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Study On Antenatal Care Services At Bagerhat District In Bangladesh

Mosammat Salima Khatun
Nursing Instructor
Bagerhat Nursing Institute
Bagerhat

ABSTRACT

Antenatal care (ANC) plays a crucial role in achieving Millennium Development Goals 4 and 5 by reducing maternal and infant morbidity and mortality. This cross-sectional descriptive study was conducted to assess the awareness and impact of ANC among rural and urban mothers in selected hospitals of Bagerhat district, Bangladesh. A total of 400 respondents were selected through purposive sampling. Data were collected from both primary (interviews) and secondary (books, reports, journals, internet) sources and analyzed using SPSS version 16. The study aimed to evaluate the level of maternal awareness regarding ANC, the impact of such awareness, and the relationship between awareness and maternal health outcomes. Results showed that most mothers had good to excellent knowledge about ANC. However, significant gaps remained: 25% were unaware that blurring vision is a warning sign during pregnancy, 20% were unaware of radiation hazards, 33% lacked knowledge about leg edema, and 50% did not know the risks associated with Rh-negative status. The study emphasizes the need for regular ANC visits and targeted health education programs to improve awareness of pregnancy warning signs, the importance of 14 antenatal visits, and safe pregnancy practices. Enhancing maternal knowledge through education and awareness programs can contribute significantly to reducing maternal and infant health risks and improving pregnancy outcomes in both rural and urban areas.

Key Words: Antenatal care, Services, Awareness, Antenatal visit, Hospital, Service providers, Hospital, Society, Culture, Health problems, Economic condition.

INTRODUCTION

The magnitude of women's reproductive health problems is a serious matter of concern. Among the reproductive health parameters Antenatal care (ANC) and safe delivery have important positions as these are directly related with maternal morbidity and mortality. Maternal and infant morbidity and mortality is a serious public health problem globally (The State of the World's Midwifery: 2011, Datta, D.C. 2014, WHO). Both maternal and child health are interdependent and substantially contributing to high burden of mortality worldwide. Every year, 2,89,000 women die due to complications in pregnancy and childbirth, and 6.6 million children below 5 years of age die of complications in the newborn period and of common childhood diseases (MDGs- 2015, WHO, 2014). 99% of these deaths occur in the developing countries. Not only that estimated 8 million more suffer serious illness and lifelong disabilities (WHO, UNICEF, UNFPA and the World Bank, 1990-2008, and WHO, 2010). Every year 2 million newborns die within first 24 hours of life. Each day 12,000 babies die among the 35,000 babies within their first month of life, 2.6 million stillbirths, of which approximately 45% occur during labour and birth. More over millions of newborns suffer birth trauma that impairs their development and future productivity. These deaths occur late in pregnancy, at birth, or soon after delivery due to poor maternal and newborn care or inadequate management of pregnancy related complications.

The overwhelming majority of these deaths occur in developing countries (Lawn J. Cousens S. Zupan J, 2005, Stillbirth: An executive summary. 2011, Lozoff B, Beard J, Connor J, Barbara F, Georgieff M, Schallert T. 2006, and Projahnmo , 2008). Appropriate antenatal care is one of the pillars of Safe Motherhood Initiatives, a worldwide effort launched by the World Health Organization (WHO) and other collaborating agencies in 1987 aimed to reduce the number of deaths associated with pregnancy and childbirth (World Bank, 2007).

Bangladesh is one of the developing countries with in the world. The Maternal and infant morbidity and mortality are still high (Bangladesh progress report, 2007). Maternal Mortality Ratio (MMR) - 194/ 100000 live birth (BDHS, 2011), Neonatal Mortality Ratio (NMR)- 28/1000 (BDHS, 2014) live births, Infant Mortality Ratio (IMR)- 38/ 1000 (BDHS, 2014) live births and Under 5 mortality Rate (U5MR)-46/ 1000 (BDHS, 2014).

More over every year 600,000 women suffer from maternal complications and 600,000 under-5 children suffer from various diseases. These deaths and complications have to occur especially during child birth, soon after delivery and within 6 weeks after birth due to lack of proper antenatal care and inadequate management of postnatal care (BD Progress Report, 2013, HPNSDP, 2012, Countdown, 2015, World's Midwifery, 2012).

