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Intra-urban Differences in Maternal Health Care Service Utilization in Nepal: Results from 2016 Nepal DHS

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Abstract

After restructure of local bodies in Nepal, some rural settings before 2015 fall under urban settings. It is advantageous to understand the situation of maternal health care utilization among poor and non-poor in the new urban structure. Officially, one-fifth of the total population is poor in the country.The objective of this study is to explore the differentials in utilization of all the care designed during the course of reproduction from the notice of pregnancy to postnatal care within two days of delivery among urban poor and non-poor in Nepal. Differentials and roles in utilization of all care, utilization of full maternal health care service for the healthy pregnancy and childbirth are explored among the two economic groups living in urban setting of Nepal.This study has utilized Nepal demographic and health survey 2016 women's data file. The data used for the analysis came from the 2016 Nepal Demographic and Health Survey (NDHS). This survey is nationally representative population-based household surveys that collected information on fertility, family planning, maternal and child healthetc among other data.Details about the survey designs and sampling procedures of this survey are explained in publicly available final report. Using wealth index used as a proxy for household economic status, the lowest wealth quintile is taken as poor and the remaining as non-poor. Result shows that nearly 10 percentage point differences have been observed in utilizing recommended months of antenatal care visits as well as full antenatal care among poor and non-poor. Such differences remained three times more extensive in receiving delivery care from skilled birth attendants and the postnatal care within two days of delivery among those groups. Even, urban poor women are less likely to receive all components of maternal health care. Results of logistic regression confirm the lower chance of receiving full maternal health care by urban poor. The study concludes that urban setting, as local body of Nepal, needs to address the urban poor especially in utilization of maternal health care in protecting and saving health of mother and the newborn.

Keywords: Full antenatal care, full maternal health care, Nepal, urban women, urban poor

Introduction

More than 55 percent of the world's population resides in urban areas in 2018 which was only 30 percent in 1950 and is expected to 68 percent by 2050. Less urbanized region of the world, Asiais home to 54 percent of the world's urban population.Management of urban growth brings sustainable development in the rapidly urbanized countries. Three dimensions of sustainable development: socio-economic, environmental and their linkages with urban and rural areas are more important to address. Such countries need to have integrated policies to improve lives of urban and rural dwellers. Well managed urbanization can facilitate to maximize the benefits of residents. Policy to manage urban growth needs to ensure access to infrastructure and social services for all (UN, 2018). A study on urbanization and health in developing countries pointed on urbanization as the cause of several health outcomes. But, urbanization should regard to solution to the urban health problems instead of solving through responsive policy (Eckert &Kohler, 2014).

A study ofKumar andMohanty(2011)across Indian states found a large gap between non-poor and poor gap in antenatal care(ANC) and delivery care (medical assistance) during 1992/93-2005/6 despite of having increased care. Household poverty was found as the significant barrier in the utilization of reproductive health services. However, only two maternal health component (ANC and Delivery care(DC)) was focused in the same study,missed to include PNC.AnotherAfrican study found that urban poor initiateslate pregnancy careas compared to non-poor which makeslessnumber of professional visits for delivery care. The same studyalso mentions that large section of young adults of urban poor will soon live in urban setting that may intensify urban poverty in less developed world. Such urbanization will soon or later rise the requirement of basic services in the cities (Magadi et al., 2003).In resource deprived setting, household wealth is important dimension of poverty on health. Many studies have stressed their findings on the role of education and wealth in affecting women's health (Magadi et al., 2003 and Onah et al., 2006). But,cultural, geographical location, gender factors and the knowledge of women and their families in urban settlements are advantageous to utilize maternity care. Financial access is always reported in utilization of health care by poor (Khan et al., 2009;Zhao et al., 2009). A study of Bangladesh by Hossain and Hoque (2005) is the evident that urban slum women did not use free hospital delivery due to informal cost.

Studies on urban poor highlight the disadvantageous and need of wider development perspective. A study in Kenya by Fostoet al. (2008) using two of the maternal health indicator(ANC and DC) found that utilization of services by urban poor women is disadvantageous than rural women. Quality of care and sustained health education are to be needed to uplift the urban poor's health in Kenya. Mercado et al. (2007) mention the role of globalization and urbanization in urban poverty.It is essential to know socio-political and cultural aspectwhich has reflectiveinfluences on public health. Marginaliza-

tionto urban poor in enjoying urban life may bring discontents and social conflict. Unless broader development perspective is used by key stakeholders, it may fail to deliver health dimension of urbanization and urban poverty.

