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Utilization of Maternal Health Care Services among Mothers Residing at Slum Area

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ABSTRACT

Background: Appropriate utilization of maternal health care services is very important tool to reduce the maternal and child morbidity and mortality rate. This study was conducted to assess the utilization of maternal health care services by the women for their last pregnancy in one year period and to find out its association with selected variables.

Methods: Descriptive cross sectional study was conducted for one year by using semi-structured questionnaire among 285 mothers residing at slums area of Dharan sub-metropolitan city after taking written consent from them. Ethical clearance was obtained from Institutional Review Committee, BPKIHS and Dharan Sub-metropolitan city office. Simple random sampling followed by snowball sampling method was used to collect the data by interview method.

Results: Majority (95.1%) had one Antenatal visit, 60.4% had initiated antenatal visit at first trimester and 78.99% had completed 4 or more antenatal visits. Only 35.8% had taken complete dose of iron and calcium. Majority 262 (91.92%) respondents have taken Tetanus Toxoid immunization and among them only 74.42% had taken 2 dose of TT injection. Women who delivered in health facility accounted for 70.9% but only 28.8% went for postnatal visit. Majority (65.3%) received health advice during postnatal period. Nearly 40% respondents used family planning after post partum period. There was significant association between utilization of antenatal and delivery services with Educational status of respondents and their husbands and number of pregnancy and between utilization of postnatal services with occupation of husband.

Conclusions: Utilization of maternal health care services, antenatal services utilization were satisfactory whereas postnatal services and family planning services utilization were very poor. Utilization of maternal health services should be encouraged by conducting public awareness programmes.

Keywords: Maternal health services; utilization; women.

INTRODUCTION

Healthy women are the foundation of a strong community and healthy newborns are the future.¹ Maternal health care embraces antenatal, intranatal and postnatal care.

Under-utilization of health services contributes to high maternal mortality rates. Complications during pregnancy and childbirth such as hemorrhage, sepsis, abortion, pre-eclampsia and eclampsia, and prolonged/obstructed labour are the leading causes of death and disability among women of reproductive age in developing countries and millions of women still lack

access to adequate skilled care during the perinatal period.² Improving maternal health was the fifth of eight Millennium Development Goals (MDGs), aiming to reduce the Maternal Mortality Ratio (MMR) by three quarters between 1990 and 2015.³

Thus, proper utilization of maternal health services is vital elements to minimize maternal complications and deaths.⁴ This study was conducted to assess the utilization of maternal health care services by the women residing in slum areas of Dharan for period of one year.

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METHODS

Study was conducted at slum area of 10 wards of Dharan Sub-metropolitan city. A descriptive, cross-sectional study was conducted through face to face interview using self-constructed semi structured questionnaire. Based on the previous study the prevalence of complete utilization of antenatal, natal and postnatal period is 40.9%⁵ at 5% significance with 15% allowable error, sample size was calculated to be of 246.7 by using the formula, $n = Z^2PQ/L^2$; $n = (1.96)^2 \times 40.9 \times 59.1 / (6.133)^2 = 9285.8 / 37.63 = 246.7$ The sample size was rounded off to 246.7 Keeping 15% as non-response rate the calculated sample size was 284 and researcher took 285 sample size for easy calculation. Among 27 wards in Dharan, 14 wards have slum residences. Those were 1, 7, 8, 11, 13, 15, 16, 17, 19, 20, 21, 22, 24 and 23 and only 10 wards were selected for data collection by simple random sampling method (lottery method) considering researcher's feasibility and sample quota (285). They were 7, 8, 11, 13, 15, 16, 17, 19, 20 and 21.

Simple random sampling technique (lottery method) was used to select 10 wards among 14 wards having slums residences of Dharan sub-metropolitan city and Snow ball sampling technique was adopted for selecting the samples from the selected 10 wards. Mothers with infant residing at slum area of Dharan sub-metropolitan city the selected wards were the study population. Slum area as located and identified by Dharan sub-metropolitan city is the land of government squatter by the people for housing. Informed written consent was taken from each participants after explanation of the study purpose. Data was collected by researcher herself by interview method at the place of their residence in a separate room for confidentiality. The average time required to complete the questionnaire was about half an hour. About 10-15 subjects were interviewed in a day and data was collected for 4 weeks duration from 21st December 2014 to 16th January 2015. Collected data were checked, organized, coded and entered in Microsoft Excel 2007. Data were then analyzed using Statistical Package for Social Sciences (SPSS) version 16.0. Descriptive statistics has been presented in frequencies, mean, median, mode, percentage, and standard deviation. Inferential analysis chi-square test has been used to find out the association between the utilization of maternal health services with the selected independent variables and association between the utilization of antenatal, delivery, postnatal and family planning services.

