

Utilization of Safe Motherhood Services in Jhorahat PHC Area of Morang District, Nepal

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Abstract It is difficult to predict which woman will develop pregnancy-related complications, but all pregnant women should have access to high quality obstetric care throughout their pregnancies. Non-utilization of antenatal and delivery care services and poor socioeconomic conditions of the patient usually is linked with maternal complications and poor perinatal outcome. Undesired outcomes are seen in unbooked than booked patients. Maternal mortality as a health indicator reveals the wide variations between rich and poor, urban and rural areas, within communities and between countries. The objective of the study was to study utilization and factors influencing the utilization of antenatal, intranatal and postnatal health care services by mothers. Community based cross sectional study was carried out from May 2013 to April 2014 in Jhorahat PHC area of Morang District. All pregnant women who had delivered during the one year period from May 2013 to April 2014 were included in the study. Out of 379 mothers majority (82.1%) were of age between 20 to 30years. Majority belonged to middle socioeconomic status family and were multiparous. Seventy percent of mother had completed all four antenatal visits. All mothers had taken TT injections, but only 62.3% completed full two dosage of TT vaccination. Majority (67%) of mothers had institutional delivery and most of the deliveries (70%) were conducted by skilled health personnel. Only 44.6% of mothers had done three postnatal visits.

Keywords: Utilization, Safe Motherhood Services, Nepal

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1. Introduction

In any community, mothers and children constitute priority group. Motherhood is the basis of family life, which in turn is the backbone of all orders of society. Promoting women's health improves not only individual health but also the health of the family, community and the nation [1].

Any woman during pregnancy can develop serious and life-threatening complications which require medical care. According to the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, 1992 (ICD-10), WHO defines maternal death as "The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes" [2]. Pregnancy related complications are one of the leading causes of death and disability for women aged 15–49 in developing countries. A healthy mother and a healthy baby is the desired outcome of each pregnancy. It is difficult to predict which expectant mother will develop pregnancy-related complications that is why it is essential that all pregnant women must have an access to high quality

obstetric care throughout their pregnancies. Maternal complications and poor perinatal outcome are usually associated with other factors like non-utilization of antenatal and delivery care services and poor socioeconomic condition of the family. Unwanted outcomes are seen in those mothers who have not done ANC registration compared to registered one [3].

About 800 women died from preventable causes related to pregnancy and childbirth per-day in 2013. Almost all of these deaths occurred in rural areas and in poor communities. The primary causes of death were hemorrhage, infections, hypertension and indirect causes were mostly due to interaction between pre-existing medical co-morbidities and pregnancy. The risk is 23 times higher in a pregnant woman from a developing country, dying from a maternal-related cause during her lifetime than a woman living in a developed country. Maternal mortality as a health indicator reveals the wide variations between rich and poor, urban and rural areas, within communities and between countries [4].

Skilled care can save the lives of mothers and newborn babies if done before, during and after childbirth. Between 1990 and 2013, global maternal mortality was dropped by almost 50% [5].

Nepal is following the World Health Organization's recommendations of antenatal care during 1st 4 months of pregnancy and at least 4 ANC visits during the course of

an uncomplicated pregnancy [6]. The components of ANC suggested in Nepal include: iron supplementation, blood and urine tests, at least 2 tetanus toxoid injections, blood pressure measurement, intestinal parasite drugs and health education related to pregnancy [7].

These components of ANC improve maternal and child health in various ways [8,9]. Iron supplementation during pregnancy reduces the proportion of pregnant women becoming anemic by increasing Hb up to 0.7gram/deciliter per week; screening for infection reduces fetal loss and maternal and infant morbidity, preterm and low birth weight babies; screening for hypertension and proteinuria allows early detection and treatment for preeclampsia and reduces case fatality of this condition. Administration of tetanus vaccine during pregnancy virtually eliminates this condition in neonates [10].

