this chapter.

8.1 Prenatal Service Utilization

Prenatal health care is being popular among pregnant women. Results of different studies have concluded on above hypothesis. The survey study also advocates for the hypothesis. In the study area, 49.4 percent (42) women had utilized services through different sources and 50.6 (43) percent women did not seek any service during pregnancy. The following figure 12 explains the pregnant in last five year and after.

Fig. 12: Prenatal Service Received by Women During Pregnancy



Source: Field Survey, 2005.

8.2 Frequency of Visits and Time for First Visit

From the survey it is found that on an average 4.5 times visits were made by each women and 3 women went health centre more than eight times whereas most of women had visited three (21.4%), four (16.7%), five (19.1%) and six (16.1%) times comparing to others.

Among 42 women, 2 women visited from first month of conception and 47.6 percent (20) women went health centre with three months foetal. Most of the first visits (90.5%) occurred within first two, three or fourth months of conception.

Table 27: Distribution of Respondents According to Prenatal Visits Frequencies and First Time, Working During Pregnancy

Months/ order	Prenatal visit		First Visits		Working at pregnancy	
	Number	Percent	Number	Percent	Number	Percent
1	1	2.4	2	4.8	-	-
2	4	9.5	12	28.6	-	-
3	9	21.4	20	47.6	-	-
4	7	16.7	6	14.3	-	-
5	8	19.1	1	2.4	3	3.5
6	7	16.7	1	2.4	2	2.3
7	3	7.1	-	-	13	15.3
8	3	7.1	-	-	36	42.3
9	-	-	-	-	31	36.5
Total	42	100.0	42	100.0	85	100.0
Mean	4.5		-	-	8.05	

Source: Field Survey, 2005.

8.3 Tetanus Toxoid Immunisation

The study found that 92.9 percent (39) women who visited health center to receive TT injection in different amount. Out of total (39), 15 women had received only single dose, 18 women were injected two time for TT vaccine and 6 women were injected three and more times. A small proportion of women (3) did not receive tetanus toxoid injection even they had attended prenatal visits.

Table 28: Use of TT, Iron and Calcium During Pregnancy by Study Population

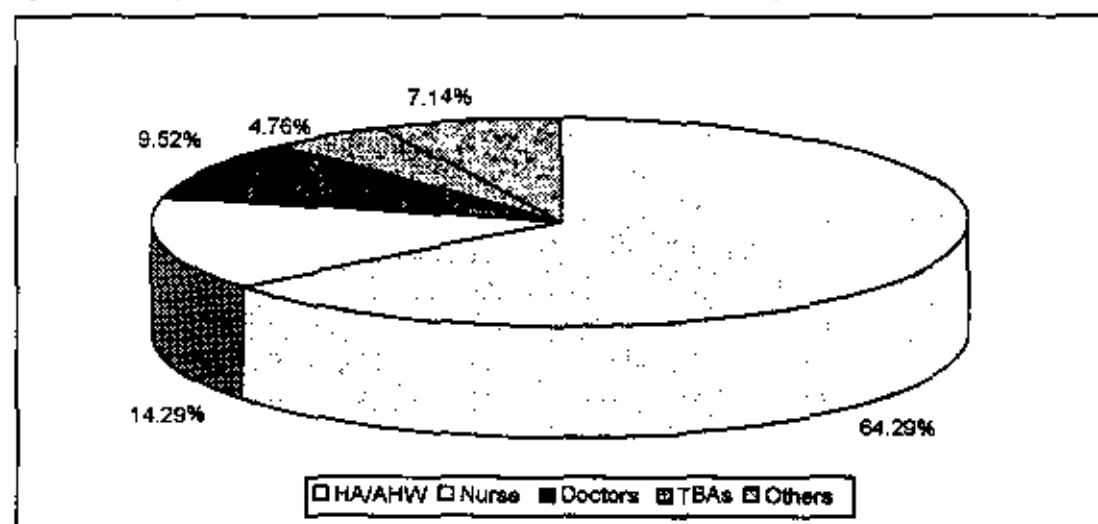
Receive of	Tetanus Toxoid		Iron/ Folate		Calcium Table	
	Number	Percent	Number	Percent	Number	Percent
Yes	39	92.9	24	57.1	14	33.3
No	3	7.1	18	42.9	28	66.6
Total	42	100.0	42	100.0	42	100.0

Source: Field Survey, 2005.

8.4 Acceptance of Prenatal Health Facilities

Among 42 respondents, most of the women went health centre such that 27 (64.3%) women met HA/AHW and 6 women (14.5%) requested to Nurse for advise counselling, TT immunization and iron/calcium tablets. Only 9.5 percent (4) women met doctor to use prenatal care and 4.3 percent (2) women was found which referred to TBAS

Fig. 13: Acceptance of Parental Health Facilities by Study Population



Source: Field Survey, 2005.

