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**Factors Related to the Utilization of Emergency Obstetric Care
(EOC) Service: A Study of EOC Service Users in Baglung
Hospital**



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Summary

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The study entitled "*Factors Related to the Utilization of Emergency Obstetric Care (EOC) Service: A Study of EOC Service Users in Baglung Hospital*" was a descriptive study of explorative nature. The objectives of the study were: to find out the time taken to decide to seek care, to reach hospital, and to receive care at hospital; and to describe the factors related to the utilization of EOC service at hospital.

The study was conducted in Baglung Hospital. Mothers with major obstetric complications treated at hospital (EOC service users) in the year 2002 were taken as the study population. All the EOC service users (n=103) living within 6 hours of walking distance from the hospital were included in the study. The methods of data collection were: interview with EOC service users; Focus Group Discussion (FGD) with mother's group and Female Community Health Volunteers (FCHVs); and Client Flow Analysis (CFA). The data collection was started on the 3rd week of January and completed on the 2nd week of February.

The study showed that the average time taken to decide to seek care at hospital (decision time) was 11.35 hours; time taken to reach hospital with necessary arrangement (reaching time) was 7.48 hours; and time taken to start first line treatment at hospital (care receiving time) was 1.06 hour.

The majority of the respondents (50.5%) were not able to recall any of the major obstetric complications (poor knowledge). Only 14.5% of the respondents were able to recall five major obstetric complications (good knowledge) and 34.0% of them were able to recall some of the major five obstetric complications (some knowledge). The decision time was found to be significantly higher (13.80 hours) among the respondents with poor knowledge than those with good knowledge (7.25 hours). The majority of the respondents (42.7%) and their husbands (35%) had primary education and a few of them were illiterate (22.3% and 18.4% respectively). The decision time was significantly higher (20.75 hours) among the women with illiterate husbands than the women with literate husbands. But, the decision time was not significant with the educational status of the respondents. Husband had a significant role in decision making and made decision (alone) in 52.4% of the cases while mothers had subordinate role and involved only in 29.1% of the cases. Traditional healers were the major health care provider (51.5%) at family level followed by health workers (35.9%). The

decision time was found to be higher (13.42 hours) when health workers were involved in care provision at family level.

The majority of the respondents (42.7%) were from Baglung Municipality and only a few (17.5%) of them were from other districts. For 50.5% of the respondents, the only access to hospital was by walking plus or minus other means. About 38.8% of the respondents used bus/taxi for transportation.

In most of the cases (63.1%), health workers were not present at hospital upon the arrival of patients. The care receiving time was significantly higher (1.63 hours) when the health workers were not present at the hospital. The average cost per visit was estimated at Rs.2344.00 while it was estimated at Rs. 3673.00 for the patients requiring Caesarean Section (CS). For 63.1% of the respondents, the cost of the services was expensive. The majority of the respondents (58.3%) perceived the quality of the service as good.

FGD revealed that many women in the community do not realize obstetric complications as a problem and still wait 1-2 days before seeking help. The first person called for help during an obstetric complication was still a traditional healer. Most of the participants stated that value system, beliefs, and tradition play major roles in the low utilization of EOC services. Even when the family decided to seek care at Baglung Hospital, the concern about cost and transport had severely delayed their reaching the hospital. In most instances, the mode of transport on which they rely was walking. The quality of the service and the health workers behaviour were also the grave issues raised on discussions.

CFA revealed that three out of six cases were referred to Western Regional Hospital, Pokhara, due to inability to make necessary arrangement for definitive treatment.

Based on the findings of the study, some of the recommendations made were: emphasis must be placed on the family and community level to recognize complications through awareness programs and women should be empowered in decision-making with the support of husband. Likewise, health workers at family level should be trained to identify, stabilize and refer patient during an obstetric emergency. A functional transport system should be maintained through local action. The observed community mobilization approach in this regard should be promoted and replicated in other districts. Emphasis must be given to ensure the presence (around-the-clock) of health workers at hospital.

Abbreviations

ANC	Antenatal Care
ANM	Auxiliary Nurse Midwife
BEOC	Basic Emergency Obstetric Care
CBS	Central Bureau of Statistics
CEOC	Comprehensive Emergency Obstetric Care
CFA	Client Flow Analysis
CS	Caesarean Section
CYC	Chartare Youth Club
DCRDC	Dhaulagiri Community Resource Development Centre
DHO	District Health Office
DOHS	Department Of Health Service
EOC	Emergency Obstetric Care
FCHV	Female Community Health Volunteer
FHD	Family Health Division
HMG	His Majesty's Government
HP	Health Post
HW	Health Worker
ICPD	International Conference on Population and Development
MOH	Ministry of Health
MMM	Maternal Mortality and Morbidity
NPC	National Planning Commission
NSMP	Nepal Safer Motherhood Project
PHC	Primary Health Centre
PNC	Post-natal Care
RH	Reproductive Health
RHCC	Reproductive Health Coordination Committee
SHP	Sub Health Post
SMP	Safe Motherhood Program
TBA	Traditional Birth Attendant
VDC	Village Development Committee

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Chapter 1

Introduction

1.1 Background

Situation of Maternal Health in Nepal

Every pregnant woman can develop sudden, life-threatening complications that require high quality obstetric care. But, women in developing countries do not have access to maternal health services.¹ More than half a million mothers die each year from causes related to pregnancy and childbirth in the developing world.² It is a tragic situation as these deaths are not caused by disease but occurred during or after a natural process.³

Nepal has one of the highest maternal mortality rates in the world. The maternal mortality figures of Nepal range from 539 to 1,500 women per 100,000 live births. Even at the most conservative estimate, 12 women die every day (over 4,500 every year) as a consequence of pregnancy related complications.^{2,4} Its high maternal mortality is a reflection of the status of the health system as well as the social and economic conditions that deny a woman her fundamental right to survive pregnancy and childbirth.⁵

It is now realized that the focus over the last decade on preventive care and risk identification strategies (largely through antenatal care and training of traditional birth attendants) has failed to impact on high levels of maternal mortality.⁶ In this regard, safe motherhood program in Nepal has adopted two major strategies: provide around-the-clock essential obstetric care and ensure the presence of skill attendants for 24-hours to reduce barriers faced by women who need access to quality midwifery and obstetric care during life-threatening emergencies.⁷

Safe Motherhood Program in Nepal

Safe motherhood means creating the circumstances within which a woman is able to choose whether she becomes pregnant, and if she does, ensuring that she receives care for prevention and treatment of pregnancy complications; that she has access to trained birth assistance; and if she needs it to emergency obstetric care; and care after birth, to prevent death or disability from complications of pregnancy and childbirth.⁸

The first International Conference on Safe Motherhood in Nairobi (1987) drew the attention of the world to the issue of maternal mortality and formulated the goal of 50% reduction of maternal mortality by the year 2000.⁹ This commitment was reinforced in the International Conference on Population and Development (ICPD) held in Cairo in 1994, which reorganized safe motherhood as one of the key components of reproductive health.¹⁰

His Majesty's Government (HMG) of Nepal formulated the National Health Policy in 1991, which identified safe motherhood as a priority program and institutionalized safe motherhood as a primary health care component. Establishment of Safe Motherhood Task Force and the development of the National Safe Motherhood Plan of Action (1994-97) demonstrated steps towards improving maternal health status in Nepal. In 1998, the Ministry of Health (MOH) published the Reproductive Health Strategy, which includes safe motherhood in the integrated reproductive health care package. This was followed by a Safe Motherhood Policy (1998) and Safe Motherhood plan 2002-2017 which re-iterated the issues already contained in the Plan of Action (1994-97).^{9, 10}

Based on the safe motherhood policy, Department of Health Service (DOHS) started safe motherhood program in three districts namely Baglung, Surkhet, and Kailali in 1998 with the support of Department for International Development (DFID). Comprehensive Essential Obstetric care (CEOC) model was developed and implemented at district hospital of these districts. The second phase of the program is underway in Nawalparasi, Rupendehi, Parbat, Myagdi, Jumla, and Dailekh. Nepal Safer Motherhood Project (NSMP), a DFID funded program is supporting safe motherhood program in these districts which works in service provision, demand creation, and policy formulation. Similarly, other external development partners like GTZ, UNICEF, USAID, UNFPA, and WHO support safe motherhood program in several targeted districts.^{7, 11}

Essential Obstetric Care (EOC) Strategy

Essential Obstetric care service is a strategy of the safe motherhood program, which aims to curtail the high rates of death and disability caused by the complications of pregnancy and childbirth. It has two components: Basic Emergency Obstetric Care (BEOC) and Comprehensive Emergency Obstetric Care (CEOC). Basic EOC includes the provision of administration of parenteral antibiotics, parenteral anti-convulsants, parenteral oxytocin; manual removal of placenta; removal of retained products of conception (vacuum aspiration); and assisted vaginal (forceps) delivery. Comprehensive EOC includes all of the basic functions plus caesarean section and blood transfusion.¹²

Ideally there should be at least four BEOC sites and one CEOC site for every 500,000 population.¹³ According to UNICEF (2001), currently the coverage of comprehensive EOC service in Nepal is one facility per 707,000 population and the coverage of basic EOC service is one facility per 2,547,000 population.⁵

The Maternal Mortality and Morbidity (MMM) Study, 1998 recommends that the coverage of the EOC facilities should be based on the geographical terrain and accessibility. The study has proposed a standard in the Nepalese context as one **basic EOC facility** within 4 hours travel time, and one **comprehensive EOC facility** within 6 hours travel time.¹⁴

1.2 Problem statement

Nepal has one of the highest maternal mortality ratios in the world. The maternal mortality figures of Nepal range from 539 to 1,500 women per 100,000 live births.^{14, 15} Even at the most conservative estimate, 12 women die every day (over 4500 every year) as a consequence of pregnancy related complications. A Nepali woman has a 1 in 32 chance of dying because of pregnancy or childbirth.^{2, 4}

MMM study (1998) shows that in Nepal, 67.4% of maternal deaths occur at home; additional 11.4% deaths occur on the way to health facilities; and 21.2% in health institutions.¹⁴ The highest proportion of maternal deaths that occur at home pinpoints the grim reality of the utilization of health services by the mothers.