In addition to the number of visits, the components of ANC influence its effectiveness and also affect women's decisions regarding the time of initiation and regular care [11,12]. Poor quality ANC has the potential to decrease its use [13].

In Nepal, women of child bearing age group (15-49 years) constitute 49% and children below 15 years of age constitute about 39.35% of the total population, making them a larger chunk of the total population and they are the major consumers of the available health services [14].

According to World Health Organization (WHO), global maternal mortality rate (MMR) is 400 maternal deaths per one lakh live births, among which 11-17% of maternal deaths happen during delivery and between 50-71% deaths occur in postpartum period [15]. The maternal mortality ratio (MMR) in Nepal decreased substantially between 1996 and 2012, from 539 to 281 deaths per 100,000 live births (MoHP et al. 2012). Global Infant Mortality Rate (IMR) for 2013 is about 34 deaths per thousand live births and in Nepal it is 46(2013) per thousand live births. Maternal health status is considered as one of the key indicators of human development. Generally MMR and IMR strongly reflect the overall effectiveness of health care system [14].

Antenatal care represents an opportunity to deliver interventions for improving maternal nutrition, providing health education, and encouraging skilled attendance at birth and use of facilities for emergency obstetric care (EMOC) [16].

Antenatal care (ANC) is the care given to pregnant women so that they have safe pregnancy and healthy babies. ANC is the pivotal factor for safe motherhood but its utilization varies widely across the vast swathes of our country where the population by and large resides in urban slum and rural areas. Antenatal care is one of the health interventions for preventing maternal morbidity and mortality effectively, especially in areas where the general health condition of women is poor [17].

1.1. Antenatal Care Services in Nepal include [14]

- At least four antenatal check-ups: first at 4th month, second at 6th month, third at 8th month and fourth at 9th month of pregnancy;
- Monitor blood pressure, weight and fetal heart rate;
- Provide information, education and communication (IEC) and behavior change communication (BCC)

for danger signs and care during pregnancy and referral to the appropriate health facilities in time;

- Birth preparedness and complication readiness (BPCR) for both normal and obstetric emergencies (delivery by skilled birth attendants, money, transportation and blood);
- Early detection and management of complications, and provision of tetanus toxoid (TT) immunization, iron and deworming tablets to each pregnant women and malaria prophylaxis where essential.

Government of Nepal has started to provide NRs. 400 as incentive to women on completion of four ANC visits at the 4, 6, 8 and 9 months of pregnancy following institutional delivery in order to increase proper utilization of ANC services [14].

Service statistics of the last three years of Nepal shows that the national average of first ANC visit as percentage of expected pregnancy has increased from 83 to 89 percent in 2012/13. However, in FY 2013/14 it has decreased to 86 percent. Compared to last fiscal year, more women who are less than 20 years of age have come for 1st ANC. As in the previous years, less than three fifth of the mothers who attended first ANC in the fiscal year 2012/13 made four visits indicating that still 40% of the mothers do not complete the four ANC visits. Compared to the last fiscal year there has been slight improvement in mid-western and far western regions however eastern and central development region have experienced minor decline [14].

Nepal has a target to achieve 80 percent of women completing at least four antenatal care visits during their last pregnancy by 2015 (NHSP2, 2010-2015). Only two districts Rautahat and Lamjung have achieved the 2015 target (80%) [14].

The 2006 survey in Nepal reported that the utilization of ANC skilled care changed according to the socio-demographic status of women. Women living in urban area are twice as likely to access ANC compared to rural women (52% vs. 20%). According to region, the ANC utilization is 8% in Western Mountains to 33% in the Central Hills. These figures suggest that the average utilization of ANC is not only below the government target of Nepal, but also below the developing countries' average of 68% globally. Regionally, the average use of ANC is 54% in South Asia and 82% in East Asia [18].