In most of the developing countries, the poorest women have the least power to take decision on their pregnancy. They also have the least access to quality care during pregnancy. This is the reason why reproductive health problems remain a leading cause of death for women in the developing world (UNFPA, 2021). United Nations Children's Fund (2021) also highlights that the access to reliable maternal health care services among urban poor have a minimal proportion.

Nepal's urbanization in the past was crawling as it is now in the south Asian countries. Before current structure of the local bodies based on the 130 municipalities' population, 27.2 percent of the population was residing in urban area which was 34% in South Asia (CBS, 2014; World Bank,2021). After the restructure of local bodies in 2017, 293 local bodies are municipality (urban place) in Nepal according to the constitution of Nepal, 2015.Nearly two-third (62.2 percent) of the total population resides in urban area in Nepal (NPC, 2021). The landscape of the country also varies as a result of which urban places, facilities and their characteristics also vary. Some urban settings, now in urban place, were in rural category in the past. Many differences have been observed in literature world to overview on maternal health care among poor and non-poor. Inconsistent in using maternal health care component have been noticed.The exact maternal health care situation can be presented with covering all the indicators of maternal health.

Much of the nation's policy documents have mentioned to address the issues of nationality/Indigenous, Dalits, Muslim, backward people. Since these people's ideal location has not been clearly identified in the urban settings, this study aims to analyze-maternal health careutilization according to their economic status. The study expects that outcome will directly support to break the disparity in many issues especially in women's health care. At last, beneficiaries (urban poor) may get reasonable program to be addressed by the federal government, provincial or the local bodies. Local bodies have constitutional rights to execute own health policy based on the existing health situation.'Prosperous Nepal, Happy Nepali' a brand slogan of Nepal government and the 15th plan document of the central government has also arranged program towards achieving this goal (NPC, 2021). The updated result and the policy suggestions may become a key supporting document to addin a health policy towards urban poor in Nepal. Therefore, the general objective of this study is to explore the differentials in utilization of all the care designed during the course of reproduction from pregnancy, childbirth totwo days of delivery among the urban poor and non-poor in Nepal. Moreover, differentials and roles in utilization of all care, full maternal health care service utilization for the healthy pregnancy and childbirth is also highlighted among the two economic groups living in urban

setting of Nepal.

Research Methodology

Nepal demographic and health survey(NDHS) 2016 women's data file (available at https://dhsprogram.com) was used for the analysis. This captured 12,862 women of ages (15-49 years). Out of those number, 8072 women (weighted cases) from urban places were captured. Of the total urban women, 2223urban women (weighted) who had given their last birth in the five years preceeding the survey was included in thisstudy. The detail of the data collection, sampling, study design etc. are mention in the main report-Nepal DHS 2016.Women's education, Caste/Ethnicity, Religion, Province, Exposure to mass media, women's age at the birth of last child, Birth order, household size etc. are some of the socio-demographic indicators which are taken into consideration for the multivariate analysis. A composite indicator covering most of the care during antenatal period to 2 days of child birth is constructed for the analysis. The detail of some of the variables used in the analysis are mentioned as follows:

Construction of Full Antenatal Care and Full Maternal Health Care

For 'full antenatal care', all eight variables (4 visits made in the recommended months of pregnancy, Consumed Iron/Folic Tablet during last birth, TT Inoculation taken, five issues of ANC counseling received, Blood pressure measured, Blood and Urine sampled measured separately, and drugs for parasites used duringantenatal period) are computed. In coding, '1' is assigned for those who received care and '0' for those who did not; in computation, it results values 0-8. A dichotomous variable is constructed, the value 8 is for 'Completed all Care' and rest is 'Incomplete or no care'.

Delivery care by received from Skilled Birth Attendants (SBA)is categorized into two as- Care received from SBA (coding 1) and those not receiving are coded as '0'. Similarly, Postnatal Care (PNC) is made dichotomous as- service received within 2 days of delivery or not (1 and 0 respectively in coding).

For the 'full maternal health care', full antenatal care (value 0 to 8 in coding), delivery care by SBA and PNC within two days are computed which yields value ranging from 0 to 10. The response yes with all the care gives the value 10which is considered 'Completed all Care' and the rest of the value are considered in 'incomplete or no care'.