Ethical approval (Ref: 95/071/072-IRC) was obtained

from Institutional Review Committee B.P. Koirala Institute of Health Sciences, College of Nursing, Dharan Sub-Metropolitan City and the local leaders (respective secretary of each ward office) prior to data collection. Informed written consent was taken from each respondent after proper explanation of the purpose of the study to each respondent. Interview was conducted in a private setting (separate room of their house). Confidentiality was maintained throughout the study period by omitting the name or other identity of the respondents as well as by conducting interview separately.

RESULTS

Among 285 mothers, 95 (33.3%) respondents were from the age group of 20-24 years with mean \pm SD: 24.85 \pm 5.507, followed by 90 (31.6%) between the age group of 25-29 years and least from age group forty and above. Majority (65%) of respondents were from Janajati followed by dalit (27%). Table 1 shows the socio demographic characteristics of the respondents.

Table 1. Socio-demographic characteristics of the Respondents (n= 285)

Characteristic	Categories	Frequency	Percent
Religion	Hindu	213	74.7
	Buddhist	22	7.7
	Christian	37	13.0
	Others	13	4.6
	Illiterate	28	9.8
Educational status of women	Read and write	20	7.0
	Primary	64	22.5
	Secondary and above	173	60.7
	Illiterate	11	3.9
Husband's Educational status	Read and write	15	5.3
	Primary	53	18.6
	Secondary and above	206	72.2
	Housewife	240	84.2
Occupation of women	Cottage industry	19	6.7
	Other	26	9.1
Husband's Occupation	Wages	93	32.6
	manual work	83	29.1
	Abroad	59	20.7
	Others	50	17.5
Economic status*	Poor	258	90.5
	Very poor	27	9.5

Distance of nearest health services by walk (minutes)	<15	62	21.7
	15-30	201	70.5
	>30	22	7.71
	Mean distance \pm SD= 20.25 \pm 11.6		

More than half (58.9%) of the respondents were from the age group of 15-19 years at their marriage followed by 27.7% between the age group of 20-24 years. More than two-fifth (42.5%) of the respondents were from the age group of 21-24 years at the birth of their first baby followed by 17.9% between the age group of 25-30 years. Majority of the respondents (80.6%) had 1 or 2 pregnancies followed by 15.8% had 3-4 pregnancies. Half of the respondents (51.6%) had 1 child. About 17.2% had birth interval of >7 years and 14.7% of respondents had birth interval between 2-4 years. More than three quarters (77.9%) of the respondents have heard about Maternity Incentive Scheme and among them 60.0% have heard about travel allowances for institutional delivery. Only 42.10% of the respondents have heard about travel allowances given in Terai and only 28.37% have heard about monetary allowances for 4 times ANC visit. Most of the respondents (65.7%) got information about Maternity Incentive Scheme from friends followed by 36.48% from health personnel and 1.35% from other sources like paper and poster. Majority of the respondents utilized the antenatal services on different trimesters of their pregnancy (Table 2).

Table 2. Antenatal visits by the respondents (n=285).

Characteristic	Categories	Frequency	Percent
ANC visit	Yes	271	95.1
	No	14	5.9
Frequency of visit (n=271)	\leq 3 times	57	21.3
	\geq 4 times	214	78.9
Initiation of first visit (n=271)	First trimester	173	60.4
	Second trimester	84	29.5
	Third trimester	13	4.6
	Don't know	1	0.4
	Expensive	2	14.2
Reason for not using ANC (14)	Long distance to reach Health centers	1	7.1
	Due to tradition and culture	1	7.1
	Lack of time	2	14.2
	Due to shyness	6	42.8
	Need not felt	2	14.2

Among the respondents who visited antenatal services, majority (88.1%), (87.4%) and (81.4%) of respondents had done urine test, blood test and USG respectively. More than half (56.84%) of the respondents had taken complete dose of iron during antenatal period. Almost half (52.3%) of the respondents had taken complete dose of calcium, and 1.4% were unaware of it. Majority (64.2%) of respondents hadn't taken both calcium and iron. More than three-fourth (76.5%) of the respondents have had deworming. More than 90% of the respondents had taken T. T Immunization at least one dose.