In Nepal, only about 40% of pregnant mother make one ANC visit, against recommended minimum of four visits, 9% of the deliveries take place in health facilities and similarly about 13% of women receive care during post-natal period. This suggests that despite an increase in the number of health facilities offering maternity services, use of health facilities is still minimal among most Nepalese women.^{14, 15}

Evidence from developing countries shows that 15% of the pregnant women develop life-threatening complications mostly at birth and in the immediate post-partum period. These women should be treated in EOC facilities, but various studies conducted in Nepal show that the proportion of women with major obstetric complications treated at EOC facility (met need for EOC) is about 5%, which should not be less than 100%.^{5, 16, 17}

Monitoring of EOC indicators in the study area (Baglung Hospital) shows that the met need for EOC is 6 %, which is below the recommended level and even lower than that of other districts where comprehensive essential obstetric care (CEOC) service is available. The year-wise trend analysis also shows that the met need for EOC was decreased from 8% in 2001 to 6% in 2002.¹⁸

1.3 Justification of the study

According to the conservative estimate, 12 women die every day (over 4,500 every year) in Nepal as a consequence of pregnancy related complications. Most of these deaths occur at home (67.4%) due to a number of factors that can be prevented with skilled and timely attendance during pregnancy and delivery.^{19,25} However, the majority of women in Nepal do not have access to maternal health care services due to social, economic, and political factors.^{11,14}

Past experiences of promoting attendance of birth through Traditional Birth Attendants (TBA) and ANC visits were not adequate in addressing the issues of reducing maternal deaths. This is because the global experience shows that all pregnancies are at risk and maternal deaths are difficult to predict. The maternal mortality cannot be substantially reduced unless women have access to emergency obstetric care (EOC) with skilled attendance.⁸ So, the Safe Motherhood Program has adapted two strategies: provide around-the-clock essential obstetric care service and presence of skilled attendants at birth to improve the maternal health situation in Nepal.¹³

The proportion of women with major obstetric complications treated at EOC facilities (met need for EOC) is 5%, which should not be less than 100%. The met need for EOC in the study area (Baglung Hospital) is nearly equal (6%) to that of the national figure.^{5, 18} Though Baglung Hospital is upgraded to the CEOC facility; utilization indicators of EOC remain low, which justifies the need of such study in this area.

A study carried out by NSMP in 1997 shows that the main causes of delay in accessing hospital services are difficult paths and rivers to negotiate.²⁰ But, this is not sufficient to draw the inference about the factors related to the utilization of EOC services in Baglung. So, this study was carried out to describe the factors related to the utilization of EOC service in Baglung Hospital. The study was intended to "look at" the factors within 6 hours of walking distance from the district hospital, as it is the recommended distance for a CEOC facility.

1.4 Research objectives

General objectives

The general objective of the study were to estimate the time taken to utilizing EOC services and to describe the factors associated with the utilization of EOC services at Baglung Hospital.

Specific objectives

The specific objectives of the study were to:

- find out the time taken to decide to seek care, to reach hospital, and to receive care at hospital
- establish relation of decision time with knowledge about major obstetric complications
- establish relation of decision time with educational status of respondent and her husband
- establish relation of decision time with health care provider at family level
- establish relation of reaching time with mode of transport
- establish relation of treatment start time with the availability of health worker at hospital

1.5 Research questions

- Does the level of knowledge about major obstetric complications have any influence in the decision to seek care?
- Does the educational status of mother and husband have any influence in the decision to seek care?
- Does the mode of transport have any influence in reaching hospital?
- Does the availability of health workers at hospital have a role in receiving care?

1.6 Study variables

Independent variables

- Knowledge about major obstetric complications
- Education of mother and her husband
- Decision maker
- Health care provider at family level
- Place of residence
- Mode of transport
- Cost of service
- Quality of care
- Availability of health workers at hospital

Dependent variables

- Deciding to seeking care
- Reaching hospital
- Receiving care at hospital

1.7 Operational definitions

Education level

Educational status of both the mother and her husband was categorized into four levels.

1. *Illiterate*: Those who cannot read and write
2. *Primary education*: Those having up to five grade education
3. *Secondary education*: Those having six to ten grade education
4. *SLC plus*: Those having SLC plus education

Knowledge about major obstetric complications

Knowledge about obstetric complications was categorized into three levels.

1. *Good knowledge*: The respondents who could recall all five conditions listed below were regarded as having good knowledge.
2. *Some knowledge*: The respondents who could recall at least one of the below listed conditions were regarded as having some knowledge about obstetric complications.
3. *Poor knowledge*: The respondents who were not able to recall any of the condition listed below were regarded as having poor knowledge.

Major obstetric complications

- Obstructed prolonged labour (> 12 hours)
- Hemorrhage (APH/PPH)
- Pre-eclampsia/eclampsia
- Complications of abortion
- Puerperal sepsis (high fever)

Decision maker

The decision maker for an obstetric emergency was categorized into four groups.

1. *Husband alone*: If husband alone made decision to seek care at Baglung Hospital
2. *Husband and mother*: If husband and mother were involved in decision making
3. *Mother alone or jointly with other family members*: If mother was involved in decision making either alone or jointly with other members of the family
4. *Others*: If someone else alone or jointly made decision

To simplify analysis, "Husband and mother" and "mother alone or jointly with other family members" were merged into "**mother alone or jointly**". Hence, the categories of decision makers were "**husband alone**", "**mother alone or jointly**" and "**others**".

Health care provider at family level

The person who provided care to an obstetric patient before deciding to seek care at hospital was termed as "health care provider at family level". Health care providers at family level were grouped into three categories.

1. *Health workers*: HA, AHW, ANM, MCHW, VHW, and FCHV at family level
2. *Traditional healers*: Traditional healers included Dhami, Jhankri, and TBAs
3. *Family members and relatives*: Family members, relatives, and neighbours

Place of residence

All the EOC service users were from within six hours of walking distance. Irrespective of walking distance, the place of their residence was categorized into three group based on the political boundaries. The categories were:

1. *Baglung Municipality*
2. *VDC of Baglung*
3. *VDC of other districts*

Mode of transport

Mode of transport was the means used to reach Baglung Hospital during an obstetric emergency. The mode of transport was categorized into four groups.

1. *Ambulance*
2. *Bus/taxi*
3. *Walking: Also included porter*
4. *Others*

Quality of care

The quality of care referred to the perceived quality of care by EOC service users. Respondents were asked to rank the quality of care based on their experience about the health worker's behaviour and the availability of medicine and blood if needed. Quality of care was grouped into three categories.

1. *Good*
2. *Poor*
3. *Can't say*

Cost of service

The total cost incurred for one visit during an obstetric emergency is regarded as cost of services. The respondents were asked to rank the cost of services on two categories i.e. expensive or inexpensive. The cost of the service had three dimensions.

1. *Service cost*: Expenses made on medicine including procedural charge
2. *Travel expense*: Total amount paid (in sNRs.) for transportation
3. *Other expenses*: Expenditure on lodging, fooding, and tips

EOC service users

Those mothers with obstetric complications managed at Baglung Hospital were termed as EOC service users.

Met need of EOC

The proportion of women with major obstetric complications treated in EOC facilities was termed as met need of EOC.

Availability of health workers

Availability of health workers included the availability of doctors and/or nurse at hospital to provide essential obstetric care services.

Decision time

The time taken to decide to seek care at hospital during an obstetric emergency was termed as decision time.