1.2. Intranatal Care

Even though, childbirth is a normal physiological process, complications may arise. Septicemia may result from unskilled and septic interventions, and tetanus neonatorum due to the use of unsterilized instruments. The need for effective intranatal care is therefore essential, even if the delivery is going to be a normal one. The emphasis is mainly on the cleanliness which includes clean hands and fingernails, a clean surface for delivery, clean cord care i.e., clean blade for cutting the cord and clean tie for the cord, no application on cord stump, and maintaining birth canal clean by avoiding harmful practices [15].

1.2.1. Delivery Care Services in Nepal include [14]

- Skilled birth attendants during deliveries (either home-based or facility-based);

- Early detection of complications and management or referral after giving obstetric first aid by health worker to appropriate health facility where 24 hours emergency obstetric service are available;
- Obstetric first aid at home and/or HP/SHP if complications occur, using Emergency Obstetric Care Kit (EOC kit);
- Identification and management of complications during delivery and referral to appropriate health facility as and when needed;
- Registration of births and maternal and neonatal deaths.
- Nepal has committed in achieving 60 percent deliveries by SBA by 2015. Deliveries attended by skilled birth attendant have increased over the last three years. However, only a slight increment has been observed in FY 2012/13 from 44 percent in FY 2011/12 to 45 percent.
- Skilled birth attendant as a percentage of expected live birth is low in Central Development Region and Western Development Region as compared to other development regions.
- Institutional delivery has been increasing in the last three years from 37 percent to 45 percent.
- However, institutional delivery has only slightly improved in FY 2012/13. Institutional delivery as a percentage of expected live birth is low in CDR and WDR compared to other development region.
- The aim of Nepal is to raise institutional delivery at 60% by 2015 (NHSP2, 2010-2015).

Delivery conducted by SBAs has doubled in the last ten years (from 9% in 1996 to 19% in 2006). Data show that most of the increase delivery by SBAs has been observed in the last five year period (11% in 2001 to the present level of 19 %) [19].

Additionally, 4% of births are assisted by health assistant; female community health volunteers (FCHV) assist 2% of deliveries and 19% of births are conducted by traditional birth attendants (TBA). Women receive birth assistance from a relative or neighbor for nearly one in two births, while 7% of births take place without any type of assistance during delivery. Even though there has been an increase in the rate of utilization of SBAs, the percentage of births assisted by unskilled persons (e.g. family members, friends and others) has not declined much (56% in 1996, 55% in 2001 and 50% in 2006. More than half (51%) of births in urban area were assisted by SBAs relative to 14% of births in rural areas. By ecological region, deliveries conducted by SBAs are more in the hilly region, central region and especially the central hilly region. Highly educated women, (SLC qualification and above) are more likely to seek SBA attendance compared to non-educated women (71% vs. 8%). Similarly, birth assistance differs according to the economic status of women's households (highest quintile 58% vs. lowest 5%) [19].

1.3. Postnatal Care

Postnatal or post-partial care is defined as a care of the mother (and the newborn) after delivery. Broadly this care falls into two areas: care of the mother which is primarily the responsibility of the obstetrician and care of the newborn, which is the combined responsibility of the

obstetrician and pediatrician. This combined area of responsibility is also known as perinatology. [15]

Postnatal care includes identification and management of complication in mother's and newborn during postnatal period and referral to appropriate health services as and when needed, promotion of exclusive breastfeeding, personal hygiene and nutrition education, post-natal vitamin A and iron supplementation for the mother, immunization of newborns and post-natal family planning counseling and services. Nepal Government recommends 3 postnatal visits: 1st within 24 hours of delivery, 2nd on the third day and 3rd on seventh day after delivery [14].

Maximum number of maternal and neonatal deaths occur during the 24 hours after delivery and the 1st two days following delivery are critical for monitoring complications which may arise from delivery. A post-natal care (PNC) visit is also an ideal time to teach a new mother about to care for herself and her newborn [20].