8.5 Destination for Prenatal Services

The study has also sought the place for prenatal care services and found that most of the check up were registered at health post and non-governmental clinic and few women went hospital for prenatal health check up. Among 42 women, 57.1 percent (24) prenatal care visits were health post and non-governmental clinic and 38.1 percent (16) women had gone hospital for prenatal health check up and two women said she would like to go to conjurors (Jhakri).

Table 29: Place for Prenatal Services to Survey Population

Place	Number	Percent
Health post/Clinic	24	57.1
Hospital	16	38.1
Others	2	4.8
Total	42	100.0

Source: Field Survey, 2005.

8.6 Utilization of Delivery Services

Results of different studies have concluded that most of deliveries were taken place in own house in rural part of country. In Nepal, 91.4 percent of deliveries are taken in own house and that for hill region by proportion is 0.93 (HMG/NPC, 1998). But use of delivery kits for national level is only 2.8 percent and for hill, the percentage for use are 2 percent according to National Planning Commission. All these figure show the actual figure of Nepal.

8.7 Place of Deliver

People medical attention, hygienic conditions during delivery can reduce the risk of complication and infections that can course the death or serious illness of the mother (NFHS, 1996). In study, all the targeted women i.e. among the respondents (85), most of the respondents reported place of delivery as their own residence, i.e. 90.6 percent (77) women delivered their child at house whereas 9.4 percent (8) women at health post and hospital with the supervision of trained health personnel.

Table 30: Place for Delivery to Study Population

Place	Number	Percent
Own households	77	90.6
Hospital	8	9.4
Total	85	100.0

Source: Field Survey, 2005.

8.8 Assistance During Delivery

In this study it is found that a trained TBAs were available in village and they were provided help during delivery. TBAs, were trained by health post through special program. Similarly, village health worker are also able to advise for services.

In this study, 67.1 percent (57) delivery were assisted by own household member/neighbours whereas 21.2 percent by trained traditional birth attendance and 11.7 percent births were supervised by health worker including 8.2 percent by HA/AHW and 3.5 percent by doctors.

Table 31: Assistance During the Delivery to the Study Population

Assistance	Number	Percent
Household member	57	67.1
HA/AHW/Nurse	7	8.2
TBAs	18	21.2
Doctors	3	3.5
Total	85	100.0

Source: Field Survey, 2005.

8.9 Use of Clean Delivery Kit

A delivery kit is a box and is prepared specially to use during delivery. It contains a razor, blade, acting surface, a sheet of plastic, a soap and string and pictorial instruction and marketed by maternal and child health product private limited for the purpose of safe clean delivery practices in Nepal.

In this study about 4.7 percent (4) women only reported the use and most of the women (81) 95.3 percent women were against them for the response of the question "did you use delivery kit during delivery". Although 52.9 percent (45) women used sterilized blade for placenta cut and 49.1 percent used normal blade and other instrument for this purpose. This measures the knowledge and attitude towards the health care during delivery.

Table 32: Use of Delivery Kit and Sterilized Blade by Study Population

Use	Use of delivery kit		Use of sterilized blade	
	Number	Percent	Number	Percent
Yes	4	4.7	45	52.9
No	81	95.3	40	47.1
Total	85	100.0	85	100.0

Source: Field Survey, 2005.

8.10 Help During Delivery and Problem During Labour

The survey study has explored answer for beg help during delivery and found 72.9 percent (62) women asked for help whereas 27.1 percent (23) women could not beg any help during help. Among than, 36.5 percent (31) women were suffering from different problems such as haemorrhage, eclampsia, preclampsia, obstetric labour including hypertension, high pressure, causation, vaginal discharge etc. A large mass, 63.5 percent (54) women of total, did not face any problems during labour and during delivery as well. The problems were ended in different places through TBAs, HA/IHW and doctors.

Table 33: Distribution of Study Population According to Help Beg During Delivery and Problems During Labour

Response	Beg help during labour		Problems during labour	
	Number	Percent	Number	Percent
Yes	62	72.9	31	36.5
No	23	27.1	54	63.5
Total	85	100.0	85	100.0

Source: Field Survey, 2005.