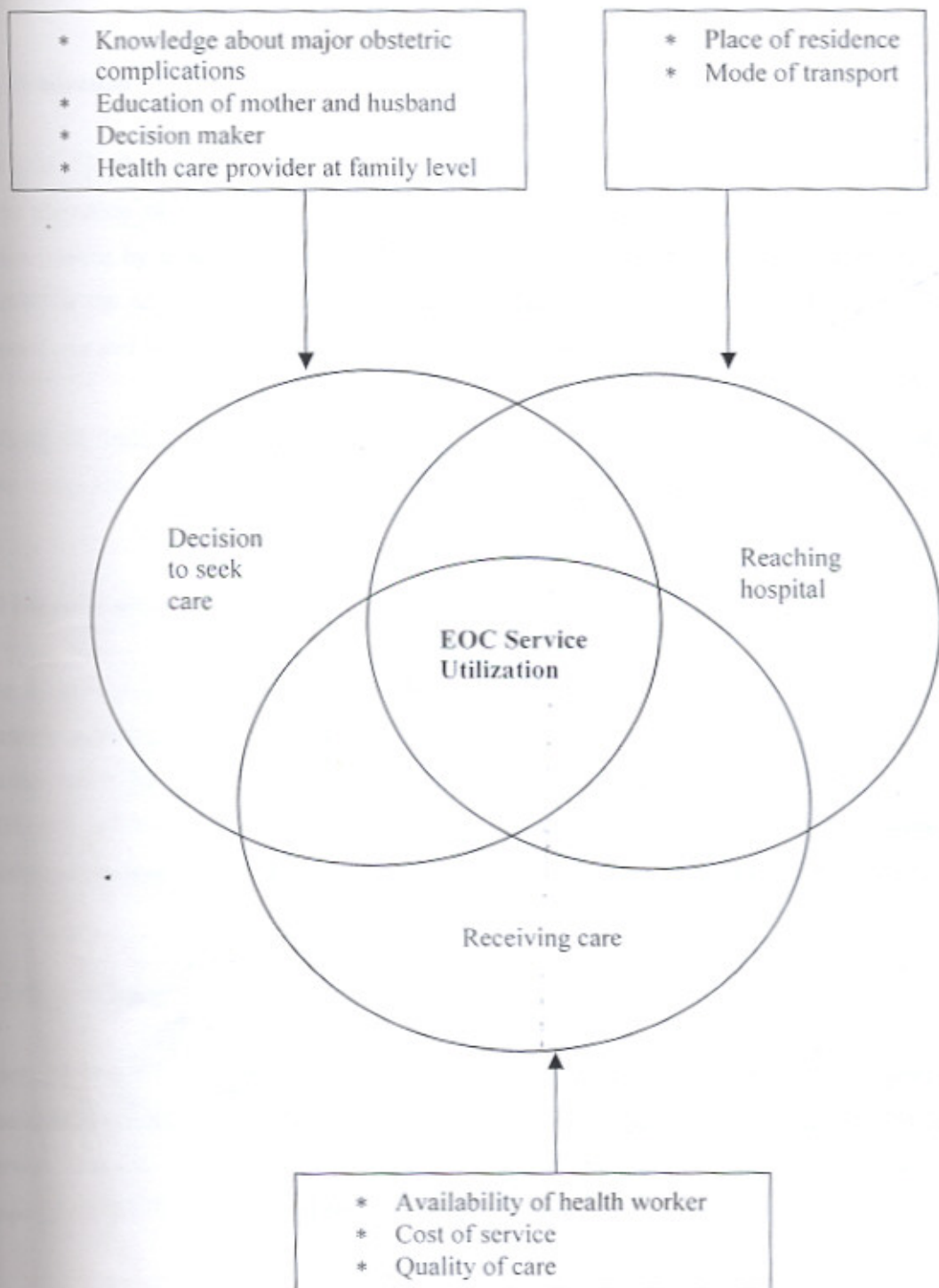
Reaching time

The time taken to reach hospital by making necessary arrangement (transport, money and attendant) after decision to seek care during an obstetric emergency was termed as reaching time.

Care receiving time

The time taken to start first line treatment at hospital for an EOC case was termed as care receiving time. The first dose of medicine or injection was the first line treatment in this study.

1.8 Conceptual framework



Chapter 2

Literature Review

2.1 Introduction

The main objective of this chapter is to explore the issues related to the delay factors associated to the utilization of EOC service raised by other studies. This includes the safe motherhood initiative taken by government and its success or failure to curtail the maternal and neonatal mortality in the country. This chapter further explores the concept of comprehensive essential obstetric care and basic essential obstetric care in the Nepalese context.

Although the findings of different studies have been reviewed, study design and methods used by other studies have not been analyzed since this is beyond the purpose of this literature review.

2.2 Literature search

The literature search was done in two ways. The first approach was the review of printed materials including books and journals while the second approach was Internet search. An Internet search for electronic materials was carried out over a six-month period. Google, MEDLINE, and POPLINE were major search engines used. Key words used in search were; safe motherhood, service utilization, emergency obstetric care, delay factors, and health system.

2.3 Maternal health

Every pregnant woman can develop sudden, life-threatening complications that require high quality obstetric care. But, women in developing countries do not have access to maternal health services. Cultural customs and beliefs can also prevent women from understanding the importance of health services, and from seeking them.¹

World Health Organization (WHO) estimates that some 515,000 women and girls die of complications related to pregnancy and childbirth each year.²¹ Over 99% of these deaths occur in developing countries. Most of the maternal deaths in developing countries occur after delivery (61%), followed by deaths in pregnancy (24%) and during delivery (16%).²² The death of a

woman during pregnancy or childbirth is not only a health issue but also a matter of social injustice.²³

Maternal mortality or "negated tragedy" is still the leading cause of death among women of reproductive age in most developing countries. The most common biological causes of maternal deaths are haemorrhage, sepsis, toxemia, obstructed labour, and septic abortion.²³ The biological causes of maternal mortality and morbidity operate within social and economic contexts. Women in Nepal have low socio-economic status, and they are often neglected as children (there is a strong male child preference), they are often poor, illiterate, undernourished and overworked. They are subjected to harmful practices and they have inadequate access to family planning and maternal health services.²⁴

Nepal Multiple Indicators Surveillance (NMIS) 5th cycle shows that only a fifth of the Nepalese women receive ANC services. Women whose household head is engaged in agriculture make the least number of ANC visits (0.5) as compared to other occupational categories. Women in higher socio-economic strata i.e. women whose household heads are engaged in "all others" make highest mean number of visits. (1.5). Literate women make more ANC visits (1.8) than their illiterate counterpart (0.4). The utilization of ANC is positively associated with mother's level of education. Ninety-five percent of women with an SLC and above received antenatal care services. This clearly shows that women having higher social status tend to use health service more than those with lower social status.²⁵

Nepal is currently the only country in the world where the life expectancy of women is shorter than that of men. The maternal mortality figures of Nepal range from 539 to 1500 women per 100,000 live births. Even at the most conservative estimate, 12 women every day (over 4500 every year) die as a consequence of pregnancy related complications.²⁴

One of the most serious reasons for maternal mortality and morbidity, but which can be best addressed by community based programs; is lack of education regarding danger signs, severity of the situation, and the need for medical care. This is compounded by difficulty in reaching medical care due to distance, lack of transport, poor roads and limited funds. Even for those women who do seek help at a facility, medical care may be slow, of poor quality, or not available. This set of factors has been referred to as the "3 delays": the delay in understanding the need to seek assistance, the delay in reaching a clinical site and the delay in receiving assistance

from that site.¹⁴ The average delay in deciding to seek care is 5 hours, organizing transport is 3-5 hours, reaching facility is 4 hours, and receiving care is less than 2 hours (average delay 13 hours) in Nepal.^{26, 27} The MMM study (1998) revealed that 36% of the families decided to seek care within 2 hours, 36.5% were able to arrange transport within 1-2 hours, once the transport was arranged 33% were able to reach a hospital within 2 hours and after arrival at hospital 42.6% were attended to immediately. The same study indicates that majority of maternal deaths occurred at a distance of 3 or more hours travel time from the nearest basic or comprehensive EOC facility. The three delays model, which delineates non-medical factors contributing to maternal deaths are the cultural and socioeconomic factors that delay the decision to seek care, access and distance factors that delay arrival at an adequate facility, and health system inadequacies that delay the provision of appropriate care.¹⁴

The MMM study (1998) has recommended one EOC first aid point within 2 hours travel time (to stabilize/refer bleeding and eclampsia), one basic EOC facility within 4 hours travel, and one comprehensive EOC facility within 6 hours travel time. Here, the factors responsible for these delays are explored.

2.4 Education

The NMIS fifth cycle (1997) is of the view that the maternal health service utilization is positively correlated to the educational attainment of mothers. According to the same study literate women make more ANC visits than their illiterate counterparts.²⁵ The same finding has been pointed out by Nepal Demographic and Health Survey (NDHS), 2001. The utilization of antenatal care services is positively associated with mother's level of education. About 95% of women with School Leaving Certificate (SLC) and above received the antenatal care services, compared to 39% of women with no education.¹⁶

Available evidence suggests that a formal education is associated with higher utilization of formal health services. Education provides not only an increased understanding of health needs and of methods of modern medicine, but also allows an individual to develop a more cosmopolitan view of the world.²⁸

2.5 Knowledge of danger signs

According to the MMM study (1998), only 48.5% of the women recognize the problem. Due to the lack of knowledge about pregnancy and warning signs of the life threatening complications and other factors, families still continued to seek care from the traditional healers such as the Dhimi Jhakri and Guruwa (20.4%), thus causing delay in seeking professional care at first level. This underlines the importance of education of the general public about complication, which can occur during pregnancy, childbirth and in postnatal period.¹⁴

According to Duff (2000), indigenous knowledge systems in Nepal are strong. Women are aware of obstetric complications and danger signs but classify them very differently to formal health care providers trained in a western medical model. The majority of life-threatening obstetric problems are believed to be caused by witchcraft or malevolent spirits and, as such the local traditional healers is the most appropriate person to call.⁶

The small study carried out by United Nations Emergency Fund for Children (UNICEF) in Saptari district shows that 85% of the respondents go to the hospital as soon as possible in case of serious obstetric illness while 13% wait 1-3 days and see how things develop before going to hospital.²⁹ A study on factors causing delay in hospitalization of children in Nepal done by Thakur (2002) shows that lack of parent's knowledge about modern scientific methods of curing disease is the leading cause of delay in the hospitalization process.³⁰

2.6 Decision maker

The MMM study (1998) revealed that the husband alone makes the decision in 42.5% of the cases, in 39.1% of the cases the husband and family of husband, and in 11.5% family member and maternal family members make the decision. This shows that the husband has significant role in decision-making.¹⁴

According to NDHS (2001) with the exception of what food to cook, husbands in Nepal have a greater say in decision-making than wives. One in two married women states that their husband alone has final say in making decision about the wife's health care. The same study indicated that

two in five married women state that their husband makes the sole decision on the purchase of large household items.¹⁶

Duff (2000) expresses the view that the status of women in Nepalese society is low, she herself is rarely the decision-maker about her own care, rather a range of people including older women and the men hold this power.⁶