For building a sound and healthy nation, protecting the health of expectant mothers and her children is of prime importance [21]. In this aspect, care of the mother and child occupies a paramount place in health service delivery system.

Many programs have been implemented and many more are on anvil. The primary aim of safe motherhood is to achieve a healthy mother and a healthy baby at the end of pregnancy. This could be achieved only by taking preventive measures to combat future complications through regular antenatal checkups, deliveries under medical supervision, and proper postnatal health checkups [14]. The conventional Maternal and Child Health (MCH) services were fragmented into antenatal, intranatal, postnatal and infant care etc., but, the present approach is to provide an integrated package of 'essential health care' also known as 'primary health care' which is based on the principles of equity, inter-sectoral co-ordination and community participation [15].

According to available Data of Nepal, utilization of maternal health services depends on the socio-economic status of women. Poor rural road links and lack of access to health services are other factors which restricts the utilization of services. It has been seen that higher status women (e.g. measured by education level, wealth and urban dwelling) make better use of health services including for maternity care. Although there is a range of maternal health policies together with a health delivery system aimed at improving utilization of maternal health services, there is still lack of access and unmet demand (e.g. high unmet need for contraceptive services) mainly in poor and remote areas of Nepal [22].

This study therefore, is sought to identify the gaps in the knowledge, practices, and utilization of ANC, INC and PNC care and to provide inputs into developing feasible and sustainable community-based interventions to improve maternal and child health care.

2. Aim and Objectives

The objective of the study was to study utilization and factors influencing the utilization of antenatal, intranatal and postnatal health care services by pregnant women.

3. Materials and Methods

3.1. Study Area

The study was conducted in a Jhorahat PHC area of Morang district, which is situated in eastern part of Biratnagar approximately 10 km from Biratnagar. The PHC covers total population of 46256 residing at Lakhantari, Baijanathpur, Banigama, jhorahat, Motipur, Sidharaha and Tetaria villages. Most of the people are literate and main occupation of majority of the people is agricultural farming.

3.2. Study Population

Married women from Jhorahat PHC rural area, who had delivered during the one year period from May 2013 to April 2014.

3.3. Study Design

A Community based cross sectional study

3.4. Inclusion Criteria

- Married women who delivered during May 2013 to April 2014.
- Women who are residing in primary health center area since one year.
- Women who completed 2 months of postpartum period

3.5. Exclusion Criteria

- Unmarried women
- Pregnant women who are not permanent residence of Jhorahat PHC area.

3.6. Method of DATA collection

Married women in the Jhorahat PHC rural Area, who delivered during the one year period from May 2013 to April 2014 were taken in the study. The data were collected by interview method, using pre-designed and pre-tested questionnaire. The response of the participants to various questions asked regarding Utilization of Antenatal, Intranatal and Postnatal health care services were recorded systematically.

3.7. Ethical Clearance

Prior to the study, ethical approval from the institutional ethical committee was taken. Informed consent was taken from all the patients involved in the study and confidentiality was maintained.

3.8. Sample size

In a pilot study done prior to the study showed ANC service utilization is 70%. The sample size was calculated from given formula:

Where n = sample size

P = ANC service utilisation $p=70\%$

$q=100-p$ $q=30$

d = error in the estimation of p (10%)

The sample size required was 164.

3.9. Data Analysis

The analysis of data was done by calculating percentages, proportions, mean and standard deviation.

4. Results

Out of 379 mothers majority (82.1%) were of age between 20 to 30yrs, only 7.9% were less than 20yrs of age. The majority of women were from middle socioeconomic status family and were multiparous (Table 1).

