ISSN 2310-4090

International Journal of Scientific Footprints

Open Access

Factors Associated with Antenatal Care among Slum Women in Rajshahi City, Bangladesh

Mohammad Zamirul Islam [1]

[1] Department of Social Work, University of Rajshahi, Rajshahi-6205, Bangladesh

Keywords:
Antenatal care; Socioeconomic and health factors; Slum area; Rajshahi City.

Correspondence:
Mohammad Zamirul Islam. Department of Social Work, University of Rajshahi, Rajshahi-6205, Bangladesh.
E-mail: nazrul_ru@yahoo.com

Funding Information:
No funding information provided.

Received:
February 2014; Accepted: April 2014

International Journal of Scientific Footprints 2014; 2(2): 1–12

Abstract

Antenatal Care (ANC) is universally considered an important issue for women and children. The main purposes of this study are to observe the ANC situation and to identify the socioeconomic and health factors associated with ANC among the slum women in Rajshahi City, Bangladesh. Data and necessary information were collected from 250 slum women from Rajshahi City, Bangladesh using a structured questionnaire. Karl Pearson's Chi-square test was used to find out the associations between response and predictor variables. The study results revealed that a few number of women (26.00%) were received ANC. Most of the women (72.80%) were married before 18 years, most respondents (77.20%) and their husbands (71.60%) are illiterate, their monthly family income were very low (<6000Tk, 43.20%), and around half of the women (45.20%) were not completed vaccination courses. The determinant factors respondents' age at marriage, education, occupation, husbands' education, husbands' occupation, sources of drinking water, and vaccination were statistically significantly associated with ANC. Therefore, the priority based interventional programs should be taken focusing on poor and less educated women, especially in slum areas in Rajshahi City, Bangladesh.

Introduction

Antenatal care (ANC) is the name of the particular form of medical supervision given to a pregnant woman and her baby starting from the time of conception up to the delivery. It includes regular monitoring of the woman and her baby throughout pregnancy by various means including a variety of routine regular examinations and a number of simple tests of various kinds. The ANC in pregnancy can play an important role in the uptake of evidence-based care vital to the health of women and their infants [1-3]. Key components of ANC include the communication of health-related information,

screening for risk factors, the prevention and management of complications, and preparation for delivery in a safe place by skilled attendants [4-6]. Specific components which can significantly reduce maternal and infant mortality include tetanus toxoid immunization, iron supplementation, early detection and treatment of preeclampsia , preparation for transportation to a delivery site, and safe deli very education [7-8]. The ANC has a tremendous impact on the health of mother and child [9-10]. Thus, the ultimate aim of ANC is to produce healthy babies and healthy mothers at the end of pregnancy [1]. Neonatal death can be reduced to a great extent by ensuring adequate antenatal care and institutional delivery as the death rate has become a grave concern among the medical personnel and related others. Now a day's many of the women are still seen choose for giving birth at home instead of hospitals due to various reasons like illiteracy, ignorance, poverty and religious belief. Maternal age associated only with ANC content. Young slum women were less likely to have sufficient access to ANC core and services. In the slum areas, the young group women are generally have less knowledge and experience with ANC than that of older women. In slum areas, when pregnant mother work very hard during pregnancy together with being subjected to repression and domestic violence causing intra uterine growth retardation. On the other hand, optimum care is not given to overcome the maternal malnutrition during pregnancy. Moreover, when these deliveries are done at home by untrained personnel, the birth asphyxia occurred in most of the cases as the pregnant mothers are not motivated to ANC and institutional labor. In the slum areas, poor medical service content was the main reason for the low proportion of overall adequate ANC. Yet the coverage of ANC is poor in Bangladesh; it is reported that about 50% and 21% pregnant women receive 1 and 4 ANC visits, respectively .Again, only 9% of births in Bangladesh take place at a health facility, while almost all others are home deliveries and only 55.9% of mothers receive some form of ANC [11].