Majority of the respondents (64.2%) had their delivery at B P Koirala Institute of Health Sciences followed by 28.1% at home, 5.6% at birthing center, Dharan, 1.1% on other hospitals and again 1.1% on the way towards the facility. Among the respondents having institutional delivery, very few (3.5%) have got the incentives. More than a quarter (29.1%) did not visit hospital for their delivery for various reasons (Table 3).

Table 3. Reason Behind not Using Institutional Delivery Services by Respondents (n=83).

Reasons	Frequency	Percent
Labour started suddenly	33	39.7
Due to shyness	29	34.9
Expensive	8	9.6
Helping hands available at home	5	6.02
Delivery of baby on the way	3	3.6
Tradition and customs	2	2.4
Bad attitude of the health personnel	2	2.4
Longer distance of health services	1	1.2

Only 28.8 percent of the respondents had postnatal visit and among them 81.7 percent visited once. During postpartum period, 56.5% of the respondents took Vitamin A. Nearly half (47.7%) did not take iron and 15.1% discontinued taking iron. Majority of them (56.42%) did not take or discontinued iron because of ignorance. Half of the respondents (50.9%) did not take calcium. Majority of them (57.69%) did not take or discontinued calcium because of ignorance. Only one-fourth (26.3%) of respondents took complete dose of iron and calcium.

Majority (65.3%) of respondents got health teachings at postnatal period from the health care provider. Among them majority (76.01%) have got advice on breastfeeding followed by health teaching on immunization (66.9%), nutrition (53.8%) and least on postnatal exercise (9.5%).

Majority of the respondents (97.9) have heard about family planning but only 39.29% had utilized various means of them (Table 4).

Table 4. The Utilization of Family Planning by respondents (n=285).

Characteristic	Categories	Frequency	Percent
Want birth spacing	Yes	279	97.9
	No	6	2.1
Using any Family Planning Methods	Yes	112	39.2
	No	173	60.7
If yes, methods of family planning (n=112)	Pills	6	5.3
	Depo	55	49.1
	Norplant	6	5.3
	Condom	5	4.4
	Natural methods	32	28.5
	Minilap	8	7.1
	Husband not with her	67	38.7
Reason for not using any methods (n=173)	No period yet	88	50.8
	Did not know about it	4	2.3
	Ignorance	13	7.5

There was significant association between the antenatal visit and educational status of respondents (p value 0.008) as well as the educational status of husband and number of pregnancy (p-value <0.001). There was significant association between TT injections

with demographic variables such as educational status of respondents (p-value <0.001), economic status (p-value 0.036), awareness about Maternity Incentive scheme (p-value 0.010), educational status of husband and number of pregnancies (p-value < 0.001). There was significant association between the Institutional delivery and educational status of respondents (p-value <0.001) and occupation of husband (p-value <0.001) and number of pregnancy (p-value 0.007).

There was significant association between the postnatal visit and occupation of husband (p-value 0.048) and other variables were not significant. There was significant association between the utilization of family planning services and the occupation of husband (p-value < 0.001).

There was significant association between Utilization of

institutional delivery Services with antenatal visit (Table 5).

Table 5. Association between Utilization of institutional delivery Services with ANC visit (n=285).

Charac- teristic	Utilization of Institutional Delivery		x ² value	p- value*
	Yes (%)	No (%)		
ANC visit				
Yes	198 (73.0)	73 (26.9)	12.766	<0.001
No	4 (28.5)	10 (71.4)		
Frequency of ANC visit				
≤3 times	29 (50.8)	28 (49.1)	18.052	<0.001
≥4 times	169 (78.9)	45 (21.0)		

* (Pearson's' Chi-square test)

There was no association between post-natal visit and the ante-natal visit and frequency of ANC visit. But was significant between places of delivery and postnatal visit (p-value 0.048). There was significant association between utilization of family planning means and postnatal visit (p-value 0.013).