Table 1. Distribution of Mothers According to Age, Socioeconomic Status and Parity

Age (years)	Number	Percentage
≤ 19	30	7.9
20-24	205	54.1
25-29	106	28
≥ 30	38	10
Total	379	100
Socio-economic Status		
I	38	10
II	98	25.9
III	110	29
IV	104	27.4
V	29	7.7
Total	379	100
Parity		
1	179	47.2
2	111	29.3
3	43	11.3
4	37	9.8
5	9	2.4
Total	379	100

56% were registered in first trimester of pregnancy, whereas only 1% were registered in third trimester. They were registered in different level of health services, 7(1.8%) in sub-health post, 106(28%) in PHC, 130(34.3%) in Koshi zonal hospital and 136(35.9%) in private nursing home. Seventy percent of mother had completed all four antenatal visits whereas 2.1% had single antenatal visit. All mothers had taken TT injections, but only 62.3% completed full two dosage of TT vaccination (Table 2).

Table 2. Distribution of Mothers According to The Time, Place of Antenatal Registration, Visits and Inj. TT Received

	No	%
ANC Registration		
First trimester	212	56
Second trimester	163	43
Third trimester	4	1
Total	379	100
Place of Registration and Visit		
Sub health post	7	1.8
PHC	106	28
Koshi Zonal hospital	130	34.3
Private Nursing home	136	35.9
Total	379	100
Number of Antenatal Visits		
one visit	8	2.1
Two visit	52	13.7
Three visit	53	14
Four visit	266	70
Total	379	100
Number of TT Injections Received		
single dose	143	37.7
2 doses	236	62.3
Total	379	100

Out of 379 mothers, only 261(69%) had utilized full ANC and undergone detailed antenatal checkup. Routine Urine test was done in all mothers and Hb test was done in 371 (97.9%). Ninety eight percent of mother had normal blood pressure and weight gain during pregnancy (Table 3).

Table 3. Distribution of Mothers According to Utilization of ANC Services and Details of Antenatal Checkup

Utilization of Full ANC		Number		Percentage		
Utilized		261		69		
Not utilized		118		31		
Details of Antenatal Checkup						
Urine Test	Done		Not done		Total	
	No	%	No	%	No	%
	379	100	0	0	379	100
HbTest	Hb level Increased		Hb level not increased		Total	
	No	%	No	%	No	%
	371	97.9	8	2.1	379	100
Blood Pressure	Blood pressure fluctuation		Normal		Total	
	No	%	No	%	No	%
	8	2.1	371	97.9	379	100
Weight	Weight gain		No weight gain		Total	
	No	%	No	%	No	%
	371	97.9	8	2.1	379	100

There were 343(91%) normal and 36(9%) cesarean delivery. Sixty seven percent(255) of mothers had delivered in an institution and 33%(124) delivered at home. Out of 379, only 265 (70%) delivery was attended by skilled person (Table 4).

Table 4. Distribution of Mothers According to The Mode of Delivery and Place of Delivery

		Numbers	Percentage
Mode of Delivery			
Normal		343	91
Cesarean		36	9
Total		379	100
Place of Delivery			
Institutional		255	67
Home		124	33
Total		379	100
Delivery Conducted By			
Skilled		265	70
unskilled		114	30
Total		379	100

169 (44.6%) mothers had all three postnatal visits, but 129(34%) did had any postnatal visit whereas 53(14%) had one and 28(7.8%) had two postnatal visits. out of 379 mothers 356(93.6%) did not had any postnatal complications, 13(3.4%) had sepsis and 10(2.6%) had UTI during postnatal period. At the time of delivery and during their postnatal visits 263(69.4%) got advice regarding diet, 62(16.4%) were taught about postnatal exercises, 328(86.5%) were advised about importance of exclusive breastfeeding, 301(70.4%) were taught about care of newborn, 331(87.3%) were advised regarding immunization of child and 248(65%) were advised about family planning (Table 5).