8.11 Postnatal Care

The postnatal care is very rare in the national scenario as well as in the region, is the conclusion of past study. The study also concluded the same scenario, only 21.2 percent (18) women went for postnatal care after delivery. Whereas 78.8 percent (67) women did not show any interest for postnatal visits. A major importance of postnatal visit in the study area is that they get vitamin tablets during postnatal visits. According to health post staff the vitamin tablets were provided only on postnatal visits but not in prenatal visits. Among 85 women, 19 women were suffering from serious problem during postnatal period.

Table 34: Postnatal Care Visits and Postnatal Problems for Study Population

Response	Postnatal care		Postnatal problem	
	Number	Percent	Number	Percent
Yes	18	21.2	19	22.3
No	67	78.8	66	77.6
Total	85	100.0	85	100.0

Source: Field Survey, 2005.

8.12 Frequencies of Postnatal Visits and Visits after Delivery Problems

The study has dug out the information about frequencies for postnatal visits and found most of the visits at once times i.e. 50 percent (9) women were accounted as single visit whereas other 50 percent (9) women were visited two or more times. Similarly, women suffering from postnatal problems also visited not more than twice i.e. 53.3 percent (8) attended for care of postnatal problems as single and 40 percent (6) women visited for care of postnatal problems as twice.

Table 35: Distribution of Study Population According to Frequencies of Postnatal Visits and Care of Postnatal Problems and Feed After Delivery

Frequencies visits	Postnatal visit		Care of postnatal problems		Fee after delivery (Hour)	
	Number	Percent	Number	Percent	Number	Percent
1	9	50.0	8	53.3	-	-
2	5	27.8	6	40.0	10	11.8
3	2	11.1	-	-	25	29.1
4	1	5.5	1	6.7	23	27.1
5	1	5.5	-	-	12	14.1
6	-	-	-	-	8/	9.4
7	-	-	-	-	7	8.2
Total	18	100.0	15	100.0	85	100.0
Mean	1.8				4.1	

Source: Field Survey, 2005.

8.13 Feed After Delivery

Time to feed after delivery is an important factor to recover the health of women. So, it is also included in the study. From the survey study, it is found that the average women were fed 4.1 hours after delivery. Among 85 women, 11.8 percent (10) women got something to eat after 2 hours. All the women reported that they got something to eat within seven hour of delivery period.

8.14 Relationship Between Knowledge, Accessibility of Services and Utilization of Safe Motherhood Services

8.14.1 Relationship Between Knowledge of Utilization of Safe Motherhood Services

The relation between knowledge and utilization of maternal health care facilities is measured on the basis of the magnitude of Karl Pearson's correlation coefficient. Knowledge is measured through heard about safe motherhood and the utilization as use of prenatal visit including TT immunization, delivery care including use of delivery kit, and postnatal care.

Analysis through SPSS programme, the following value of 'r' were found.

Table 36: Coefficient of Correlation Between Knowledge and Utilization of Safe Motherhood Services

Use	Knowledge
Prenatal visits	0.807
TT immunization	0.752
Use of delivery kit	0.181
Use of sterilized blade	0.866
Postnatal visits	0.247

Source: Field Survey, 2005.

From this table, we can conclude that there is a significant association between knowledge about safe motherhood and utilization of safe motherhood services. Hence,

the hypothesis, higher the knowledge about safe motherhood, reflects the higher utilization of services is strong in the study.

8.14.2 Relationship Between Accessibility and Utilization of Services

In this study, accessibility is considered as another determinant variable for utilization of safe motherhood services. So, to identify the magnitude of relationship between them, correlation coefficient is used between accessibility variables and utilization variables. The observed relation (magnitude of coefficient) are given below in a cross tabulation.

Table 37: Correlation Coefficient Between Accessibility and Utilization of Services

Use	Accessibility of all facilities
Prenatal visits	0.898
TT immunization	0.834
Use of delivery kit	0.208
Use of sterilized blade	0.881
Postnatal visits	0.301

Source: Field Survey, 2005.

From above table 37, we can conclude that the two set of variables, accessibility and utilization are strongly associated with each other and relation between them is significant. From this finding our last hypothesis is logically as well as statistically valid. Hence the knowledge and accessibility of services strongly affects the utilization of safe motherhood services.

CHAPTER NINE

SUMMARY OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

The chapter is organized to show the overall picture of the study. The first section of this chapter introduces, the second summarizes the results of this study, the third section draws conclusion from the study and finally, the fourth section draws attention on recommendations for policy formation with area of further research.

9.1 Introduction

The study "Utilization of safe motherhood practices in rural area of western Nepal: A study of Kumal community in Hastichaur village Gulmi" is based on primary data. The study is organized to analyze the knowledge and utilization of maternal health care facilities by the women of reproductive age. The specific objective of the study is to examine the knowledge and utilization of safe motherhood services including prenatal care, postnatal care and care during the delivery. Besides this there has other objective related to accessibility of services and relationship between contraceptive use and maternal health care utilization.