DISCUSSION

Pregnancy and childbirth are inevitably a part of women's lives. While this is ordinarily a period of pride and joy, it is associated with pain, disability and even death for large number of mothers particularly in developing countries. Most of these deaths and disabilities can be prevented through access to and utilization of quality MHCS, as evidenced by many studies.⁵

Majority (77.9%) of the respondents have heard about Maternity Incentive Scheme where as 22.1% had not heard about the Maternity Incentive Scheme. The finding is more than that of the study finding of the study in which 17% had lack of knowledge about available services.⁶ The difference may be due to difference in the location of study. Majority (95.1%) of the respondents had gone for at least one ANC visit. Dharan being the urban area, the utilization of ANC services in the current research is high and this finding is also supported by other studies.^{7,8} Majority 92.31%, 92% and 97% of the women received at least one ANC visit during pregnancy respectively.^{4,6} Majority of the respondents (95.1%) had visited the ANC which is somewhat similar to the study finding which states that eight out of ten (79.4%) mothers were found to have visited the ANC more than four time.⁶ Among 14 women who did not seek antenatal check up, 14.28% felt it's not important, which is less than half of the finding of the study where about 39% explained that they did not have any complication to go for ANC.⁹

More than half (56.84%) of the respondents had taken complete dose of iron and 10.17% did not take iron in their last pregnancy. The finding is also consistent with the study entitled 'Utilization of Antenatal Care Services in Rural Area of Nepal'; in which fifty six percent mothers received iron tablets for more than 180 days (recommended days)¹⁰ The finding is virtually consistence with the finding of Metgud CS in which iron supplementation was taken by only 59.68% of the respondents.⁶ The current finding is less than that of the study where more than half (66.66%) had taken complete dose of iron.⁹

Majority of the respondents (70.9%) had institutional delivery which is comparatively less than the finding of Mahajan and Sharma,¹⁰ Bhandari et al¹¹ and Dhak et al.¹² In those studies, 79.6, 80, and 80.1 percent delivery took place in the health institution respectively. But the finding is more than that of the study conducted by Ochako et al¹³ in which half of the women received skilled professional assistance at delivery. The current finding is consistence with the finding of NDHS 2011, delivery by health professionals in urban areas 73%.¹⁴

The study's prime objective was to assess the utilization of maternal health care services (antenatal, natal and postnatal). Maternity incentive scheme was introduced by the Government to encourage women for utilizing the maternal health care services. This scheme was available in Birthing center, Dharan. Despite the monetary attraction, its influence was very low to the women residing in Dharan slum areas. Among 285 respondents, 202 were institutional deliveries where 183 choose B P Koirala Institute of Health Sciences for delivery services, 5.6% at birthing center, Dharan and 1.1 % on other hospitals and only 10 respondents received the delivery incentives. Amount of incentive received by 50% respondents was Rs 500 and 50% received Rs. 1000. More than a quarter (29.1%) did not take institutional delivery. The finding is comparatively less than that of the finding of Zulfia K.¹⁵ where reasons behind using home delivery were tradition (41.9%) or related to economics (30.7%). The reason behind this difference is due to the study area, the study was conducted in the Urban slum of India.

Almost one fourth (28.8%) of the respondents had gone for PNC visit. Among them 23.5% visited once which is not consistence with the finding of the studies in which 37.4%, 41.2% and 55.4% of respondents had received postnatal care respectively.^{16,17,18} Majority (58.95%) of respondents got health teaching in breast feeding, followed by health teaching on immunization 51.9%,

nutrition 41.8%, family planning 30.9%, danger sign of mother 30.5%, danger sign of newborn, postnatal exercise 9.5%, and no one was called for follow up visit. This finding is significantly lower than the finding of the study where, health teaching for family planning noted in 85.36% and eighty eight percent received health teaching on exclusive breast feeding and 86.67% received baby care teaching.¹⁹ This might be due to greater number of respondents using postnatal care as compare to the current study. The reason for visiting PNC was follow-up (36.5%), mother's health problem was (31,7%) which includes high blood pressure, breast engorgement and wound infection. About 5% respondents went to PNC visit for others reason such as, to check blood pressure and for child's immunization.