Rajshahi is a city in western Bangladesh, and the divisional headquarters of Rajshahi Division as well as the administrative district that bears its name and is one of the seven metropolitan cities of Bangladesh. Silk of Rajshahi was of great quality once upon a time, so this city is often referred to as Silk City and Education City, for its calm environment. Rajshahi is located in the north-west of the country and has an estimated population of 853,000 people. Its total area is 96.69 km2 and is situated on the northern banks of the river. Rajshahi consists of 4

Thanas, 35 Wards and 175 Mahallahs.

Despite improvements in public health in recent decades, levels of infant and child mortality remain unacceptably high, particularly in developing countries where primary healthcare services including antenatal care services are not universally available [12]. In Bangladesh context, the ANC is an important factor because it helps to maintain the mother in good health during pregnancy, informs the parents about pregnancy, labor and child care and, in particular, it provides a means of detecting problems with the pregnancy at an early stage when the problems are treatable. Routine ANC has dramatically changed this situation for the better. Despite improvements in public health in recent decades, levels of infant and child mortality remain unacceptably high, in Bangladesh. In this country, the primary healthcare services including ANC services are not commonly available. By giving priority, a good number of research studies were undertaken regarding ANC globally and especially in Bangladesh. A number of studies have evaluated the association between ANC in both developing and developed countries but the results are not consistent [4, 13]. In Bangladesh, the rural-urban differentials of utilization of ANC services are significantly associated mother's education, children ever born (CEB), wealth index, and permission to go to hospitals or health centers from husband, source of drinking water, region and partner's education [14]. The serious health complications were observed among slum women because more than half of the women were not taken any ANC and they were too poor to buy iron tablets/syrup and vitamin tablets/syrup during their last pregnancy [15]. The Bangladeshi mothers seem to have a lower probability of attending the first visit but these factors are not related to the number of absences to ANC consultation once the first visit has been achieved. Current ANC practices and reasons for utilizing or not utilizing health services are to be studied in several research papers. However, no sound studies were found on ANC where the respondents are slum women. Therefore, the main purposes of this study are to observe the situation of ANC utilization and to identify the associations of demographic, socio-economic and health factors that contribute it among the slum women in Rajshahi City, Bangladesh. Hopefully, this paper provides some elements for policy making in order to increase the demand inducement of antenatal care, as well as stimulating research on demand for specific issues on health.

Data and Methods

This is a cross-sectional empirical study. Data

and necessary information were collected from 250 slum women from slum areas of Rajshahi City, Bangladesh using a structured questionnaire. Rajshahi City was selected using random sampling technique and the slum areas were selected purposively where the response rate was 96.00%. Mothers are interviewed at home by two female researchers in the slum areas within the first month of delivery and interviewed in a non-formal and non-judgment manner, after obtaining informed consent. Firstly 300 data were collected, but due to inadequate information 50 data were rejected. To examine the relationships between ANC and background characteristics of the women, both quantitative and qualitative techniques were applied. For statistical analyses ANC was made a binary response as 0 and 1 for not take and taken respectively. The study has included nine explanatory variables with categories are shown in the parenthesis, viz. respondent's age at marriage in years (<15:1, 15-18:2, >18:3); respondent's education (illiterate:0, primary:1, secondary and higher:2); husband's education (illiterate:0, primary:1, secondary and higher:2); monthly family income in Taka (Tk) (Bangladeshi currency) (<6000:1, 6000-8000:2, >8000:3); monthly expenditure in Tk (<6000:1, 6000-8000:2, >8000:3), respondent's occupation (housewife:1, business:2, labor:3, beggars:4); husband's occupation (services:1, business:2, labor:3, beggars:4); drinking water resources (tap:1, tube-well:2); medical checkup taken (no:0, yes:1); vaccination taken (not taken:0, partial:1, full:2). Univariate and bivariate analyses are the simplest forms of quantitative (statistical) analyses. The univariate analysis is used to carry out with the description of a single variable in terms of the applicable unit of analysis. On the other hand, the bivariate analysis involves the analysis of two variables, for the purpose of determining the empirical relationship between them. In order to see if the variables are related to one another, it is common to measure how those two variables simultaneously change together. The bivariate analysis (Chi-square test) was used to find out the association between ANC taken and the aforesaid determinant factors. The Statistical Package for Social Sciences (SPSS) version 17.0 (SPSS Inc, Chicago, IL, USA) was used for statistical analysis.