2.7 Type of health care provider

According to a study carried out by Jang in Banke district of Nepal, the majority of complicated deliveries occurred outside the health service. Mostly traditional healers and senior maternity members are the health care providers for women during childbirth. Only a small proportion of high-risk pregnancies reached the referral hospital (< 5% of previous Caesarean section as well as of pre-eclampsia/eclampsia cases). Emergency obstetric admissions were rarely observed (0.3% of expected deliveries), although severe complications in childbirth occur in about 5% of expected deliveries, even among low risk pregnancies. Beyond health service factors such as restrictions in access and low quality of care, there are also powerful social and cultural factors that appear to be equally important as reasons for low utilization of maternity services. These factors are: the traditional perception that pregnancy and childbirth is a process not requiring extra medical care; the courtesy and convenience of home delivery; taboos related to the caste system; the culturally valued women's submission under the elderly; and the perceived illness etiology influencing the families' health seeking behavior in pregnancy and childbirth.³¹

Khanal (1998) has mentioned that most of the deliveries in Nepal take place at home. In rural Nepal, most of the deliveries are conducted by the mother-in-law who will seek additional help if she thinks it is needed. Deliveries are conducted in unhygienic conditions and certain food taboos are observed.³²

According to Thakur (2002), the parents may be conditioned by their cultural traditions and therefore unable to understand the need of modern medical treatment and there may be other extraneous factors such as poor financial condition, lack of education, inadequate health service facilities, poor response from hospital and the other social factors that may cause delay in hospitalization process.³⁰

One in two pregnant women receives antenatal care in Nepal. Similarly institutional deliveries are not common in Nepal. Less than one in ten births takes in a hospital. Nearly one in four births is attended by a traditional birth attendant. Only 17% of mothers receive postnatal care within two days after delivery.¹⁶

2.8 Distance

Distance is one of the factors that affect the utilization of the services. World Health Organization has recommended a CEOC facility within two hours of walking distance. Where roads are poor, vehicles are scarce, and distances to appropriate health facilities are considerable, it can be difficult for women to use even routine services.³¹

NDHS (2001) indicates that at least one-third of rural women in developing countries live more than five kilometers from the nearest hospital, and around 80 percent live more than five kilometers from the nearest hospital.²⁰

This recommendation was redefined by the MMM study (1998) in the Nepalese context and recommended a CEOC facility for 6 hours walking distance. Due to geographical distances, difficult terrain and an under-developed road and transport system, it is not uncommon to have delays with transport. Long distances to the road head further aggravate this during the monsoon season because of swollen rivers making crossing difficult. According to the MMM study (1998), for 42% of families, the only access to the hospital was by walking plus or minus some other means and 28% used a bullock cart.¹⁴

The geographical proximity of services to people's homes is one of the most important factors to influence utilization of health services. Long distance and absence of transportation to reach a hospital can be real barriers, even in developed countries.²⁸

2.9 Mode of transport

Nepal is a mountainous country and rivers can be impassable during the monsoon. Even where a footpath or road and bridge exist, a method of transport may not be readily available or due to fear of "ritual pollution", porters or lorry drivers may refuse to carry a woman.⁶ Lack of transport

and cost of transport are important reasons why people do not use health care services, especially services requiring a referral. Problems with transport also affect the ability of staff to deliver health services. In many communities, transport resources are owned and controlled by men and many women have limited access to money to pay for transport.³³ Where walking is the main mode of transportation, such distances can be insurmountable obstacles. Surveys in a range of countries confirm that many women would like to deliver in a hospital, but are unable to do so because of distance and lack of transport. In Malawi, for example, 90% of women in one survey wanted to deliver in a hospital, but only 25% actually did so.³⁴

2.10 Cost of service

The cost of a service can either be 'direct' (payment for transport, drug, and user fees), or 'indirect' or 'private' (competing demands on time). In developing countries, indirect costs can have an enormous impact because women may have many children to care for and are responsible for all the household work. In a village in West Bengal, India, 42% of pregnant women who were interviewed did not use antenatal services, mainly because it took much time.²⁸ According to Graham and others, attempts are being made to establish a system in Nigeria that will enable vulnerable people with life-threatening illness to gain access to immediate hospital treatment and defer their payments until they can afford them.³⁵

A study conducted by UNICEF in Sagarmatha Zonal hospital showed that the expected cost for EOC treatment was estimated to be Rs. 2000.00. Communities are ready to pay up to Rs. 5000.00 for quality EOC, but the irrational prescribing and high cost of drugs is an issue that needs to be addressed.²⁹ Even though user fees are almost non-existent at public facilities in Nepal, consultation and travel expenditures for each type of health service makes the service cost higher.³⁶

Cost factors such as user fees can be a major obstacle to women's use of health services. Ideally, funds generated through fees are retained at the local level and used to improve the quality of care (e.g., purchasing drugs and equipment, subsidizing transport). This can increase people's willingness to pay and empower communities with a sense of their own responsibility and capacity, and may even lead to increases in utilization. Even when formal fees are low or nonexistent, there can be other costs that deter women from seeking care. These costs may

include transport, accommodation, drugs, and supplies, as well as informal or under the table fees health staff may impose. When women lack control over resources and are dependent on others it would be a serious obstacle to use of services by the women.³⁴

2.11 Quality of care

According to Safe Motherhood Action Agenda, around the world, women describe health care providers as unkind, rude, brusque, unsympathetic, and uncaring. In the face of such treatment, the use of formal health services may be a last resort. In Tanzania, among women in one study who delivered at home even though they believed it was safer to do so in a hospital, 21 percent said they stayed home because health center staffs were "unkind". Differences in how complications are perceived by women and health staff, and poor communication between clients and providers, contribute to the problem. In the same article it is highlighted that the quality of care in South Africa, "Health workers admitted that many of the factors that determined how they relate to clients are based on prejudice and unequal power relations based on class, sex, and race". Health workers can be harsher with clients who have little or no education or who are from a different ethnic group. However, in many cases health workers' reactions and attitudes reflect their own frustrations with their work. Shortages of supplies, non-functioning equipment, excessive workloads, and poor infrastructure can make it difficult for them to provide what they perceive as good quality care; later non-payment of salaries and lack of supervision can also make health workers resentful and unmotivated.³⁷

Unfortunately, even when a decision is made to seek care and the facility is reached; quality care may not be provided. In 1997, audits of 31 maternal deaths in hospital assigned 79% of avoidable factors to the health and blood transfusion services. According to MacDonagh and et al (2000), neither basic nor comprehensive EOC is available on a 24-hour basis. Despite the high numbers of training courses, which staff had attended, and their relatively high level of knowledge, quality of care is severely sub-standard. Hospital staff of all levels from cleaner to doctor show little interest in the problems of the service and feel that change is beyond their control. There is a complete absence of teamwork and communication.³⁸

Chapter 3

Methodology

3.1 Study design

This was a descriptive study of explorative nature to assess the factors related to the utilization of EOC service in Baglung Hospital.

3.2 Study area

The study was conducted in Baglung Hospital. It is one of the districts hospital in the Western Region where the safe motherhood program has been implemented with the support of NSMP and the comprehensive essential obstetric care (CEOC) services is available. There is the provision of basic EOC functions including caesarean section and blood transfusion facilities. It is the referral hospital for Myagdi and Parbat with BEOC facilities.

The monitoring of emergency obstetric care service in Baglung Hospital by NSMP reveals that 6% of the women with major obstetric complications had received EOC (Met need of EOC) services in the year 2001. The met need for EOC service is less than that of other safe motherhood districts (Surkhet and Kailali) where CEOC service is available. The year-wise trend analysis also showed that the met need for EOC has decreased the year 2001.¹⁸

Table 1: EOC service utilization by hospital (met need for EOC in percentage)

Hospital	Baseline	Monitoring Years			
	1997	1998	1999	2000	2001
Baglung District Hospital	3	5	8	8	6
Surkhet District Hospital	7	8	8	12	15
Kailali Zonal Hospital	8	7	9	8	11

Source: NSMP, 2002

3.3 Study population

Mothers with major obstetric complications admitted to Baglung Hospital in the year 2002 were the study population.

3.4 Sample size

A list of EOC service users including their full address was obtained from hospital record. One hundred and forty mothers were admitted in Baglung Hospital for emergency obstetric care during January 2002 to December 2002. The complete address was not found for 11 cases. Help from local health workers was obtained to complete these addresses. But, even after consultation with health workers, the address of two cases could not be identified. So, these cases were not included for the purpose of the study. After making a complete list of EOC service users, stratification was done on the basis of walking distance from Baglung Hospital. The stratification was verified by District Health Office (DHO) and District Development Committee, Baglung.

After stratification, all the EOC service users (107) within 6 hours of walking distance from Baglung Hospital were selected for the purpose of the study. The service users even from other districts Parbat and Myagdi were also included in the study if they were residing within 6 hours of walking distance from Baglung Hospital.

3.5 Eligibility criteria

Inclusion criteria

- EOC service users of Baglung Hospital in the year 2002
- EOC service users within 6 hours of walking distance from Baglung Hospital
- EOC service users from other districts were also included if they were within the set distance

Exclusion criteria

- EOC service users from beyond six hours of walking distance

3.6 Data collection methods

The objectives and methodologies of the study were communicated to the staff of the DHO in a meeting organized by NSMP. The meeting provided consent to proceed on data collection. Different methods of data collection were used which were as follow:

- Interview with EOC service users
- Focus Group Discussion with FCHV and members of mother's group
- Client Flow Analysis

Interview with EOC service users

The interview with the EOC service users was conducted with the help of interview schedule (Annex 1). The interview schedule was pre-tested in Galleshwor VDC of Myagdi district and some modifications were done. Two enumerators having health background (ANM) were hired and trained to conduct interview with EOC service users. After two days training enumerators were sent to the field for interview. Though it was very difficult to visit most of the respondents due to geographical distance and difficult terrain, 103 out of 107 mothers were interviewed. Among them four EOC service users were not available on the address as mentioned in the hospital register.