To fulfil the objectives of the study, conceptual framework is made. Dependent, independent and determinant variables were determined. The knowledge and accessibility are taken as independent variables and prenatal care, clean/safe delivery and postnatal care are categorized as determinant variables. The utilization of safe motherhood services is taken as dependent variables.

By using purposive sampling (non-probability), households including single woman of reproductive age group (15-49 years) who have experienced at least one child from each household of Kumal community were collected information through field survey. The data were collected by using semi-structure questionnaire, observation and key informants (open-ended questionnaire, discussion) according to objectives. The collected data were analyzed with help of SPSS software computer programme.

9.2 Summary of Findings

In this study area, total population was 485. Of them, 237 (48.9%) were males and 248 (51.1%) were females. According to the survey data, highest concentration of population in age group 5-9 were 16.7 percent. Similarly, in the total population, below age 15 years were 43.1 percent and the population age 60 and above were 3.3 percent. The dependency ratio is 75.7 the sex ratio is 95.6.

Among the respondent's women (85), largest number of respondents were in the age group 25-29 which was 25.9 percent, followed by age group 30-34 with 24.7 percent, 20-24 with 20 percent respectively. Of them, 20 percent of respondents got married before reaching 15 years of age. The highest percent i.e. 48.2 percent female were married between the age 15-19 years. The CEB to a woman in the study area was found to be 3.6 which means that on an average Kumal woman aged 15-49 has had more than three and half births.

Out of 85 households, about 41 percent respondents had agriculture as a major occupation and 8.2 percent are still continuing fishing and alcohol production as their major occupation. Similarly, 35.3 percent were engaged in daily wages. Most of the households had excluded from the basic facilities. Of them, 47 percent had access to Radio for listening and 17.6 percent had available health post facilities easily. Similarly 3.5 percent had access to biogas facility and 2.4 percent had access to solar facility.

Out of 85 households, there were 85.9 percent house which were joined by stone with mud and 9.4 percent were hut. Of them, 32.9 percent had access of toilet facility. Only 27.1 percent had access to traditional pit toilet.

The study area is completely rural and hilly. The survey indicates that 35.3 percent had access to piped water, followed by surface (river/streams) (32.9%), pond/stone tape (21.2%) and 10.6 percent household did not specified his source of drinking water.

Education plays important role in development of nation. It is found that only 27.05 percent of female and 40 percent of their husband were literate whereas 72.9 percent of female and 60 percent of male were illiterate. This indicates lower social status in Kumal community. Out of total literate females (23), no one had SLC and above, only one woman had secondary education.

About fifty percent women were using the maternal health care during study in the research area. Most of the service providers were HA/AHW, TBAs and village health worker. Very low percent went hospital for maternal health care.

More than 83 percent eligible women reported that they heard about safe motherhood through different media. The percent for literate was hundred percent and that for illiterate was only 45.2 percent. Major occupation related to agriculture had comparatively low knowledge about safe motherhood.

All the respondents reported that maternal health care facilities were available to them (48.2%). They had to walk zero to four hours to cover zero to seven and above kilo meter to receive services. Similarly, only 82 percent have reported that services were available only for pay but majority of women (81.2%) said "it is free of cost comparatively women had to pay more for delivery services.

In study area, 49.4 percent were received prenatal care through different sources including health post and hospital and HA/AHW, Nurse and doctors were the major credit holder for care. On as average, a woman went health center 4.5 times for maternal health cares among service receiving women.

Among entire prenatal visitors, 92.9 percent women received TT during pregnancy and mean number of TT received were 2.2 times per woman. Among 42 antenatal visitors, only 57.1 percent women received iron/folate during pregnancy and the percent for calcium receiver was found 33.3.

Each woman have to do work 8.05 months during pregnancy and most women reported that they feel labour during their work.

More than 90 percent delivery were occurred in own house and were assisted by TBAs and household member. 67.1 percent deliveries were assisted by household member only and 21.3 percent were helped by TBAs and remaining were occurred at health center and were supervised by HA/AHW (8.2%) and doctors (3.5%).

Almost 95 percent women did not use delivery kit during delivery but about 53 percent was cut to placental of children by sterilized blade.

About 36 percent of women were suffering from different problems during delivery and 63.5 percent women had beg help during labour period.

Only 21 percent women followed postnatal care after delivery. Among them, 22.3 percent were suffered from different problems. Most of postnatal visits were bounded within two visits. The women were get food (to eat something) within four hours after delivery.