Results

Univariate analysis

A basic way of presenting univariate data is to create a frequency distribution of the individual cases, which involves presenting the number of cases in the sample that fall into each category of values of the variable. In the present study, the socioeconomic and

health factors have a great influence on healthcare accessibility during pregnancy. For this reason, the percentage distribution of socioeconomic and health factors are presented in Table 1.

Age is one of the most important demographic variables in reproductive health issue. Childbearing age that means 15-49 years, especially 15-45 years are called reproductive age of women. From Table 1 it is seen, the maximum number of respondents (56.80%) was found in the agegroup15-18 years, and most of the respondents' (72.80%) ages at marriage were less than 18 years. Importantly, 16.00% respondents got married before 15 years old. In case of education, it is considered one of the most important socioeconomic characteristics of the respondents. The respondent are classified as illiterate (who never going to school and cannot read and write), primary education (class one to class five) and secondary and higher (class six to class ten is considered secondary level and higher secondary and above is considered higher level of education). In this study, it is observed that most of respondents (77.20%) are illiterate that means they never go to school. The few respondents were completed primary education (16.80%) and secondary and higher education (6.00%). Similar results are found for their husbands' educational status. Income is also one of the important socioeconomic indicators. It also might have some influence on healthcare accessibility. In the present study, monthly income is classified into several suitable groups. Table 1 indicated that around half of the respondents' (43.20%) monthly family income less than 6,000Tk, around one-third (34.80%) of the respondents' monthly income is 6,000-8,000Tk, and only and 22.00% respondents' monthly family income is 8000Tk and above. Monthly expenditure depends on the monthly income of the family, quality of life, attitude, flexibility, etc. In general sense, the family with higher monthly income has a higher monthly expenditure although they have a monthly saving. From Table 1 it is observed that around half of the respondents' (46.00%) monthly family expenditure is less than 6,000Tk, around one-third of the respondents' (34.40%) average monthly family expenditure is 6,000-8,000Tk, and a few respondents' (19.60%) average monthly family expenditure is 8,000Tk and above. In case of occupational status of the respondents and their husbands are mainly small business and labor. However, a few numbers of them were found beggars. The study results showed that most of the respondents collect drinking water from pipe line supplied by the government which is usually is not good to drink, and 28.40%

respondents collect from tube well. Some infections can harm the pregnant mother as well as their baby. This is why vaccinations are so important to prevent such infections and other causes. Vaccinations are also protecting mothers and their babies from getting a serious disease that could affect future pregnancies. However, from Table 1 it is observed that around half of the respondents (45.20%) did not complete the course vaccination. From the conception to child birth is essential for mother. But, for the case of slum mothers, it is found that around three-fourth (74.00%) respondents did not get any medical checkup during pregnancy.

Bivariate analysis

The results of the bivariate analysis between health checkup of the pregnant women with socioeconomic and health factors are presented in Table 2.

The bivariate (Chi-square test) analysis identified that the pregnant women' health checkup is statistically significantly associated with respondent's age at marriage, education, respondent's husbands education, occupation, respondent's husband's occupation, sources of drinking water, and vaccination taken. Among the pregnant women in the slum areas only 12.500% women have received health checkup who got married before 15 years old. However, 23.94% women have received health checkup who got married before 18 years old. Thus, the rate of health checkup has increased with the increased of age at marriage. For the case of education, increased education levels for both the cases of the respondents and their husbands, it is found that the increased numbers health checkup. The respondents who were housewife are found higher percentage health checkup (35.70%) and lowest percentage is found among the women who businesswomen (15.30%). Again, for the case of husband's occupation, the highest percentage health checkups (36.76%) are seen among the respondents whose husbands are businessmen and lowest whose husbands are labor (19.42%). For the case of the sources of drinking water, the pregnant women were received more health checkup (45.07%) who were used tube well water. Finally, considering vaccination taken by the respondents, it is found that the women who completed full course of vaccination were received higher number of health checkup. Among the total respondents, only one-fourth (26.00%) respondents were received the health checkup during their pregnancy period.