Poverty Measurement

Poverty in Nepal was traditionally measured by a monetary indicator based on the Cost of Basic Needs (CBN) approach. This approach was used minimum amount of Nepali rupees need to satisfy basic calories required and the basic needs for other non-food goods and services(NPC, 2018). According to this approach, data on Nepal living standard survey of various rounds was used to calculate official monetary poverty in Nepal. Poverty rate of Nepal is used here as 25 percent of survey year 2010. Many countries

including Nepal now are using multidimensional poverty in compliment of national monetary poverty measure. Using multiple indicator cluster survey (MICS)-2014, the multidimensional poverty headcount ratio is between 26.2-31 percent of the population (NPC, 2018).Nepal's multidimensional poverty index is 28.6 percent and nearly 19 percent are below poverty line. (NPC, 2021).

Defining Urban Poor and Non-poor

Nepal Demographic and Health Survey 2016 has calculated household wealth index by assigning scores based on the consumer goods and their number they own ranging from a television to bicycle or car and housing characteristics such as sources of drinking water, flooring material used and toilet facilities (MoHN et al, 2017). This survey (NDHS 2016) has divided the whole population into five different level of economic status based on the standard set of question (indicators).From that five level of household economic status, the lowest wealth quintile is used here as poor since 20 percent of the total population are below poverty line and the remaining four quintiles (second, middle, fourth and the highest) as non-poor.Since the Nepal DHS has also taken into consideration of urban/ ruraldifferentials in measuring wealth index separately, the same one is also used here in the analysis. Availability of such variable helps not to calculate separately as done by Kumar & Mohanty (2011) in Indian study.

Methods

Analysis ofpoor and non-poor women who have given their last child and are living in urban areas of Nepal are made using descriptive statistics. Differentials in economic status by some of the selected socio-demographic variables which also affect in maternal health care service utilization are presented. Indicators such as ANC, Delivery assisted by SBA, PNC along with 'full antenatal care' and 'full maternal health care' are used to study the differential in utilization among poor and non-poor living in urban areas of Nepal.Binary logistic regression models are used to examine the effect of respondents' economic status in utilization of 'full maternal health care' instead of performing analysis separately as shown in many other studies (Kumar and Mohanty,2011; Magadi et al., 2003). The net and gross effects are observed controlling and without controlling socio-demographic variables. Change in the effects are also interpreted based on the result thus obtained.

Results

Poor and Non-poor in Urban Setting

The endorsement of constitution of Nepal, 2015 by the constitution assembly envisioned 753 municipal regions (Urban and Rural). Of the total, 290 municipal regions-Metropolitan, sub-metropolitan and municipalityare the urban place in Nepal. As stated

earlier in methodology section about the categorization of respondents according to their economic status as poor and non-poor, in this study, the analysis is constricted to those women who had given birth to the child during 2011-2016.Table 1 depicts the percent distribution of poor and non-poor women (15-49) living in urban residence in Nepal, who had given birth to the most recent child during 2011-2016.From the table 1, nearly 22 percent of the women,who were poor and had given birth of most recent child, were from the urban place of Nepal.

Table 1

Percent Distribution of Poor and Non-poor Women (15-49) Living in Urban Residence in Nepal, Who had Given Birth to the Most Recent Child,Five-yearPrior to the Survey

Economic Condition	Percent	Number of Women
Poor	21.7	482
Non-poor	78.3	1741
Total	**100**	**2223**

Source: Women's data file, Nepal DHS-2016, calculated by author

Differentials in Utilization by Socio-demographic Characteristics

Studies have clearly mentioned in literature world that household economy is the final outcome of many social, economic, demographic and other factors of the concern areas or the environment. Some selected variables are taken to comprehend the differentials in economic status of women who had given the most recent birth. Table 2 shows the differentials in women's economic status by some of their selected characteristics. Since school level of education is free-of cost in the government establishments, poor are less accessible in getting School Living Certificate (SLC now called Secondary Education Examination (SEE)) and higher level of education among the women living in urban place of Nepal. The inverse relationship is evident with urban non-poor.The highest percentage of Dalits are poor, followed by Janajatis and the least proportion of poor are in the 'Others' category who areOther Madhesi, Newar, Muslim and other caste/ethnic group according to the categories defined by Nepal DHS 2016.The highest proportion of urban poor women are in Karnali province, followed by Sudur Paschim and the least proportion of women who are from the urban settings of Bagmati province had given most recent child during 2011-2016. The highest proportion of women who are less exposed to the most common media (TV/RADIO/Newspaper) are poor than the women who exposed to those media once in a week. Similarly, women (35 years and above), having higher parity women and those living in the household of five and more members are from the poor category.