9.3 Conclusions

The research study has conducted to demonstrate the use of maternity services by women reproductive ages in study area during pregnancy, delivery and post delivery. The study has found that women who were not familiar with safe motherhood have hardly used the services. In such a manner, socio-economic and demographic variables (literacy, occupation, income status, housing, age at marriage) are in poor condition while comparing with national level.

On the basis of above analyses and results the knowledge about safe motherhood and practice of contraception has strong effect on the use of maternal health care.

Similarly, the accessibility of safe motherhood services in research area also effects strongly the utilization of safe motherhood services. In such a way, those women who and whose husband were engaged outside agriculture sector i.e. working at non-agriculture sector had higher use of maternal health care and the number were being decreased in delivery care. In case of literacy and age at marriage, those women who were illiterate and early marriage (less than 15 years) had poor knowledge and use of safe motherhood services. Finally, for the post natal care the number of women become very small comparing to prenatal care.

The research study concludes that the literacy, occupation, age at marriage, income status knowledge and accessibility are the major variables which are playing vital and determinant role on the utilization of safe motherhood services. Hence, on the basis of results reveal that the knowledge about safe motherhood and its services, accessibility and utilization of services is not satisfactory.

9.4 Recommendation

Besides socio-cultural, economic and development factors the knowledge about maternal health care and its services, accessibility of such services, motivation for care, communication and exposure to the programme play vital role in the utilization of services and effort to improve health status of month during pregnancy and prenatal period.

9.4.1 Recommendations for Policy Implication

- The research area is deprived from the basic infrastructure i.e. source of drinking water, housing condition, educational status and other opportunities. So appropriate programme should be launched by government and non-government sectors to promote backward ethnic group.

- The study has concluded that the knowledge about the safe motherhood is strongly significant with utilization of maternal health care. So, to make long term strategies the policy should be highlight on knowledge. To increase knowledge, different IEC (Information, education and communication) programme should be launched including BCC (behavioural change communication) strategies.
- The abstract of research, accessibility of services affect utilization of services. So, responsive service delivery system is essential and important.
- The practice of clean/safe delivery kits in the study area is not better compared to the parental care. So, special IEC and BCC programme should be launched for improvement of knowledge about clean/safe delivery. Similarly, the improvement of quality of TBAs and VHWs are also helpful to improve the health status of women.
- The finding suggests that the economic status of the people is very poor. So, the respondents are unable to receive payable medical facilities. Therefore, the free and easily available medical facilities could be effective to improve the maternal health status of Kumal community.
- The service available in the study area by semi-skilled or semi-trained personnel is not satisfactory. So improve the "access of quality" services, TBAs and VHW should be trained and updated over time essentially.
- Finally, efforts should be made in creating women ground for effective RH services to increase the coverage of maternal health care.

9.4.2 Recommendation for Future Research

The boundary of the study has been already limited in the third chapter. Under the research objectives and limitation the study has assessed the knowledge and accessibility as independent variables and prenatal, postnatal and delivery care as determinant variables.

The study is not a completely pictured out to the study of socio-economic, demographic and cultural variables as well as RH variables of Kumal community in Hastichaur village. So, there are so many topics for further research study. Similarly, the study has analyzed the maternal health care practices only and has ignored child care practice as well as awareness and prevention of STDs, HIV/AIDS in the study area. So, the study is only a brick in a wall of house and there are so many other bricks which are waiting for detailed analytical test. Some of them can be pointed out as follows:

- Practice of unsafe abortion.
- Knowledge, attitude and prevention of STDs, HIV/AIDS.
- Breast feeding practice.
- Nutritional food supply for pregnant women and child.
- Practice of safe/clean delivery.
- Accessibility and availability of RH Services.
- Social, economic, cultural and demographic impact on practicing safe motherhood.
- Effective RH service delivery.
- Involvement of men on RH.
- GOs/NGOs/INGOs Commitment on RH cure services and its outlets.