Discussion

This study highlights existing status of ANC among slum mothers. A majority of women

do not receive the ANC in spite of the health services being within reach. There is an evidence to show that the demand side barriers to access of services, such as social stigma, traditional process, lack of knowledge, and financial constrains may be as important as supply factors in determining pregnant mothers from utilizing ANC services [16-18]. In the urban slum areas, almost all mothers are illiterate, poor socioeconomic status and lived in a congested, unsanitary environment. Analyses revealed that 74.00% of mothers did not receive ANC services. This fact translated into around three-fourth unsafe home delivery practices conducted by untrained or trained attendants because of good quality ANC services are not uniformly distributed in Bangladesh. Advancements in technology have made sophisticated tertiary care available to those who can pay. At the same time, the gap between the rich communities and the poor, marginalized, and underserved communities is increasing steadily in Bangladesh. Rapid urban development is outstripping the meager resources at the local municipality level. Even where facilities exist, socioeconomic and cultural barriers prevent their optimum utilization by the women who need the most. For many of these urban slum families, pregnancy and ANC is not a priority.

An important barrier to acceptance and avail ANC services is the teenager pregnancy. A total of 72.80% of the women are found below age 18 years. An important barrier to acceptance of services is economic constrains. They were unable to afford services even in government hospitals because of the cost of medicines and investigations, even though consultation was free. The study findings supports the evidence suggested that demand side barriers such as cost of services are important barriers to obtaining services, especially in poor and vulnerable groups [17, 19]. Again, the barriers to access of health services in Bangladesh, 45% of the women stated financial reasons for not accessing health services [16]. In the slum areas, the growing number of people are installing latrines and defecating in a fixed place. Unfortunately, because of the low awareness about the health and environmental benefits of sanitary latrines, many newly-installed latrines are unsanitary. Unsanitary latrines either leak raw sewage into the surrounding environment or fail to prevent flies and other vermin from accessing the pit that contains the raw waste. Hanging latrines, those constructed over ditches, ponds and rivers, are still used in many slum areas in this city. Vaccines strengthen people’s immune systems so their bodies can fight off serious infectious diseases. Vaccines also benefit society by preventing the spread of communicable

diseases. Many women might not realize they are not up-to-date on their immunizations and are susceptible to diseases that can harm them or their unborn child. Pregnant women should talk to their physicians or healthcare providers to figure out which vaccines they might need and whether they should get them during pregnancy or wait until after their child is born. It might depend on the literacy and awareness about the benefits of vaccination for the mother and their babies. Due to illiteracy and lack of awareness of the slum mothers, it found that around half of the mothers (45.20%) did not take any vaccination or completed the full course of vaccination.

Conclusion

The present study explored the current status of ANC and built up the associations of socioeconomic and heath factors with health checkup of the slum mothers in Rajshahi City. The socioeconomic status of the slum mothers is very miserable. Almost all the determinant factors are strongly associated with health check up of the respondents. Many women could not able to utilize the institutional care in spite of physical acceptability. Home-based care by traditional birth attendants is hazardous. Many barriers can overcome by social mobilization and capacity building at the community level. Increased the use of ANC can prevent perinatal mortality and thereby can play a significant role in achieving the Millennium Development Goal 4 in Bangladesh. The non-government organizations should be aimed at to work in urban slum areas for other projects that can be utilized to provide information education and communication support for maternal care. At the same time, care must be taken to meet the demand generated by social mobilization.