Table 5. Distribution of Mothers According to Postnatal Visit, Postnatal Complications and Postnatal Advice

		Number	Percentage
No of Postnatal Visits			
No Visit		129	34
1 Visit		53	14
2 Visits		28	7.4
3 Visits		169	44.6
Total		379	100
Postnatal Complications			
Nil		356	93.9
Sepsis		13	3.4
Uti		10	2.6
Total		379	100
Postnatal advice		Received	Not received
		No.	%
Diet		263	69.4
Exercise		62	16.4
Exclusive Breast Feeding		328	86.5
Care of New Born		301	70.4
Immunization		331	87.3
Family Planning		248	65.4

5. Discussions

In the study, mean age of mothers was 23.81 years, with a range of 17 to 32 years. Majority 54.1% of respondents were aged between 20-24 years, followed by 28% aged between 25-29 years, 7.9% were aged \leq 19 years and 10% were aged \geq 30years. Similarly, in a study done in Palpa District, majority of respondents (48.1%) were 20-24 years and the mean age of mother was 24.63 [23]. The study revealed that, majority 27.4% of mothers belonged to class IV socioeconomic status according to modified B G Prasad's classification [24], 29%, 25.9%, 10% and 7.7% of mothers belonged to class III, class II, class I and class V respectively.

In the study, majority of mothers were primi para (47.2%), followed by 2nd para (29.3%), 3rd para (11.3%) and 4th para (9.8%). 2.4 percentage of mother belonged to high risk group as they were grand multipara.

The study revealed that antenatal registration was 100 percent, of which 56% of mothers registered in the first trimester, 44.1% in second and 0.6% in third trimester. Our findings were similar to study conducted at Karnataka by Javali and at rural Lucknow, India by Roy both of whom revealed 100% ANC registration [25,26]. In a study conducted in different areas of Wardha District, India, it was observed that in rural area 39.51% and in urban area 48.0% of participants were registered in first trimester [27]. In another study done in Rewa town of Madhya Pradesh, India 61% of mothers were registered in 1st trimester, 31.4% in 2nd & 3rd trimester [28].

In our study, 35.9% mothers visited private hospitals for antenatal checkups, 64.1% visited various government health facilities like Govt. hospital (34.3%), PHC(28%) and sub health post (1.8%).

In a study done in rural areas of mid-western development region of Nepal, majority (77.2%) of respondents visited Health Post/Sub Health Post/Primary Health Centre for their ANC checkup followed by Nursing Home/Hospitals (21.0%) [29]. In another study done in

Belbari VDC of Eastern of Nepal, 52% of mothers visited government hospital and 48% visited private hospital [30].

In our study, majority 70% of mothers had four antenatal visits, 14% had 3 antenatal visits 13.7% had 2 antenatal visits and 2.1% had single antenatal visit. Majority of mothers had first ANC visit in the first trimester of pregnancy. All the mothers were immunized with tetanus toxoid injection, 62.3% received 2 doses and 37.7% received single or booster dose.

In a study done in rural areas of mid-western development region of Nepal, about 62.1% participants had ≥ 4 times ANC checkup in their last pregnancy and more than 85.7% received two doses of tetanus toxoid injection [29]. In a study conducted in Belbari VDC of Eastern Region, Nepal, 84% of mothers had at least one antenatal visit during their pregnancy and 87% of women had completed two doses of TT injection [30]. In a study conducted at the Village Development Committees (VDC) of Ilam district, Nepal, it was found that four antenatal visits were made by 69.5% of mothers and majority of mothers had first ANC visit in second trimester of pregnancy and 94.4% of mothers were immunized with two doses of tetanus toxoid [31].

Our study revealed that 69% of mothers utilized full antenatal care.

In a study done at Sub centre level in a rural area of Jammu in India, it was observed that 29.12% of the total pregnant females received full antenatal care [32]. In a study done in 90 districts of various states in India, 52.5% of mothers utilized full antenatal care [33]. In another study done in Vantamuri PHC of Belgaum, India revealed that 50.5% mothers had utilized full antenatal care [34]. Full ANC coverage among pregnant women was slightly higher in our study than in the above studies.