Focus Group Discussion (FGD)

FGD was conducted in four different places within 6 hours of walking distance from Baglung Hospital. One FGD was conducted in Lahare Pipal (Ward no.9 of Baglung municipality), two in VDCs (Bihun and Pala) of Baglung and one in Pang VDC of Parbat. The semi-structured guideline was used to conduct the FGD (Annex 2). The FGD guideline was pre-tested in Galleshwor VDC of Myagdi and some necessary modifications were done.

The participants were invited with the support of the VHW and informed about the issue of discussion. The participation in the focus group discussion was voluntary. Moderator facilitated the discussion and the note taker recorded the text of the discussion, which was later transcribed from Nepali to English. The discussion was audio recorded upon the consent of respondents.

Verbatim questions were not asked but a checklist of topics to be covered was used. By making necessary "coding themes", analysis was done.

Client Flow Analysis (CFA)

The Client Flow Analysis Data Form (Annex 3) developed by Engender Health was used for client flow analysis in this study. The purpose of the analysis was to find out the time taken to receive EOC service by the patients. The patient should be evaluated within 15 minutes of arrival, the initial treatment should be done within 30 minutes of evaluation and the definitive treatment should be done within 1 hours of initial treatment. So the client flow analysis was aimed at assessing the quality of care in terms of promptness to care. CFA was done for one week. Only 6 patients were observed during that period.

3.7 Validity and reliability

Validity and reliability was ensured by the following measures.

- Pre-testing of the tools was done in Galleshwor VDC of Myagdi district. Pre-testing of the tools found that the interview with a respondent takes 30 minutes and the focus group discussion takes one hour to be completed.
- Orientation was provided to the enumerators for data collection
- Close guidance and supervision of data collectors was done by the researcher
- The quantitative findings were triangulated with the findings of the focus group discussion and client flow analysis

3.8 Ethical consideration

- Written letter was obtained from NSMP and DHO Baglung to initiate the data collection
- Verbal consent was obtained from the interviewees and participants of FGD

3.9 Data management and analysis

The enumerators edited data in the field. The researcher edited the data on the evening of the same day of data collection. Coding was done to simplify the process of data entry. All the data was entered in database and analyzed by using EPI Info 6 version, EPI 2000, and SPSS 10.0 for Windows. Summary output tables of percentage distribution and mean were produced. The ANOVA test was performed to analyze the variance in the mean time for different variables. The t tests were performed in those cases where ANOVA test were significant. The factors considered for ANOVA test were education of mothers and husband, knowledge of mother about major obstetric complications, decision maker, health care provider at first level, mode of transport, and availability of health workers.

3.10 Limitations

The political situation in Nepal was not so conducive to carry out study on sensitive issues like this at the time of survey. This condition also applied to Baglung district. The researcher faced some difficulties in obtaining information, particularly from focus group discussions. In some instances participants were reluctant to express their views because of the suspicions they had in their minds, but the researcher made all the efforts to convince them and built up confidence to get response. However, even under difficult circumstances the researcher attempted to carry out the study and has been successful.

During the period of client flow analysis, doctor trained to perform CS was out on deputation. All of the cases requiring CS were referred to Western Regional Hospital for definitive treatment. So the inference cannot be drawn regarding the promptness to care from CFA.

Chapter 4

Findings

Four out of 107 mothers could not be contacted, as they were not available on the address as mentioned in hospital records. So the quantitative findings were made on the basis of response of 103 respondents. The qualitative findings were based on the focus group discussions and client flow analysis. The result of the study was presented in three sections. The first section describes findings from EOC service users, second section deals with the findings from focus group discussions, and the third section presents the result from client flow analysis.

4.1 Findings of EOC service users

4.1.1 General characteristics

Most of the respondents were in their twenties (table 2), with 63.1% between the ages 20 to 24, and an additional 29% between 25 to 29 years. By ethnicity, the largest percentage (59.2%) was Brahmin and Chhetri followed by Gurung and Magar (18.4%), and KDS (13.6%).

The occupation of each respondent and her husband is categorized into four groups namely 'agriculture', 'service', 'labour', and 'other'. The respondents were asked their main occupation and their husband's occupation. Most of the respondents (58.3%) were found to have agriculture as their main occupation while only a few (6.8%) were from service category. About 13% of the respondents were engaged in labour and 22.3% were engaged in other occupation.

Similarly most of the husbands (41.7%) were found to have agriculture as their main occupation followed by service holder (23.2%). Nearly 17% were engaged in labour while 18.4% were engaged in other occupation.

Table 2: Characteristics of respondents

Characteristics		Number	Percent
Age (in years)	14-19	2	1.9
	20-24	65	63.1
	25-29	30	29.1
	30-34	6	5.8
Caste/Ethnicity	Brahmin/Chhetri	61	59.2
	Gurung/Magar	19	18.4
	Newar	4	3.9
	Kami/Damai/Sarki	14	13.6
	Others	5	4.9
Mother's occupation	Agriculture	60	58.3
	Service	7	6.8
	Labour	13	12.6
	Other	23	22.3
Husband's occupation	Agriculture	43	41.7
	Service	24	23.3
	Labour	17	16.5
	Other	19	18.4
Total		103	100

4.1.2 Average time taken to decide to seek care, to reach hospital, and to receive care

It was found that the decision time to seek care was 11.35 hours; reaching time was 7.48 hours and receiving time was 1.06 hours. The total time for EOC service utilization was 19.89 hours.

Table 3: Average time taken to decide to seek care, to reach hospital, and to receive care

Time required for	Average time (in hours)	S.D
Seeking care	11.35	8.50
Reaching care	7.48	6.80
Receiving care	1.06	0.96
Total	19.89	

4.1.3 Time taken to decide to seek care in Baglung Hospital

The respondents were asked questions to find out the proportion of respondents deciding within two hours. Only 14.6% of the respondents decided to seek care between 0 to 2 hours and an equal percent decided between 3 to 4 hours. The majority of the respondents (59.2%) decided to seek care between 5 to 23 hours while 17.4% decided between 24 to 48 hours.

Table 4: Distribution of respondents by decision time to seek care

Decision time	Number	Percent	95% confidence limits	
0-2 Hours	15	14.6	8.4	22.9
3-4 Hours	15	14.6	8.4	22.9
5- 23 Hours	61	59.2	49.1	68.8
24-48 hours	12	17.4	6.2	19.5
Total	103	100		

4.1.4 Time taken to reach Baglung Hospital

Only 31.1% of the respondents reached hospital between 0 to 2 hours and 9.6% reached between 3 to 4 hours. The majority of the respondent (57.3%) reached hospital between 5 to 23 hours while 1.9% reached between 24 to 48 hours.

Table 5: Distribution of respondents by reaching time to hospital

Reaching time	Number	Percent	95% confidence limits	
0-2 Hours	32	31.1	22.3	40.9
3-4 Hours	10	9.7	4.8	17.1
5- 23 Hours	59	57.3	47.2	67.0
24-48 hours	2	1.9	0.2	6.8
Total	103	100		

4.1.5 Time taken to receive care at Baglung Hospital

Most of the respondents (59.2%) were treated immediately upon the arrival while 23.3% were treated between 1 to 2 hours and 17.5% between 3 to 4 hours.

Table 6: Distribution of respondents by treatment start time

Treatment start time	Number	Percent	95% confidence limits	
Immediately	61	59.2	49.1	68.8
1-2 hours	24	23.3	15.5	32.7
3-4 hours	18	17.5	10.7	26.2
Total	103	100		

4.1.6 Seeking care by the level of education of respondent and her husband

Educational level of both the respondent and her husband is categorized into four groups namely 'illiterate', 'primary', 'secondary', and 'SLC plus'. The majority of respondents (42.7%) had primary education, followed by secondary education (26.2%). About 22.3% of the respondents were illiterate. Only a few respondents (8.7%) had SLC plus education. The educational status of husbands revealed a similar trend as compared to that of respondents. The majority of husbands (35.0%) had primary education whereas 28.2% had secondary education. Nearly 18% of them were illiterate and equal percentage had SLC plus education.

The average time to decide to seek care was 13.34 hours in those cases where the respondents had primary education while it was 11.57 hours in those cases where respondents had SCL plus education. The minimum time for decision (9.37 hours) was observed among the illiterate respondents. But the ANOVA test showed that there was no significant difference in the decision time on the basis of educational status of respondents ($F= 1.57, p= >0.05$).

The mean time to decide to seek care was 20.75 hours in those cases where the husbands were illiterate. The minimum time for decision (4.92 hours) was observed in those cases where the husband had SLC plus education. Significant difference was observed on ANOVA test ($F= 20.46, p=<0.01$). So t test was performed for each combination and found that there was a

significant difference in decision time between the respondents with "illiterate" husband and the respondents with "SLC plus" husband ($t=6.30$, $p < 0.01$).

Table 7: Distribution of respondents and their husband by educational level

Level of education	Number	Mean decision time (in hours)	S.D	F statistic	p value
Mothers					
Illiterate	23 (22.3)	9.37	6.69	1.57	>0.05
Primary education	44 (42.7)	13.34	8.31		
Secondary education	27 (26.2)	9.74	7.21		
SLC plus	9 (8.7)	11.57	14.68		
Husband					
Illiterate	19 (18.4)	20.75	10.29	20.46	<0.01
Primary education	36 (35.0)	12.43	6.01		
Secondary education	29 (28.2)	8.08	6.33		
SLC plus	19 (18.4)	4.92	3.73		
Total	103 (100)	11.35	8.50		

Note: Figures in the parenthesis indicates percent

4.1.7 Knowledge about major obstetric complications

Level of knowledge about major obstetric complications was categorized into three groups namely 'good knowledge', 'some knowledge', and 'poor knowledge'. The majority of the respondents (50.5%) were not able to recall any of the major obstetric complications (poor knowledge). Nearly 15% of the respondents were able to recall five major obstetric complications (good knowledge) and 34.0% were able to recall some of the major five obstetric complications (some knowledge).