Acknowledgements:

The author is very grateful to the slum mothers as well as to the two research assistants who collected data. Thanks are also to the reviewers and Editor for the constructive suggestion that make possible the improved version of the paper

References

[1] Abou-Zahr, C. and T. Wardlaw. (2003). Antenatal care in developing countries: Promises, achievements, and missed opportunities: An analysis of trends, levels and differentials, 1990-2001. Geneva: World Health Organization; 2003.

[2] Abou-Zahr, C. (2003). Safe motherhood: a brief history of the global movement 1947-2002. Br Med Bull, Vol. 67: 13-25.

[3] Banta, D. (2003). What is the efficacy/effectiveness of antenatal care and the financial and organizational implications? Copenhagen: WHO Regional Office for Europe.

[4] Petrou, S., E. Kupek, S. Vause and M. Maresh. (2003). Antenatal visits and adverse perinatal outcomes: results from a British population-based study. Eur J Obstet Gynecol Reprod Biol, Vol. 106(1):40-49.

[5] Vanneste, A. M., C. Ronsmans, J. Chakraborty and A. De Francisco. (2000). Prenatal screening in rural Bangladesh: from prediction to care. Health Policy Plan, Vol. 15(1):1-10.

[6] Villar, J. and P. Bergsjo. (1997). Scientific basis for the content of routine antenatal care. I. Philosophy, recent studies, and power to eliminate or alleviate adverse maternal outcomes. Acta Obstet Gynecol Scand, Vol. 76(1):1-14.

[7] Bergsjo, P. (2001). What is the evidence for the role of antenatal care strategies in the reduction of maternal mortality and morbidity? Stud Health Serv Organ Policy, Vol. 17: 35-54.

[8] PMNCH. (2001). The Partnership for Maternal, Newborn & Child Health: A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (Rmnch). Geneva, Switzerland.

[9] Bloom, S. S., T. Lippeveld and D. Wypij. (1999). Does antenatal care make a difference to safe delivery? A study in urban Uttar Pradesh, India. Health Policy Plan, Vol. 1999; 14:38-48.

[10] Carroli, G. C. Rooney and J. Villar. (2001). How effective is antenatal care in preventing maternal mortality and serious morbidity? An overview of evidence. Paediatr Perinat Epidemiol, Vol. 15:1-42.

[11] National Institute of Population Research and Training (NIPORT), Mitra and Associates, and Macro International. 2009. Bangladesh Demographic and Health Survey 2007. Dhaka, Bangladesh and Calverton, Maryland, USA: National Institute of Population Research and Training, Mitra and Associates, and Macro International.

[12] Akanda, M. A. S. (2010). Demand for Antenatal Care in Bangladesh: An Application of Two-Part Model. South Asian Journal of Population and Health, Vol. 3(1):29-41.

[13] Brown, C. A., S. B. Sohani, K. Khan, R. Lilford and W. Mukhwana.

(2008). Antenatal care and perinatal outcomes in Kwale district, Kenya. BMC Pregnancy Childbirth, Vol. 8:2. DOI. 10.1186/1471-2393-8-2.

[14] Rahman, M. M., M. R. Islam and A. Z. Islam. (2008). Rural-Urban Differentials of Utilization of Ante-Natal health Care Services In Bangladesh. Health Policy and Development Journal, Vol. 6(3):117-125.

[15] Rahman, M., R. Islam and M. Rahman. (2010). Antenatal Care Seeking Behavior among Slum Mothers: A Study of Rajshahi City Corporation, Bangladesh. SQU Med J, Vol. 10(1):50-56.

[16] Chowdhury, M. E, C. Ronsmans, J. Killewo, I. Anwar, K. Gausia, S. Das-Gupta, L. S. Blum, G. Dielteins, T. Marshall, S. Saha and J. Borghi. (2008). Equity in use of home based or facility based skilled obstetric care in rural Bangladesh: an observational study. Lancet, Vol. 367:327-332.

[17] Ensor T. and S. Cooper. (2004). Overcoming barriers to health services access: influencing the demand side. Health Policy Plan, Vol. 19:69-79.