REFERENCES CITED

- Bhatia Shushu, 1983, "Traditional Practices Affecting Female Health and Survival: Evidence from Countries of South Asia", *Sex Differential in Mortality Trend, Determinants and Consequences* (Canberra: ANU).
- Caldwell, J.C., 1981, "Maternal Education as a Factor in Child Mortality" *World Health Forum*, Vol. 2, No. 1, pp. 75-78.
- Central Bureau of Statistics (CBS), 1995, *Population Monograph of Nepal* (Kathmandu: CBS).
- _____ (CBS), 2003, *Population Monograph of Nepal, Vol. II*, (Kathmandu: CBS).
- _____ (CBS), *Nepal in Figures 2002* (Kathmandu: CBS).
- _____ (CBS), *Preliminary Results of Population Census 2001* (Kathmandu: CBS).
- Family Planning Association of Nepal, 1998, *Reproductive Health in Nepal* (Kathmandu: EC/UNFPA, FPAN).
- Gupta, S.P., 1987, *Statistical Methods* (New Delhi: S. Chand and Sons).
- Kapoor, V.K. and S.C. Gupta, 1994, *Fundamentals of Mathematical Statistics* (New Delhi: S. Chand and Sons).
- Khanal, K.R., 1998, "Determinants of Maternal Mortality in South Asia", *Nepal Population and Development Journal* (Kathmandu: MOPE).
- _____, 1994, *The Determinates of Maternal Health Care, Utilization in Nepal*, M.A. Research Paper (Canberra: The Australian National University).
- Khatri, Bishnu Bahadur, 2004, *Utilization of Family Planning Services: A Study of Tamang Community*, Unpublished Thesis, (Kathmandu: CDRD, T.U.).
- Khan, M.E. Ander, S.K. Ghosh and S. Bairthi, 1989, "Inequalities Between Men and Women in Nutrition and Family Welfare Services: An In-depth Inquiry in an Indian Village", *Selected Readings in the Cultural, Social and Behavioral Determinants of Health*, Health Transition series No. 1 (Canberra ANU), pp. 175-199.
- Ministry of Health (MOH) 1996, *National Maternity Care Guidelines Nepal* (Family Health Division Ministry of Health and United Nations Children's Fund, 1996).
- Ministry of Health, 2003, *Annual Report, DOHS (2001-02) 2058-59* (Kathmandu: MOH).
- _____ (MOH), 1998, *Safe Motherhood Policy* (Kathmandu: Ministry of Health).
- _____ (Nepal), New ERA and ORC Macro, 2000, *Nepal Demographic and Health Survey 2001*, Calverton Maryland, USA: Family Health Division, Ministry of Health, New ERA, and ORC Macro.
- MOH, 1998, *National Reproductive Health Strategy* (Kathmandu: MOH).
- _____, 1993, *Nepal Fertility, Family Planning and Health Survey 1991* (Kathmandu: MOH/FP/MCH Project).
- _____, 1996, *Nepal Fertility, Family Planning and Health Survey 1996* (Kathmandu: MOH, FP/MCH Project).
- _____, 1999, *Annual Report, 1997/98* (Kathmandu: MOH).
- National Dalit Commission, HMG Nepal*, 2059 (Kathmandu: Thapathali).
- National Planning Commission, 1998, *Nepal Multiple Indicator Surveillance: Cycle V., Care During Pregnancy and Delivery: Implications for Protecting the Health of Mothers and Their Babies*, 1998, NMIS Report Series No. 5, Vol. II (Kathmandu: CBS/UNICEF/Nepal).
- _____, 1998, *Nepal Multiple Indicator Surveillance: Cycle V. Antenatal, Delivery, Postnatal Services, Literacy and Paliyo Coverage*, 1997, NMIS Report Series No. 5, Vol. II (Kathmandu: CBS/UNICEF/Nepal).
- _____, 1997, *Ninth Five Year Plan* (Kathmandu: NPC).