Table 2

Percent Distribution of Sampled Women (15-49) by Their Economic Status, According to Their Background Characteristics (Socio-demographic)

Variables	Categories	Economic Status		No. of Women
		Poor	Non-Poor	
Women's Education	No Education	33.19	68.81	544
	Some School Education	25.74	74.26	980
	SLC and Higher	7.07	92.93	699
Caste/Ethnicity	Brahmin/Chhetri	16.89	83.11	705
	Dalits	42.74	57.26	290
	Janajati	27.19	72.81	671
	Others	10.21	89.79	557
Religion	Hindu	23.14	76.86	1920
	Non-Hindu	12.54	87.44	303
Province	Koshi	28.75	71.75	384
	Madhesh	15.06	84.94	435
	Bagmati	13.18	86.82	525
	Gandaki	17.40	82.60	183
	Lumbini	17.03	82.97	405
	Karnali	58.94	41.06	111
	Sudur Paschim	39.55	60.45	179
Mass Media Exposure	Not Exposed	41.51	58.49	361
	Exposed to Either(TV or Radio or Newspaper)	17.85	82.15	1862
Women's Age	< 20 years	23.55	76.45	411
	20-34 years	20.20	79.8	1729
	35 years and above	43.61	56.39	83
Birth Order	First Order	16.77	83.23	918
	Second or more	25.16	74.54	1305
Size of Household	Upto Four Members	19.43	80.57	774
	More than four members	22.90	77.10	1449
Total		21.7	78.3	2223

Source: Women's data file Nepal DHS-2016, calculated by author

Urban Residents and the Maternal Health Care Service

Duration from pregnancy upto six week of child birth is viewed with a special period by the international bodies and the government arranged internationally recog-

nized services in Nepal to all women who plan to give birth to the child. Among many reasons, poor quality of services or no services remained as the cause of high maternal mortalityratio(MMR). Nepal was among those countries in the past where MMR was 818 per 100,000 births in 1974/75(WHO, 2021). The whole duration of birth until six week of delivery are measured through antenatal care, delivery at hospital and the postnatal care with various other components in them.Observing those all creates dilemma to conclude on the total maternity situation. Therefore, a composite indicator of maternal health is needed to analyse the situation. As mentioned by Dulal(2016) in his unpublished PhD thesis that those all common services are compulsorily offered to all women despite of having any reasons including socioeconomic, demographic and others situation.

Better ANC are to be observed through different component of care; whether a pregnant woman began her care or not? Was that in the first trimester? If so, could she succeed to receive four and more visits and also followed the schedule as recommended by the health personnel and the SBA's presence during the visits are major concern of antenatal care. In Urban Nepal, majority of the urban women (70 percent) began their pregnancy care at first trimester of pregnancy. A huge gap in ANC check-up at first trimester by the urban poor and non-poor women is the evidence. For instance, nearly 74 percent non-poor begin their visit at first trimester of pregnancy in against of 59 percent by the urban poor. One can have chance to follow all four scheduled ANC visit once she begins her first at first trimester. While observing the four and more visits, only 75 percent of the urban women visited so, with a wide variation among poor and non-poor than those initiated at first trimester.

Table 3

Percent Distribution of Initiation of ANC Visit by Economic Status of Urban Women

Women's Economic Status	**Initiation of ANC Visit at**			**No of Women**
	No Visits	**First Trimester**	**Second or Third**	
Poor	10.88	58.68	30.44	482
Non-Poor	2.77	73.72	23.51	1741
Total	**4.53**	**70.45**	**25.01**	**2223**

Source: Women's data file Nepal DHS-2016, calculated by author

Table 4

Percent Distribution ofUrban Women by the Number of ANC Visits Made in the Last Birth, According to Economic Status

Women's Economic Status	**Number of ANC Visits made**			**No of Women**
	No Visits	**< 4 visits**	**4 and more visits**	
Poor	10.88	28.01	61.4	482