The average time to decide to seek care was 7.25 hours among the respondents with good knowledge, 9.60 hours among respondents with some knowledge, and 13.80 hours among respondents with poor knowledge about danger signs of major obstetric complications. The decision time to seek care was significant with the level of knowledge about major obstetric

complications ($F=5.16$, $p<0.05$). On t test, the decision time was significantly different between respondents with good knowledge and poor knowledge ($t= -2.70$, $p= 0.05$).

Table 8: Distribution of respondents by level of knowledge about obstetric complications

Level of knowledge	Number	Mean decision time (in hours)	S.D	F statistic	p value
Good knowledge	16 (15.5)	7.25	5.39	5.16	<0.05
Some knowledge	35 (34.0)	9.60	7.46		
Poor knowledge	52 (50.5)	13.80	9.34		
Total	103 (100)	11.35	8.50		

Note: Figures in the parenthesis indicates percent

4.1.8 Decision maker for EOC service utilization in Baglung Hospital

In the majority of cases (52.4%), the "husband alone" made decision while only in few cases (29.1%) respondents were involved in decision-making.

The decision time was 3.4 hours in those cases where mothers were involved and 15.15 hours in those cases where "husband alone" made decision. The decision time to seek care was significantly different on the basis of the decision makers ($F=29.16$, $p<0.01$). On t test, it was observed that decision time was significantly different between the involvement of mothers and husbands in decision-making process ($t=7.78$, $p<0.01$).

Table 9: Distribution of respondents by the involvement in decision-making

Decision maker	Number	Mean decision time (in hours)	S.D	F statistic	p value
Husband alone	54 (52.4)	15.15	2.53	29.16	<0.01
Mother alone or jointly	30 (29.1)	3.4	7.99		
Other	19 (18.5)	13.07	7.76		
Total	103 (100)	11.35	8.50		

Note: Figures in the parenthesis indicates percent

4.1.9 Health care provider at family level for an obstetric emergency

Traditional healers including were the major health care provider (51.5%) at family level. In 35.9% of the cases, health workers were involved in service provision while in 12.6% of the cases, family members were involved in care provision. The decision time was found to be higher (13.42 hours) when health workers were involved and lower (7.60 hours) when family members/relatives were involved in service provision at family level. The observed difference on mean decision time was not significantly different by the types of health care provider ($F= 2.54$, $p=>0.05$).

Table 10: Distribution of respondents by health care provider at family level

Health care provider at family levels	Number	Mean decision time (in hours)	S.D	F statistic	p value
Health workers	37 (35.9)	13.42	9.45	2.54	>0.05
Traditional healers	53 (51.5)	10.83	7.46		
Family members/relatives	13 (12.6)	7.60	8.67		
Total	103 (100)	11.35	8.50		

Note: Figures in the parenthesis indicates percent

4.1.10 Place of residence of the respondents

The majority of the respondents (42.7%) were from Baglung Municipality while 39.8% of the respondents were from different VDCs of Baglung. It took 4.31 hours to reach hospital from the municipality and 11.19 hours from VDCs of Baglung.

Table 11: Distribution of respondents by place of residence

Place of residence	Number	Mean reaching time (in hours)	S.D	F statistic	p value
Baglung Municipality	44 (42.7)	4.31	4.59	13.72	<0.01
VDC of Baglung	41 (39.8)	11.19	7.70		
VDC of other districts	18 (17.5)	6.75	5.04		
Total	103 (100)	7.48	6.80		

Note: Figures in the parenthesis indicates percent

4.1.11 Mode of transport used to visit hospital for EOC service

The most common mode of transport (50.5%) was walking plus or minus some other means followed by bus/taxi (38.8%) and ambulance (10.7%). It took 4.80 hours to reach hospital by means of ambulance, 8.25 hours by means of bus/taxi. Likewise, it took 9.28 hours to reach hospital by walking and 4.52 hours by other means. The reaching time observed in this study also included the arrangement time so could not be generalized by mode of transport.

Table 12: Distribution of respondents by mode of transport

Mode of transport	Number	Reaching time (in hours)	S.D	F statistic	p value
Ambulance	11 (10.7)	4.8	14.33	2.90	<0.05
Bus/taxi	40 (38.8)	8.25	5.10		
Walking	32 (31.1)	9.28	5.43		
Others	20 (19.4)	4.52	4.36		
Total	103 (100)	7.48	6.80		

Note: Figures in the parenthesis indicates percent

4.1.12 Availability of health workers upon the arrival of respondent

- In most of the cases (63.1%), health workers were not present at hospital. The average time taken to receive care at hospital was 0.70 hours when the health workers were present and 1.63 hours when they were not present. The care receiving time was highly significant with the availability of health workers at hospital ($F=29.25$, $p<0.01$).

Table 13: Distribution of respondents by availability of health workers

Availability of HW	Number	Receiving time (in hours)	S.D	F statistic	p value
Available	38 (36.9)	0.70	0.80	29.25	<0.01
Unavailable	65 (63.1)	1.63	0.93		
Total	103 (100)	1.06	0.96		

Note: Figures in the parenthesis indicates percent

4.1.13 Cost of service and other expenditure made by respondents

EOC service users paid an average Rs.1,469.73 for service and spent Rs. 374.27 for travel, and, Rs. 499.51 for other things. The average cost per visit was estimated at Rs.2,343.51 for EOC services at hospital. The respondents with Caesarean Section (CS) paid Rs. 2,225 for service and spent Rs. 711.29 for travel and Rs. 735.48 for other associated cost. The average cost per visit was estimated at Rs. 3,672.57 for patients requiring CS.

Table 14: Distribution of expenditure by the type of expenses

Type of expenses (in Rs.)	Expenditure made by EOC users (n=103)	Expenditure made by CS patients (n=31)
Service cost	1469.73	2225.80
Travel expenses	374.27	711.29
Other expenses	499.51	735.48
Total	2343.51	3672.57

4.1.14 Respondents' perception about the cost of service

Respondents were also asked questions to ascertain whether the cost paid was expensive or not. Most of the respondents (63.1%) expressed the view that the cost of the service was expensive while 36.9% stated that the cost was not expensive.

Table 15: Distribution of respondents by their perception about the cost of service

Cost of service	Number	Percent	95% confidence limits	
Not expensive	38	36.9	27.6	47.0
Expensive	65	63.1	53.0	72.4
Total	103	100		

4.1.15 Respondents' perception about the quality of care (QOC)

Respondents were asked to rank the quality of care by recalling health workers behavior, availability of medicine and blood (if needed). Quality was categorized into three groups namely 'good', 'poor', and 'can't say'. This was totally the subjective feeling of the respondents. The most of the respondents (58.3%) ranked the quality of care in the good category, while 32.0% ranked the quality in the poor category. Only 9.7% were reluctant to categorize the quality of care.

Table 16: Distribution of respondents by perceived quality of care (QOC)

Perception about QOC	Number	Percent	95% confidence limits	
Good	60	58.3	48.1	67.9
Poor	33	32.0	23.2	42.0
Can't say	10	9.7	4.8	17.1
Total	103	100		

4.2 Findings of Focus Group Discussion

FGD was conducted in four different places with mothers' group members and Female Community Health Volunteer to explore the factors related to the utilization of EOC service.

Many participants were of the view that women during obstetric problems do not normally call a trained helper, but a senior maternity member in the family and neighborhood provide assistance to them. Woman still wait 1-2 days before seeking help. The first people called for an obstetric complication is still a traditional healer who performs rituals, which make the conditions worse. They believed in "*pani phukera khane and mansaume*" [A traditional practice of giving water after doing so called holy spell]. The majority of the participants expressed that the deep-rooted culture impedes a woman from utilizing the EOC service. Some of the women stated that the cast system inhibit their choice during obstetric problems.

Most of the participants in Pala expressed the view that usually the mother in-law hinders the women to utilize services saying "*we gave birth to a dozen of children successfully without visiting a hospital*". Most of the participants in all discussions agreed that values, norms, beliefs, and tradition play major role in not utilizing hospital services during obstetric problem.

The majority of the participants strongly agreed that women lack knowledge about the danger signs of complications and the availability of service. Some of them expressed the view that only women who are engaged in mothers' groups are aware of the danger signs of complications.

Even when the family decides to seek care at Baglung Hospital, the concern about cost severely affects their arrival at the hospital. Most of the respondents in Bihun and Pala stated that lack of transportation was the main barriers to visit hospital. Some of the respondents stated that roads are poor and vehicles are scarce, which even makes it difficult to use routine services. So, in most instances, the mode of transport in which they rely was walking which could bring insurmountable obstacles. The unavailability of transport at night due to curfew prevented the women in their locality to go to Baglung Hospital. The aggression of almost all of the participants about state of emergency was strongly put.

The focus group discussion in Lahare Pipal explored a case of maternal death that occurred en-route to Baglung Hospital because of the barrier imposed by the state of emergency. Though the state of emergency was contextual, the majority of participants said that it would be embarrassing if the problem arises at night. Lack of communication services provoked the condition further. Most of the participants expressed the view that unavailability of vehicles was a grave problem during the state of emergency.

Regarding the issue about the prevailing mechanism to support women in emergency, they expressed the view that NGOs and GOs are beginning to work for the mobilization of community resources. Their focus has been centralized to mobilize FCHVs. The best example of mobilization can be observed in Bihun and Lahare Pipal (Ward No. 9 Baglung Municipality) where local clubs (CYC in Bihun and DCRDC in Lahare Pipal) with the support of NSMP has provided a fund of Rs. 1000/ and motivated women to expand this fund, which could be used during emergency. But they also agreed upon the fact that this is not enough to save a woman's life. There is still a need to educate community people about mother's health so that the emergency fund can be expanded.