Majority (97.9%) of the respondents want birth spacing which is higher than that of 2011 NDHS. Eighty seven percent of married women say that they either want to delay the birth of their next child or want no more children nevertheless only 39.29 % used family planning means. This finding is almost half of the finding of the study, in which 65 percent women ever used family planning method.²⁰ The finding in the current studies is less than that of contraceptive prevalence rate in Nepal is 48% with 24.6% unmet need for family planning.²¹ The differences may be due to occupation of the husband about one fourth (23.5%) of the respondents husband were not with them and 30.8% of respondents in the current study have not had period yet. Among 112 family planning users, majority (71.5%) rely on the modern methods which is 28.07% of total respondents (285) which is not consistence with the report of NDHS 2011, about 43% rely on a modern method and 28.5 % rely on the traditional method which is 11.2% of total respondents. This finding is nearly consistence with the report of NDHS 2011 in which 7% percent of respondents were using traditional methods.²²

There was significant association between the antenatal visit and educational status of respondents (p value 0.008). The finding is consistent with the finding of the study in which the most significant individual-level predictors of use of antenatal care services was education.¹⁷ This finding is also supported by the study in which women having lower education were more likely to have less than three visits as compared to women with higher education (p<0.05).⁸ The number of pregnancy was significantly associated with the utilization of ANC which is consistence with the finding of study where parity of mother influenced the ANC utilization.²³

There was association between the Institutional delivery

with educational status of respondents and occupation of husband. This finding is consistent with the study finding in which there was significant association between educational status and occupation of husband.²⁰ There exist the significant association between the utilization of institutional delivery with the educational status of husband and the number of pregnancy. It signifies that utilizing institutional delivery and determining the number of pregnancy was directly proportional to the education of husband.

The study found out that pregnant women with risk factors who delivered at home received inadequate utilization of antenatal care. The finding is consistent with the finding where four or more antenatal care visits was a determining factor for the utilization of SBAs.²⁴ And the number of antenatal visits was associated with place of delivery which is consistent with the finding of the study in which women who made the recommended four visits were more likely to deliver in a health facility in general.²²

There was significant association between TT injection and demographic variables such as educational status of respondents, economic status, awareness regarding maternity incentive scheme, educational status of

husband and number of pregnancies. Also there was association between utilization of family planning methods with postnatal visit which signifies that adoption of family planning method increases with the utilization of postnatal visit. So, postnatal visit should be encouraged to increase utilization of family planning means.

The findings may be useful for the concerned authority regarding maternal health care utilization, safe motherhood programmes and delivery incentive Scheme for conducting regular educational packages or awareness programmes targeting the public. This research will also provide background for future studies. Since this study was a thesis requirement for the partial fulfillment of completion of MSc Nursing in BPKIHS, it was self funded by the researcher. Some data were missed as the respondents were out of town at the time of data collection and some had recall bias due to elapse of time.

*To identify the economic status of the person, a tool given by Dharan Municipality office and economic status was used to categorize the person as poor and very poor. In this tool if a person scored less than 8, he was considered as very poor and if his score was more than 8, he was considered poor.

Economic Status							
Publicly or personally Discriminated in the name of caste (dalit, janjati)	Sustenance of family on daily wages.	Adversely affected by loan	Adequacy of food stuff	Incapable of rising voice for owns right	Single women	Homeless or shelter less	Unable to pay for clothing, schooling and medical services
Yes (1)	Yes (1)	Yes (1)	<3 months (1)	Yes (1)	Yes (1)	Yes (1)	Yes (1)
No (2)	No (2)	No (2)	3-6 months (2)	No (2)	No (2)	No (2)	No (2)
			6 months (3)				

CONCLUSIONS

Most of the women utilized antenatal care services but not all of them had institutional delivery. Utilization of postnatal services and family planning services were very low. Despite having tertiary level hospital and birthing center nearby, women residing in slum areas of Dharan were not utilizing them adequately. Physical accessibility to services does not necessarily lead to service utilization. Socio-cultural environment and education are the important factors. Therefore, Utilization of maternal health services should be encouraged by conducting educational packages and public awareness programmes.

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