- National Planning Commission (NPC), 2002, *The Tenth Plan, 2002-2007*. (Kathmandu: NPC).
- Nepal Family Health Survey (NFHS), 1996, "Maternal and Child Health", *Family Health Survey* (Kathmandu: MOH).
- Nepal South Asia Center, 1998, *Nepal Human Development Report* (Kathmandu: NESAC).
- New Era, 1997, *Demographic Health Survey* (Kathmandu: New Era).
- Pant, P.D. and L.B. Acharya, 1997, *Health Care Factors Related to Early Infant Survival in Nepal* (Kathmandu: MOH).
- Pathak, R.S., 1996, *Government Family Planning Programme Efforts in Nepal*, Unpublished Ph.D. dissertation Submitted to ANU (Canberra: ANU).
- Pathak, R.S., and G. Subedi, 2002, *Adolescent Reproductive Health* (Kathmandu: FPAN).
- Pokhrel, R.K., 1997, *Maternal Health Services in Nepal*, Unpublished M.A. Thesis (Kathmandu: CDPS).
- Pudasaini, S.P., 1994, "Safe Motherhood Challenges: The Global and the Nepalese Perspectives", *Nepal Population Journal*, (Kathmandu: PAN).
- Rosenfield, A. and Debouah Main, 1985, "Maternal Mortality: A Neglected Tragedy, Where is the M in MCH?" *The Lancet Vol. 2*, pp. 83-85.
- Rooney Cleone, 1992, *Antenatal Care-Maternal Health: How Effective is it? Review of Evidence* (Geneva: WHO).
- Royston, Erica and Sue Armstrong, 1989, *Preventing Maternal Deaths* (Geneva: WHO).
- Sadik N., et al., 1998, 1999, *The State of World Population* (New York: UNFPA).
- Tinker A., M. Kobinsky, et al., 1993, "Making Motherhood Safe", *World Bank Discussion Paper 202* (Washington D.C.: The World Bank).
- UNDP, 2004, *Nepal Human Development Report*, Empowerment and Poverty Reduction, Kathmandu.
- UNDP, 2004, *Nepal Human Development Report*, Oxford University Press, New York.
- United Nation (UN), 1994, "Programme of Action of the International Conference on Population and Development", *In Report of International Conference on Population and Development* (Cairo, Sept. 5-12, 1994).
- United Nations Population Fund (UNFPA), 2000. *Information, Executive Board and Resource Mobilization Division*, 220 East 42nd Street New York, NY 10017 USA.
- _____ (UNFPA), 2001, *The State of World Population 2001*, (220 East 42nd Street New York, NY 10017 USA).
- _____ (UNFPA), 1997, *Statistics of the South Asian Children and Women* (Kathmandu: UNICEF).
- _____ (UNFPA), 2004, *The State of World Population, the Cairo Consensus at Ten: Population, Reproductive Health and the Global Effort to End Poverty*, (New York : UNFPA).
- _____ (UNFPA), 1997, *The State of World Population, the right to choose: The Reproductive Right and Reproductive Health*, (New York : UNFPA).
- _____ (UNFPA), 1999, *The State of World Population, 6 Edition: A Time for Choices*, (New York : UNFPA).
- UNICEF, 1997, *Statistics of South Asian Children and Women* (Kathmandu: UNICEF).
- Vans, D.A. De, 1984, *Survey in Social Science* (Melborne: La Trobe University, Department of Sociology).
- WHO, 1998, *Pregnancy is Special Lets Make it Safe*, Regional Office for South-east Asia (New Delhi: WHO).
- _____, 1998, *Safe Motherhood Needs, Assessment* (Geneva: WHO).

- _____. 1999, *Reduction of Maternal Mortality. A Joint Statement* (Geneva: WHO/UNFPA/UNICEF/World Bank).
- World Health Organization (WHO), 1998, *Child Health and Development Report 1996-1997* (Geneva: World Health Organization).
- _____. (WHO), 2000, *South East Asia Progress Towards Health for All 1977-2000* (Delhi: WHO Regional Office for South-East Asia).

Appendix I

UTILIZATION OF SAFE MOTHERHOOD PRACTICES IN RURAL AREA OF WESTERN NEPAL

"A STUDY OF KUMAL COMMUNITY IN HASTICHAUR VILLAGE, GULMI"

Village/Tole :
 Ward No. :
 Respondent (Name of) :
 Type of household : Joint Nuclear
 Religion of the HH/H :

Description of Household Members

S. N.	Name of the Family member (1)	Relation to HH/H	Sex (2)	Age (3)	Illiterate/Literate (4)	Class Pass (5)	Marital Status (6)	Occupation		Income if available
								Major	Subsidiary	
1.										
2.										
3.										
4.										
5.										
6.										
7.										

- What is the main sources of drinking water for your household ?
 (Private/Public) distance
 (i) Piped water (ii) Pond (iii) Surface (stream/river) (iv) stone tap
 (v) Others (Travel time minutes hours)
- What type of toilet does your family use ? (Toilet facility: Yes/No) If yes,
 (i) Pit toilet (ii) Flush toilet (iii) Open toilet (iv) Bush/Field (v) Others
- What type of house do you have ?
 (i) Concrete (ii) Stone with concrete joint (iii) Stone with mud joint
 (iv) Bomboo joint (v) Others
- How much land does your household have?
 Ropani Anna
- Does your household have?
 (i) Electricity (solar) (ii) Bio-gas (iii) Radio (iv) Television (v) Others
- Is there any health centre ? (i) Yes (ii) No (Go to 8)
- Distance from house to health centre ? (i) Km (ii) Mtr
- How much time is taken to reach the health centre ? ___ hrs. ___ min ___ day
- What type of transportation is available here ?
 (i) On foot (ii) Animal back (iii) Vehicles (iv) Others

Individual Questionnaire

Background Information:

- What is your date of birth ? date _____ How old are you ? (Yrs _____)
- What was your age when you got married ? (Yrs _____)
- Have you experienced about child bearing ?
 (i) Yes (ii) No (Go to next women)
- How many children have you had ? (Including dead) _____
- Have you ever heard about safe motherhood ? (i) Yes (ii) No (Go to Part II)
- If yes, what is the means of safe motherhood ?
- From where have you heard ?