Non-poor	2.77	17.79	79.43	1741
Total	4.53	20.01	75.46	2223

Source: Women's data file Nepal DHS-2016, calculated by author

Scheduled ANC Visit

Further analysis is concentrated to observe those women who had four and more visits whether they made such visits in the scheduled date as recommended by government of Nepal (as cited in MOHN et al.,2017). Such scheduled ANC visits not only support to receive NRs 400 more than the delivery allowance once they give birth to child in the government or government assisted health institution under the coverage of AAMA SURAKSHA PROGRAM, most of the complication arised during the period may also be resolved/diagnosed by the scheduled ANC visits. A distinct variation has been observed in utilization of scheduled ANC check-up during the pregnancy among those who could made 4 and more ANC visits by poor and non-poor women living in urban settings in Nepal. For the quality of care, whether in the scheduled ANC visit they received care from SBA or not was further analyzed. Since government'spolicyis to support assistance of SBA (MOHP, 2006), this analysis has shown a distinct variation in utilization of care which adds strength to take decision on behalf of urban poor women. Of the total 1677 women who had scheduled ANC check-up, nearly 92 percent of them received care from SBA by urban women with 7 percentage point variation among poor and non-poor. Since this study does not cover the utilization of SBA at each of the scheduled ANC visit, proportion of SBA care is higher than the scheduled ANC visit.

Table 5

PercentDistribution of ANC Visits in the Recommended MonthsAmong those Urban Women Who had Four and More ANC Visits

Economic Status	**ANC Visits made in the recommended months**		**Number of Women**
	Other months	**Recommended months**	
Poor	26.85	73.15	294
Non-poor	16.14	83.86	1383
Total	**35.19**	**64.81**	**1677**

Source: Women's data file Nepal DHS-2016, calculated by author

Note: *Recommended months are the 4th,6th, 8th and 9th months of pregnancy; other than recommended months- Other months*

Table 6

Percent Distribution of Utilization ANC Visit with SBA Among Those Urban Women Who haveUtilized Four Visits in the Recommended Months

Economic Status	With SBA(Doctor,Nurse/ANM)		Number of Women
	No	Yes	
Poor	13.01	86.99	294
Non-Poor	6.49	93.51	1383
Total	**7.63**	**92.37**	**1677**

Source: Women's data file Nepal DHS-2016, calculated by author

Utilization of Full Antenatal Care by Urban Poor and Non-poor

Table 7shows the complete antenatal care utilized by women living in urban areas of Nepal.

Antenatal care visit mentioned in the above tables give a variety of explanation. Routine ANC visits are important for identifying risk of adverse pregnancy outcomes and to establish good relation with health professional (WHO, 2003b). Complete care or full care covers all recommended care for the period. Understanding the Global campaigns on safe motherhood, government of Nepal also initiated care in its capacity. Case by case observation keeps one to remain in problem. Therefore, full antenatal care service utilization, a composite indicator, is used here to judge whether those pregnant women have gone/utilized all the care recommended or not.Of the total, 22 percent of urban women had received completed all care during ANC, only 14 percent of urban poor completed all care which is 10 percentage point less than the urban non-poor women.

Table 7

Percent Distribution of 'Full Antenatal Care'Utilized by Women of Age 15-49 by Their Economic Status

Economic Status	Full Antenatal Care		No of women
	Incomplete or no care	Completed all Care	
Poor	86.27	13.73	482
Non-Poor	75.27	24.73	1741
Total	**77.66**	**22.34**	**2223**

Source: Women's data file Nepal DHS-2016, calculated by author

Delivery Assistance at Last Birth

The most important time in process of childbearing is the delivery care. The timing is most essential for a woman and her family to decide on theright place to give birth to

child (Dulal, 2016).Facility based delivery care is free of cost in governments' facilities. Result also shows that women had chosen delivery place even at India, NGO facilities, atFamily Planning Association of Nepal or at private clinics etc. Whether those places are arranged with skill birth attendants or not is not clear. Studies shows that thirty-three percent of the maternal death can be prevented by the assistance of delivery by SBA and it has inverse relation with neonatal mortality rate (Graham et al., 2001; Lawn et al., 2005). The UNFPA (2004) states that training related to SBA can provide essential skills necessary to manage normal deliveries and to manage obstetric complications. The SBA can have the utmost potential for making an impact on quality of care recognized globally (Bernis et al., 2003). Reduction in mortality by western Europe through SBA is better than north America (Loudon, 2000). This study also seeks the percent of urban women received SBA assistance during their last birth.Table 8 shows the disadvantage of urban poor in utilization of SBA assistance at their last birth, 70 percent of the urban women receive SBA assistance out of which only 44 percent of urban poor women receive SBA assistance as compared to 77 percent of urban non-poor women.