In our study, weight was recorded in 379 mothers and weight gain was found in 97.9% of mothers. Blood pressure was recorded and urine test was performed in all mothers. Hemoglobin estimation was done in 379 mothers in which 97.9% of mother's hemoglobin was increased compared to previous examination. In another study done in Thiruvananthapuram district, India, it was observed that weight, height and blood pressure were recorded in 74.77%, 14.25% and 94.16% of mothers respectively. Hemoglobin level was estimated in 95.33% of mothers and urine test was performed in 98.83% of mothers [35].

Our study revealed that, 91% mothers had normal vaginal delivery, 9% delivered by cesarean section. A study done in Balmiki Basti of New Delhi, India showed that 95.1% of mothers had normal vaginal delivery and 4.8% delivered by cesarean section. In another study done in Shindolli village, Karnataka state, India 88.8% women had normal vaginal delivery and 11.2% delivered by cesarean section [36].

In our study majority 67% of mothers had institutional deliveries and 33% of total deliveries took place at home.

A study conducted in rural areas of mid-western development region of Nepal, 57.1% of mothers had home deliveries and 23.9% of total deliveries took place in an institution. [29] In another study done in Belbari VDC of Eastern Region of Nepal, 80% of mothers had institutional deliveries and 20% of deliveries were conducted in the hospital [30].

In our study, 70% of deliveries were assisted by skilled health personnel. Only 31% of deliveries were conducted

by unskilled persons. Similar findings were found in a study conducted in Karnataka in which 71.3% of the deliveries were assisted by skilled health personnel. In a study done in Birbhum district of West Bengal, India 33.4% of deliveries were conducted by doctors, 27.81% by ANM/ Nurses, 13.76% by trained TBA and 25% were conducted by unskilled person. [37]. A study done in rural areas of mid-western development region, Nepal, 44.9% home deliveries were assisted by unskilled persons (relatives/women/husband) and 54.8% of deliveries were conducted by skilled persons [29].

In our study, number of institutional deliveries and deliveries assisted by skilled health personnel were more, probably because of awareness created during antenatal visits and high literacy status of the women.

In our study, 34% mothers did not receive postnatal care, 21.4% had 1-2 postnatal visits and 44.6% of mothers had three postnatal visits. In a study conducted in slums of Davangere city, India, 64.7% mothers had at least one postnatal visit. [38] A study done in sub-centre of Rohtak district, India it was observed that 4.4% of mothers had three postnatal visits [39].

In this study, only 6% of mothers had postnatal complications. In the study done at Vantamuri PHC of Belgaum, it was found that 6% mothers had postnatal complications [34].

In this study, postnatal dietary advice was given to 69.4% of mothers and 65.4% of mothers received family planning advice. 70.4% of mothers received postnatal advice on newborn care. Advice regarding exclusive breast feeding and immunization of child was given to 86.5% and 87.3% of mothers respectively. Only 16.4% received advice on postnatal exercise.

In a study done in Lucknow district, India it was found that 70% mothers had received advice on breast feeding and advice on diet and family planning was given to 33.8% and 58.1% respectively. [40] In comparison with this study, more number of mothers in our study group had received postnatal advice but still it needs to be improved.

6. Conclusion

The results of the present study revealed that utilization of antenatal service was good as majority of the mothers (69%) received full ANC and 62.3% had taken TT2. Majority (67%) of mothers had institutional delivery and most of the deliveries (70%) were conducted by skilled health personnel.

Even though there is reasonable high utilization rate of maternal and child healthcare services in Jhorahat PHC area, the use of postnatal services is minimal. Only 44.6% of mothers had done three postnatal visits. The low utilization of postnatal services could be explained by that women tend to believe that it is not necessary to go back for check-ups after delivery, unless complications arise. It may be the reason that most maternal deaths could occur.

Limitations of the Study

Small sample size due to limited population within the catchment area of the primary health center.

Declaration of Conflicting Interests

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