Regarding the issues related to hospital, all of the participants in Lahare Pipal were of the view that blood transfusion is not available when needed.

They also mentioned that the absence of health workers during night time is a great problem. They have no question on quality of care, but raised the issue of the doctor's presence in hospital. Participants in Lahare Pipal raised the serious issue of health workers behaviour towards clients and mention that the people from their community are overlooked "*Sari lagako lai matra herchhan, lungi lagako lai hardainan*" [gives priority to the women from elite group]. The participants in Pang pointed out that the cost of medicine and service was irrational. *Laj (shyness)* was also a barrier for the utilization of service in younger mothers in their first pregnancy.

Regarding question about their suggestion to improve the utilization of EOC service, the majority of the respondents in Bihun and Pala expressed the need of an awareness program, telephone service and functional transport. They also pointed out the need of 24-hour service with provision of blood transfusion.

4.3 Findings of client flow analysis

Client flow analysis was performed to see the trends of patient flow and the response by hospital team. The main objective of the client flow analysis was to observe the time taken to evaluate the patient, start initial treatment and definitive treatment. The patients should be evaluated within 15 minutes of arrival. The initial treatment should be started within 30 minutes of evaluation and the definitive treatment should be started within one hour of initial treatment.

Client flow analysis was done for one week. Only six cases were seen during that period. The client flow analysis showed that the patients were attended at hospital during daytime and no case was arrived at nighttime. All the six cases were evaluated immediately upon the arrival. But the treatment start time was delayed in two cases because of the unavailability of medicine needed.

After initial treatment three cases were referred to WRH Pokhara because of the inability to make necessary arrangement for definitive treatment. The cases needing CS were referred to WRH due to the absence of a doctor for surgical procedure. In the rest of the cases, the definitive treatment was completed in the defined time period.

Chapter 5

Discussion

Evidence shows that 15% of pregnant women will develop life-threatening complications, mostly at birth and in the immediate post-partum period. These complications in most instances cannot be predicted or prevented even with good antenatal care. Women with life threatening pregnancy complications should receive emergency obstetric care from EOC facilities. But the process indicators show that met need for EOC is only about 5% for the country and 6% for Baglung. The low utilization of EOC service is coupled with social, economic, and political factors, so the mere establishment of EOC facilities with quality service is not sufficient to meet the objectives of safe motherhood. This study attempted to identify and explore the factors related to the utilization of EOC service offered by Baglung Hospital. Discussions were made according to the variables of the study.

5.1 Deciding, reaching and receiving time

The average time to decide to seek care was 11.35 hours; reaching time was 7.48 hours and receiving time was 1.06 hours. The total time taken for EOC service utilization was about 19.89 hours. In contrary to this, Safe Motherhood Program (SMP) *Nepali* has pointed out that the time taken to decide to seek care was about 3-4 hours, reaching time including transport arrangement was 9-10 hours and receiving time was about 2 hours.²⁸ In comparison to these figures, delay was observed particularly in decision to seek care. This might be due to curfew imposed by the states. So the people were unable to decide to seek care at night. This was supported also by the findings from focus group discussions. The reaching time was not so more as mentioned in SMP (*Nepali*). But, time taken to reach hospital was higher in this context as all the users were from within 6 hours of walking distance. This might be due to the fact, even when the family decided to seek care at Baglung Hospital, the concern about cost and transport severely affect their arrival to hospital.

The study found that only 14.6% of the cases decided to seek care between 0 to 2 hours. Nearly 31% of the cases reached hospital between 0 to 2 hours and 59.2% of the cases were treated between 0 to 2 hours. The MMM study revealed that 36.1% of the cases decided between 0 to 2 hours, 32.7% of the cases reached first health institution between 0 to 2 hours, and 51.1% of the cases were treated between 0 to 2 hours. Again, delay was observed in deciding to seek care.¹⁴

5.2 Education of mother and husband

The majority of respondents (42.7%) had primary education, followed by secondary education (26.2%), while only a few respondents (8.7%) had SLC plus education. The average time to decide to seek care was 13.34 hours in those cases with respondents having primary education and 9.37 hours in those cases with illiterate respondents. The decision time to seek care was not significantly different on the basis of educational status of women ($F= 1.57, p= >0.05$). But the NMIS fifth cycle stated that health service utilization is positively correlated to the educational attainment of mothers.²⁶ But, in this study, seeking care was not influenced by educational attainment of mothers. There might be other important factors to influence decision to seek care. In this study, tradition and beliefs were major players in deciding to seek care, which was explored in focus group discussions.

The average time to decide to seek care was 20.75 hours in those cases with illiterate husbands. The minimum time (4.92 hours) for decision-making was observed in those cases where the husband had SLC plus education. The decision to seek care was correlated with the husband's educational attainment. The finding expressed that the educational status of husband had played major role in decision to seek care. This was supported by the findings of the NMIS Fifth cycle (1997), which has mentioned that the service utilization is positively correlated with the educational attainment of mother and husband.²⁵

The conclusion of this finding was that the husband's educational attainment played significant role in seeking care while that of mother's educational attainment did not have any role. But, it would be difficult to generalize that mother's education level does not play any role in seeking care. As we have already mentioned, there were other factors related to decision to seek care.

5.3 Knowledge about major obstetric complications

It was found that most of the women (50.5%) were unaware about major obstetric complications. Only 15.5% of them had good knowledge and 34% had some knowledge about major obstetric complications. The ANOVA test showed that there was a significant difference in decision time according to the level of education ($F=5.16, p=<0.05$). The similar findings were shown by the MMM study, which revealed that only 48.5% had poor knowledge to recognize the problems. Due to the lack of knowledge about pregnancy and warning signs of the life threatening complications and other factors, families still continued to seek care from the

traditional healers such as the Dhami Jhakri and Guruwa, thus causing delay in seeking professional care at first level. This underlines the importance of education of the general public about complications, which can occur during pregnancy, childbirth and in postnatal period.

FGD explored that lack of knowledge about problem identification, lack of recognition of the seriousness of the symptoms, and lack of knowledge about the availability of the services at Baglung Hospital, all contributed to decision to seek care. So not only the knowledge about major obstetric complications but also the knowledge about the availability of services was also the factors related to delay in seeking care.

5.4 Decision maker

Husbands were found to have a significant role (52.4%) in decision to seek care. Only 29.1% of mothers were involved singly or jointly in the decision making process. The decision time was significantly different by the types of decision maker in obstetric emergency ($F=29.16, p<0.01$). The finding of the study was similar to that of NDHS (2001) which revealed that one in two married women (50%) stated that their husband alone had final say in making decision about the wife's health care. Also, the MMM study (1998) indicated that the husband has a significant role in decision-making (about 80%) regarding the EOC service utilization.¹⁴

The patriarchal value system gives liberty to husband and provides submissive role to wife in all family matters. So, not only in decision, but also in other family and social matters, husband has significant role.

5.5 Health care provider at family level

It was found that traditional healers were the major health care provider (51.5%) at first level. Only 35.9% of the mothers were treated health workers at family level during emergency. This finding was supported by Duff (2000) who expressed the view that local traditional healers is the most appropriate person to call during emergency as it is believed that life-threatening obstetric problems are caused by witchcraft or malevolent spirits. He argued that though women are aware of obstetric complications and danger signs but classify them very differently to formal health care providers trained in a western medical model. So they consult traditional healers for the medical problems.

The time taken to decide to seek care at hospital was found to be higher in those cases when health worker were involved than in those cases when traditional healers were involved in service provision at family level. This might be due several reasons. One of the most important reasons might be the accessibility of traditional healers in their locality. The confidence of the health workers in dealing with obstetric problems as other simple medical problems might have contributed to delay in seeking care at hospital.

5.6 Place of residence

The geographical proximity of services to people's homes is one of the most important factors to influence utilization of health services. Long distance to reach a hospital can be real barriers, even in developed countries.

The majority of the respondents (42.7%) were from Baglung Municipality while 39.8% of the respondents were from different VDCs of Baglung. Nearly 18% of the respondents were from VDCs of other districts. Though Baglung Hospital was a referral center for Magdi and Parbat, only a few cases of emergency obstetrics were admitted to the hospital. This might be due to the difficult geographical access and lack of awareness about the availability of services.

The reaching time for those patients of Baglung Municipality was minimum as compared to respondents from other places. The reaching time was significantly different with the place of residence ($F= 13.72$, $p= <0.01$). The findings revealed that distance was a major factor in the utilization of the service. So, focus should be given on the community level to stabilize the patients with an obstetric emergency.

The BEOC and CEOC facility should be established within recommended distance. The MMM study (1998) has recommended one basic EOC facility within 4 hours travel time, and one comprehensive EOC facility within 6 hours travel time.¹⁴

5.7 Mode of transport

The common mode of transport was walking plus or minus other means (50.5%) followed by bus/taxi (38.8%). Only a few respondents (10.7%) used ambulance to go hospital. According to

the MMM study, for 42% of families, the only access to health facilities was by walking plus or minus other means in some instances and 28% used a bullock cart.¹⁴

In this study, the reaching time also includes the arrangement time. So, the reaching time may not reflect the actual time taken to reach hospital by using different mode of transport. The respondents reached hospital on average in 8.25 hours while the mode of transport was bus/taxi. It took 9.28 hours to reach hospital by walking. The reaching time to hospital was not different significantly different when the mode of transport was walking and Bus/taxi. The arrangement of transport and cost might have influenced the reaching time. Again, those who had traveled through bus/taxi might have walked a considerable long distance before reaching the road head. The rough road and unavailability of transport means further aggravated the delay in reaching hospital. As it was observed that the time taken to reach hospital by means of ambulance and other means was almost similar. This might be due to the fact that those who decided to choose ambulance as the means of transport had to wait for its arrival. So the two-way travel for ambulance took long time as much that of other means. It was explored from FGD that ambulance was mainly used during nighttime with the help of security personnel. So it might take long time to get arrangement of ambulance.