[18] Griffiths, P. and R. Stephenson. (2001). Understanding users' perspectives of barriers to maternal health care in Maharashtra, India. J Biosoc Sci, Vol. 33:330-59.

[19] Yousif, E. M., M. A. Rahman and A. Hafeez. (2006). The effect of antenatal care on the probability of neonatal survival at birth, Wad Medani Teaching Hospital, Sudan. Sudan J Public Health, Vol. 1:293-297

Table 1 Percentage Distribution of Socio-Economic and Health Characteristics of the Respondents

Characteristics	Frequency	Percentage (%)
Respondent's age at marriage		
<15 years	40	16.00
15-18 years	142	56.80
>18 years	68	27.20
Respondent's education		
Illiterate	193	77.20
Primary	42	16.80
Secondary and higher	15	6.00
Husband's education		
Illiterate	179	71.60
Primary	55	22.00
Secondary and higher	16	6.40
Family income (in Taka)		
<6000	108	43.20
6000-8000	87	34.80
>8000	55	22.00
Expenditure (in Taka)		
<6000	115	46.00
6000-8000	86	34.40
>8000	49	19.60
Respondent's occupation		
Housewife	70	28.00
Business	65	26.00
Labor	95	38.00
Beggars	20	8.00
Husband's occupation		
Services	28	11.20
Business	68	27.20
Labor	139	55.60
Beggars	15	6.00
Sources of drinking water		
Tap	148	59.20
Tube well	71	28.40
Others	31	12.40
Respondent's Vaccination		
Not taken	17	6.80
Partial	96	38.40
Full	137	54.80
Medical checkup		
No	185	74.00
Yes	65	26.00
Total	250	100

Table 2 Bivariate Relationship of Use Antenatal Care with Independent Variables

Attributes	Medical checkup before child birth		Total	Significance
	No	Yes		
Respondent's Age at marriage				
<15 years	35 (87.50)	5(12.50)	40 (100)	Significant
15-18 years	108 (76.60)	34(23.94)	142(100)	
>18 years	42 (61.76)	26(38.24)	68(100)	
Respondent's education				
Illiterate	150 (77.72)	43(22.28)	193(100)	Significant
Primary	28 (66.67)	14(33.33)	42(100)	
Secondary and higher	7 (46.67)	8(53.33)	15(100)	
Husband's education				
Illiterate	139(77.65)	40(22.35)	179(100)	Significant
Primary	38(69.09)	17(30.91)	55(100)	
Secondary and higher	8(50.00)	8(50.00)	16(100)	
Income (in Taka)				
<6000	98(90.74)	10(9.26)	108(100)	Insignificant
6000-8000	52(59.77)	35(40.23)	87(100)	
>8000	35(63.64)	20(36.36)	55(100)	
Expenditure (in Taka)				
<6000	102(88.70)	13(11.30)	115(100)	Insignificant
6000-8000	55(63.95)	31(36.05)	86(100)	
>800	28(57.14)	21(42.86)	49(100)	
Respondent's occupation				
Housewife	45(64.29)	25(35.7)	70(100)	
Business	55(84.62)	10(15.3)	65(100)	Significant
Labor	70(73.68)	25(26.32	95(100)	
Beggars	15(75.00)	5(25.00)	20(100)	
Husband's occupation				
Services	20 (71.43)	8(28.57)	28(100)	
Business	43(63.24)	25(36.76)	68(100)	Significant
Labor	112(80.58)	27(19.42)	139(100)	
Beggars	10(66.67)	5(33.33)	15(100)	
Sources of drinking water				
Pipe line	120(81.08)	28(18.92)	148(100)	Significant
Tube well	39(54.93)	32(45.07)	71(100)	
Others	26(83.87)	5(16.13)	31(100)	
Vaccination				
Not taken	12 (70.59)	5(29.41)	17(100)	Significant
Partial	73(76.04)	23(23.96)	96(100)	
Full	100(73.00)	37(27.01)	137(100)	
Total	185(74)	65(26)	250(100)	

Note: The number inside the parenthesis represents the percentage (row percentage)