Table 8

Percent Distribution of Delivery Assistance at Last Birth

Economic Status	**Delivery assistance received from**		**No of women**
	Others	**SBA**	
Poor	56.06	43.94	482
Non-poor	22.55	77.45	1741
Total	**29.82**	**70.18**	**2223**

Source: Women's data file Nepal DHS-2016, calculated by author

Postnatal Visit

WHO (1999) understand the period of six weeks (Postnatal period) is critical timing to the health of mother and her new-born child. One may lose opportunity of getting healthy behaviours due to lack of service utilization. Lack of prompt care in this time also results death and disability (WHO, 2003a; 2013). Postnatal check-ups are even important for women who gives births in non-institutional settings (Akram, 2014). Three times PNC visits- the first visit within 24 hours of delivery, the second on the third day following delivery and the third visit on the seventh day after delivery are in execution (DoHS, 2011). This study has considered the postnatal care within two days of delivery among urban women (15-49) during which most of the women who give birth in health facility may get PNC and those who give birth at home or other place may also seek care from SBA. Out of total, nearly two-third (62 percent) of the urban woman received PNC (within two days of delivery). Receiving PNC is disadvantageous to urban poor in Nepal. One important thing to be noted is that not all the urban women assisted by SBA in their

last birth received PNC.

Table 9

Percent Distribution of PNC Visits Within 2 Days of Delivery by Urban Women, According to Economic Status

Economic Status	PNC		No of women
	Not within 2 days	Within 2 days	
Poor	61.25	38.75	482
Non-poor	31.25	68.75	1741
Total	**37.76**	**62.24**	**2223**

Source: Women's data file Nepal DHS-2016, calculated by author

Utilization of Full Maternal Health Care

The concern on utilization of maternal health care service is that all women who plan or become pregnant should begin care as soon as the pregnancy noticed. Check-ups should be continued at recommended dates/months. All the care are to be utilized during the pregnancy period. It's not the case at other disease while one will receive care at necessary. Following all the care in pregnancy, each of the births should be facilitated by SBA. The SBA at the health facility will provide PNC before discharge from the facility. Calculation of such number of women is rarely addressed in the literature. One by one measurement of maternity care cannot explain the exact situation in one word. Table 10 presents the full maternal health care utilized by urban women. Nearly three times more proportion of urban non-poor women utilized full maternal health care than urban poor women showing a wide difference in utilization.

Table 10

Percent Distribution of 'Full Maternal Health Care' Utilized by Urban Women (15-49), According to Their Economic Status

Economic Status	Level of Full Maternal Health Care		No of women
	Incomplete or no care	Complete Care	
Poor	93.93	6.77	482
Non-poor	80.05	19.95	1741
Total	**82.91**	**17.09**	**2223**

Source: Women's data file Nepal DHS-2016, calculated by author

Role of Economic Status

Since the concern of this analysis is also to check the role of economic status in utilization, multivariate analysis using logistic regression has been carried out. Model 1 out of two models describes theodds of utilizing full maternal health care service is significantly lower among urban poor. Socio-demographic variable which are taken in the

analysis of differential in economic status are taken to carry out Model 2. Comparing two models, result shows that the odds of receiving complete all care is significantly lower and remain not much difference (0.291 in model 1 and 0.316 in model 2; only the difference of 2 percentage point). Further, it shows that despite living in different socio-demographic situation, the urban poor utilizes less proportion than urban non-poor in Nepal.

Table 11

The Effects of Economic Status of Urban Women in Utilization of Full Maternal Health Care and by Socio-demographic Characteristics: Result from Logistic Regression

Variables	Categories	Model 1	Model 2
		Odds Ratio	Odds Ratio
Economic Status	Poor	0.291***[0.197-0.429]	0.316***[0.207-0.482]
	Non-poor (@)		
Women's Education	No Education (@)		
	Some School Education		1.463[0.864-2.476]
	SLC and Higher		1.683[0.973-2.927]
Caste/Ethnicity	Brahmin/Chhetri(@)		
	Dalits		0.570*[0.334-0.974]
	Janajati		0.859[0.582-1.267]
	Others		0.551*[0.331-0.917]
Religion	Hindu (@)		
	Non-Hindu		1.037[0.658-1.634]
Province	Koshi(@)		
	Madhesh		0.377*[0.658-1.634]
	Bagmati		0.873[0.458-1.662]
	Gandaki		1.676[0.955-2.940]
	Lumbini		1.266[0.720-2.224]
	Karnali		1.140[0.645-2.013]
	Sudur Paschim		1.481[0.824-2.659]
Mass Media Exposure	Not Exposed (@)		
	Exposed to Either(TV or Radio or Newspaper)		1.097[0.667-1.804]