(i) Radio (ii) Health Worker (iii) friend (iv) poster/pamphlets
(vi) Others

17. All facilities are available in your nearest health post ? (i) Yes (ii) No
18. Have you utilized such facilities ? (i) Yes (ii) No
19. Why did you use such facilities?

Part - II : Utilization of Family Planning Services

20. Have you ever heard about family planning methods ?
(i) Yes (ii) No (Go to part III)
21. How do you heard ? by means of
(i) Radio/TV (ii) Written advertisement (iii) Friends/Guys
(iv) Health personnel (v) Others
22. Are you using FP devices now? (i) Yes (ii) No (go to 27)
23. Can you name please : (i) _____ (ii) _____
If you were using different method in different time, why?
24. Why you use FP devices ?
(i) Spacing/controlling child (ii) Maintains own health (iii) For safe sex
(iv) Other reasons
25. If no, had you used in the past. (i) Yes (ii) No
26. Are these services available in your accesses ?
(i) Yes (ii) No (iii) Don't know

Part - III : Antenatal Care Utilizations

27. When was your last pregnancy ? Year _____, Month _____ ago
(i) If more than five years (Go to next women)
28. Do you visit for antenatal care ? (i) Yes (ii) No (Go to 43)
29. How many times during pregnancy (_____ times)
30. Where were the visits ?
(i) Health centre (ii) Hospital (iii) Clinics (iv) Others
31. Who provided the antenatal care ?
(i) TBA (ii) MCHW (iii) AHW/HA (iv) Doctors (v) Others
32. Have you received TT during pregnancy ? (i) Yes (ii) No (Go to 36)
33. If yes, how many times ?
34. Are these services available in your accesses ? (i) Yes (ii) No
35. Did you take iron/folate tablets? (i) Yes (ii) No (Go to 39)
36. If yes, how many months ? _____ months
37. Have you taken calcium or vitamin during pregnancy ?
(i) Yes (ii) No (iii) Don't know
38. How long did you continue working during your pregnancy ? (_____ months)
39. Have you pay for each and all cares ? (i) Yes (ii) No (Go to 43)
40. Is it pay able for you ? (i) Yes (ii) No (iii) Don't know

Part - IV : Safe Delivery Services Utilization

41. Where did you deliver your baby ?
(i) Home (ii) Health centre (iii) Hospital (iv) Private clinic (v) Others
42. Who had assisted with the birth of the baby ?
(i) TBA (Trained/Untrained) (ii) Household member (iii) AHW/HA/Nurse
(iv) Doctors (v) Others
43. Did you use a home delivery kit for the birth ? (i) Yes (ii) No
44. With what was the card-cut ?
(i) Sterilized blade (ii) Non sterilized blade (iii) Others (iv) Don't know
45. How many days/hours was the labour ? (i) _____ days (ii) _____ hours
46. Did you beg help during labour ? (i) Yes (ii) No (go to 52)

47. If yes, to whom ?
 (i) Mother in law (ii) Husband (iii) Others
48. Where did you seek ? Starting place
49. How soon after did you seek help after the problem started ?
 (i) _____ Hrs (ii) _____ min
50. Around the time of birth of child, did you have any problems ?
 (i) Excessive bleeding (ii) Fever (iii) Bad smelling of vaginal discharge
 (iv) Others
51. Have you pay for help ? (i) Yes (ii) No (go to part v)
52. Is it pay able for you ? (i) Yes (ii) No

Part – V : Post Natal Care services Utilization

53. Who assisted with the delivery of child ?
 (i) Family member (ii) TBA (iii) MCHW (iv) AHW/HA/nurse
 (v) Doctor (vi) Others
54. Did you receive a check up with in 24 hours following delivery?
 (i) Yes (ii) No
55. If yes, who did so ?
 (i) TBA/MCHW (ii) AHW/HA/Nurse (iii) Doctors (iv) Others
56. How soon after the births of child where you given any things to eat ?
 (i) _____ Hrs., (ii) _____ day, (iii) _____ month.
57. After birth did you get any health problems ?
 (i) Yes (Continue) (ii) No
58. Did you visit for solve the problem ? (i) Yes (ii) No
59. To whom ?
 (i) Dhami/Jhakri (ii) TBA (iii) HA/AHW (iv) Doctor (v) Others
60. How many time ?
61. Did you get care ? (i) Yes (ii) No

If any comments please

Self observations during interview.....