According to Healthlink, lack of transport is an important reason why people do not use health care services, especially services requiring a referral. Problems with transport also affect the ability of staff to deliver health services. In many communities transport resources are owned and controlled by men and many women have limited access to money to pay for transport.³³

5.8 Availability of health workers at hospital

In most of the cases (63.1%), health workers were not present upon the arrival of respondents. Only in 36.9% of the cases health workers were present. The average time to receive care was 0.70 hours if the health workers were present and 1.63 hours if health workers were not present. The receiving time was statistically significant with the availability of health workers upon the arrival of the respondents ($F=29.25$, $p<0.01$).

Though, the annual report of DOHS has set strategy to provide EOC service around-the-clock, availability of health workers at hospital would be a major factor to provide timely EOC services. So, it is imperative to think on this line.

5.9 Cost of services

In general, EOC service users paid an average of Rs. 2,343.51 but the patients who needed CS paid an additional Rs. 1,329.06. In both the cases they paid maximum for services charge followed by other expenses. Most of the respondents (63.1%) expressed the view that the cost of the service was expensive while 36.9% stated that the cost was not expensive.

A study conducted by UNICEF in Sagarmatha Zonal hospital showed that the expected cost for EOC service was Rs.2,000.00 only. Most of the cost (62.36%) goes for service charge (procedural charge). While the cost of rationally prescribed drugs for Caesarean Section is about Rs. 912 (US \$ 12.00), the cost of drugs for a CS case in the district is Rs 2,500.00 (US \$ 32.00). The finding of the study was nearer to that of UNICEF though the study areas are totally different on geographical and social aspects. Irrational prescribing and high cost of services was an issue that needs to be addressed.²⁹ Even though user fees are almost non-existent at public facilities in Nepal, consultation, drug and travel expenditures for each type of health service makes the service cost high.³⁸

5.10 Perceived quality of care

Nearly 42% of the respondents rated the quality of care as poor while other expressed that the quality of the service was good. The similar finding was obtained from focus group discussions. Almost all the participants in all discussions agreed that there were no questions regarding the quality of cares but health workers unkind behaviour affected their approach to hospital. Similar findings were found in the study conducted in Tanzania. The study conducted in Tanzania revealed that women preferred home deliveries even though they believed it was safer to do so in a hospital, 21% said that they stayed at home because the health center staffs were "unkind".³⁷ But, MacDonagh and et. al (2000) have expressed that despite the high numbers of training courses, which staff had attended, and their relatively high level of knowledge, quality of care is severely sub-standard.³⁸

5.11 Focus Group Discussion (FGD)

The FGD with mother's group and FCHVs explored various factors related to the utilization of EOC service. Many participants were of the view that women during obstetric problems do not normally call a trained helper and still wait 1-2 days before seeking help. The first person called

for an obstetric complication was still a traditional healer. The value system, norms, beliefs, and tradition played major role in not utilizing hospital services. Lack of knowledge about danger signs of complications and lack of knowledge about the availability of service were also the factors responsible for not utilizing the services. Even when the family decides to seek care at Baglung Hospital, the concern about cost and transport severely affect their arrival at hospital. A maternal death had occurred en route to Baglung Hospital due to the barrier imposed by the state of emergency. Though the state of emergency was contextual, it would be embarrassing if the problem arises at night. Lack of communication services provoked the condition further. Most of the participants expressed the view that unavailability of vehicles was a grave problem during the state of emergency. However some efforts have been made in the direction to increase the utilization of EOC service. Local NGOs with the support of NSMP were working on service provision and demand creation. Health workers behaviour towards clients was not always friendly as they mentioned "*Sari Lagako lai matra herchhan, lungi lagako lai hardainan*"[gives priority to the women from elite group].

The findings of FGD corroborate with the view of the MMM study (1998), as it mentioned that lack of knowledge about problems, lack of confidence in medical system, concern about the distance to be traveled, cost of the services, traditional beliefs and poverty all contributed to the delay in the utilization of essential obstetric care service.

5.12 Client Flow Analysis (CFA)

The findings from Client Flow Analysis showed that almost 50% of the cases were referred to Western Regional Hospital, Pokhara due to the unavailability of trained doctor to perform CS. But it would be unwise to draw inference from this figure, because doctor was on deputation for higher-level training on EOC. But it could be said that trained doctor should be released after making substitution for conducting surgical procedures.

Chapter 6

Conclusions and Recommendations

6.1 Conclusions

The study revealed multiple factors related to the utilization of EOC service. Most of the respondents had poor knowledge about obstetric complications. The level of knowledge about major obstetric complications had influenced the decision time.

The mother's educational level was not found to influence the decision time whereas the husband's educational level seems to influence decision to seek care.

Husbands had a significant role in decision to seek care during an obstetric emergency whereas mother had sub-ordinate role.

Traditional healers were the major health care provider at family level. The decision to seek care at Baglung Hospital was delayed if health workers were involved in service provision.

Though Baglung Hospital was a referral center for Myagdi and Parbat, only a few of the respondents from these districts (within 6 hours of walking distance) were admitted to hospital for the treatment of major obstetric complications.

The most common means of transport was walking plus minus some other means. Nearly 40% of the respondents used bus/taxi for transport. But the reaching time for those who opted bus/taxi was not significantly different from walking, as the arrangement time was also included into it.

In most of the cases, health workers were not present at the time of patients' arrival to the hospital. The receiving time was significant with the availability of health workers at hospital. The cost of the service was expensive in most instances (63.1%). Though the cost of the service was expensive, perceived quality of care was good in most cases (58.3%).

The value system, norms, beliefs, and tradition were also the major factors related to the utilization of EOC service at hospital.

6.2 Recommendations.

Most of the women were unable to recognize the danger signs of major obstetric complications, so emphasis must be placed on the family and community level to recognize complications through awareness program.

Due to the lack of knowledge about pregnancy and warning signs of the life threatening complications and other factors, families still continued to seek care from the traditional healers thus awareness programs should be focused to educate community people to utilize available health services in their community and at the same time health workers should be trained to identify, stabilize and refer obstetric patients to the hospital.

It was observed that women had a subordinate role in making decisions. So women should be empowered in decision-making with the help of husband.

The common mode of transport was walking plus minus some other means. Even when bus and taxi were used, the reaching time was not significantly different. So, a functional transport system should be ensured for obstetric emergencies through local action. The community mobilization approach observed in this regard should be promoted and replicated in other districts.

As the utilization of EOC services available at Baglung Hospital was minimal from Myagdi and Parbat (within 6 hours of walking distance), emphasis should be given on advocacy.

As the health workers were not available at hospital in most instances, emphasis should be given to ensure around-the -clock availability of health workers in hospital for EOC services.

The most of the respondents perceived the quality of EOC service as good but participants of the FGD gave contradictory views, so a study is needed to explore the quality of the EOC service at Baglung Hospital.

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Appendix 1

Interview schedule for EOC service users

Name of Interviewer..... Date.....

Respondent.....

Age of respondent

Municipality/VDC..... Ethnicity

	Mother	Husband
1. Occupation	a) Agriculture b) Service c) Labour d) Other	a) Agriculture b) Service c) Labour d) Other
2. Education	a) Illiterate b) Primary education c) Secondary education d) SLC plus	a) Illiterate b) Primary education c) Secondary education d) SLC plus

1. What was the obstetric problem that brought you to Baglung Hospital?

2. Was the problem recognized on time?

a. Yes

b. No

3. Do you know the danger signs of major obstetric complication?

a. Yes

b. No (go to question 5)

4. If yes, mention the danger signs (Tick on the options)

a. APH/PPH

b. Pre-eclampsia/eclampsia

c. Complications of abortion

d. Prolonged labour (> 12 Hours)

e. High fever (sepsis)

5. Who made decision to go to Baglung Hospital during the last obstetric problem?
- Husband
 - Husband and mother
 - Mother alone or jointly with other family members
 - Others
6. Who was the health care provider at family level for the problems that you encountered in the last pregnancy?
- Health worker
 - Traditional healer
 - Family member/ relative
7. How much time did you spend deciding to seek care after the problem was felt.....hours
- (Probe to estimate the time taken to decide after the recognition of the problems)
8. How long did it take to reach hospital by making necessary arrangement after decision to seek care at hospital?hours
9. How did you get Baglung Hospital?
- Ambulance
 - Bus/taxi
 - Walking (*includes porter*)
 - Others
10. Were health worker available upon your arrival at hospital?
- Yes
 - No
11. How long did you wait to start treatment?minutes

12. How much did you pay on the following headings?

Type of expenses	Rs.	Affordability	
		Expensive	Inexpensive
Cost of transportation (Two-way)			
Cost of services			
Others			

13. How do you categorize the cost of service on the basis of your expenditure?

a. Expensive

b. Inexpensive

14. How do you rank the quality of care provided through Baglung Hospital.

(Based on behaviour of HW, and availability of medicine and blood)

a. Good

b. Poor

c. Can't say

15. What is your feeling about the health workers behaviour towards you?

a. Good

b. Poor

c. Can't say

16. What treatment (medical procedure) was provided to the respondent on her last visit?

(Note from hospital register)

Appendix 2

FGD Guideline for FCHV and mothers group member

Date of FGD.....

Place of FGD.....

No. of participants (Attach the list of participants)

Moderator.....

Reporter.....

Where do you seek care in case of obstetric problems?

.....
.....
.....
.....

What are the barriers for the utilization of EOC service in this district?

Community level

.....
.....

Hospital level

.....
.....

Is there any mechanism to support mothers with obstetric problems?

.....
.....
.....

What do you recommend to improve the utilization of the EOC service?

.....
.....
.....