Women's Age	<20 years(@)		
	20-34 years		1.50[0.995-2.262]
	35 years and above		1.119[0.426-2.937]
Birth Order	First Order(@)		
	Second or more		0.680*[0.505-0.919]
Household Size	Upto Four Members(@)		
	More than four members		1.102[0.890-1.429]
Constant		0.249***[0.205-0.303]	0.166***[0.068-0.426]

Source: Women's data file Nepal DHS-2016, calculated by author

Note: @= Reference Category and*= p<0.000, *= p<0.05;**

Discussion

This study comprehends the intra-urban differentials in the utilization of maternal health care services in Nepal. Analysis is not solelyconcentrated to observe the differences in utilizationmaternal health components but also with the full antenatal care and full maternal health care indicatorsamong urban poor and non-poor. Since many criterions are used in defining the poor and non-poor, this study has taken the lowest strata of wealth index calculated by the DHS as poor and the rest are non-poor. Doing this may not bring much difference because nearly 20 percent of Nepalese populations are poor as stated by National Planning Commission, Nepal. A separate wealth index for urban/rural has been calculated in DHS and the same has been used for the analysis. According to this, nearly 22 percent of urbanites are poor. Since many studies have taken only few indicators of antenatal care to show the differences in utilization, this study has considered when the pregnancy care began in the last births, whether four and more ANC visits made or not, whether the visits made at scheduled dates recommended by health facility/personnel, whether the service was taken with SBA or not. After analysis of all, further concluding indicator- 'full antenatal care' is also used to observe the difference in total. Out of 70 percent initiated care in the first trimester, only 59 percent of the urban poor in against of 74 percent non-poorinitiated care in the first trimester of pregnancy. Such difference is also observed in receiving 4 and more ANC visits. Furthermore,differences in indicators such as- scheduled ANC visit and SBA visit during ANC have been noticed. A mix result in utilizing ANC and the differences is further observed through 'Full Antenatal Care'. Lower rate (only one-fifth) of all ANC visits and the differences in utilization among urban poor and non-poor have been observed.

All the urban women who had given lastbirths are to be assisted by SBA to save

women and their babies. Both SBA assistance and receiving PNC have been observed as anevident of difference among poor and non-poor urban women.

Likewise, non-poor urban women utilize nearly 3 times higher rate of full maternal health care than poor women. The result of multivariate analysis also indicates consistency in the adjusted and unadjusted result.

Conclusion

Findings of this study indicate more attention to be paid in utilizing maternal health care services in Nepal. Government of Nepal has brought Urban health policy in 2072BS (MOHP, 2015), in the meantime there is massive change in the structure of urban place according to constitution of Nepal, 2015. Officially, 20 percent poor population also varies by its location. Government of Nepal in 2014 started urban health care service targeting the population who are living far fringe area of urban place and are unable to reach health facilities within one –hour of walking distance. Now, those established centre are handed over to the local bodies. Still, there is a problem to provide services to the poor section of population despite of having health branch in the local bodies. Setting a comprehensive health structure which could address the structure of health units in each of ward, the lowest administrative unit of local body, without delay may protect the maternal health of poor women from further vulnerability.

Though the National healthpolicy (2019)has provisioned to offer health services through local and provincial government, not all the local bodies have arranged health facilities to urban poor population (DoHS, 2018/2019). Rising proportion of urban population and people's movement in the country may bring health crisis in the future. As said above, current increased in the urban population is due to state restructure, many population of rural setting are now included in the urban population who were obviously bearing rural characteristics in the past.

Therefore, local bodies should arrange health facilities with minimum standard of servicestargeting to urban poor. Evidence shows lower maternal health status among urban poor despite of improved overall status. On the other hand, current level of poverty also hits in the utilization of maternal health of women living in urban area. Hard living arrangement often found in urban area might have resulted less time in utilizing ANC. Thus, it can be concluded that establishment or arrangement of dedicated services to urban poor may increase current level of utilization. Failure in urban arrangement may knockout urban poor's life severely; particularly to those living in rural part of urban area and those living at below poverty level.

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