In comparison to develop world which are remain high like in Azerbaijan country: MMR-26/100000 live birth, IMR-31/1000 live birth, NMR-15/1000 live birth, U5MR-35/ 1000 live birth (Countdown, 2015). It is well recognized that good antenatal care improves maternal, perinatal and neonatal outcomes. That's way the Health Population & Nutrition Section Development Program has been initiated by the Ministry of Health and Family Welfare (MOHFW), Government of Bangladesh (GOB) for a period of five years from July 2011 to June 2016. After HPSP (1998-2003) and HNPSP (2003-2011) to achieve the Millennium Development Goals 4 (to reduce child mortality) & 5 (to improve maternal health) (HPNSDP, 2012). According to WHO CCS, Bangladesh 2014-17, reported that there has been slow progress in antenatal care coverage by medically trained providers. Mothers having had only one visit 50.5% in 2004 and 54.6% in 2011 (BDHS, 2011) and having had four visits increased from 16.7% in 2004 to 25.5% in 2011. The government target of four visits is at least 50% and one visit 100% by 2015. Deliveries attended by skilled health personnel doubled from 15.6% in 2004 to 31.7% in 2011. This is due to a significant increase in facility delivery. Of the 68% home deliveries, only 3% were attended by skilled providers.

Moreover, there is a large disparity in skilled assistance at delivery between rural 24% and urban 48% areas (BDHS, 2011). Target of children being exclusively breastfed for the first six months of the life is only 64%. Complementary foods are introduced at an early stage (BDHS, 2011). Postnatal care also increased significantly from 15.8% in 2004 to 27.1% in 2011. The latest data show postnatal care coverage of 38.9% in urban areas and 16.5% in rural areas (BDHS, 2011). Maternal Mortality Rate from 194/100000 live births to <143/1000000 live births, Neonatal Mortality Rate from 32/1000 live births to 21/1000 live births, Infant Mortality Rate from 43/1000 live births to 31/1000 live births, and Under Five Mortality Rate from 53/1000 live births to 48/1000 live births. These are all to be achieved by 2015 (BDHS, 2011, BD progress report, 2012).

Antenatal care (ANC) is one of the program to achieve the Millennium Development Goals 4 & 5. Antenatal care have to take complete physical check-up at regular intervals and early detection of deviation from the normal and their proper intervention or timely therapy. In addition counseling and advice of mother about various aspects like personal hygiene, nutrition, rest & sleep, travelling, birth spacing, place of delivery, exclusive breastfeeding, complementary feeding and postnatal care about their children. More over providing psychological and social support through patient hearing, suggestions for alleviation of fear and anxiety and referral to appropriate services solving any major problem faced by the women (Dutta, D.C., 2014). Maternal and neonatal morbidity and mortality is higher in the rural and urban slums due to lack of appropriate knowledge and practices among the mothers regarding their pregnancies and newborn care over the pregnancies and the postnatal period. Therefore, it is very important to identify the existing outcome of mothers awareness gained through antenatal care who are living both rural and urban area, whether the ANC services successful achieve or not. The findings of this study will help to formulate the strategies to develop the specific message to promote and sustain the program to achieve the Millennium Development goals 4 and 5.

OBJECTIVES OF STUDY

1. To assess the awareness of rural and urban mothers regarding antenatal care;
2. To find out the impact of awareness of rural and urban mothers regarding ANC;
3. To examine the relationship between the awareness and impact on ANC of mothers;
4. To determined the level of awareness and impact of antenatal care of the mothers.

RESEARCH QUESTIONS

1. What is the level of rural and urban mothers awareness on antenatal care?
2. What is the level of impact of rural and urban mothers awareness on antenatal care after delivery?

METHODOLOGY OF THE STUDY

Study design: It was a cross sectional descriptive study.

Study area: The study was conducted in selected different Hospitals at Bagerhat district in Bangladesh.

Sampling method: Purposive sampling method was used for the study.

Sample Size: Total 400 respondents were selected for the study.

Sources of Data: Data were collected from primary and secondary sources.

Sources of Primary data: Primary data were collected from the respondents of study area.

Sources of secondary data: Secondary data were collected from books, research report, journals and internet.

Instruments of data collection: Questionnaire was used for data collection.

Media of language: Data were collected in English Media.

Methods of data collection: Data were collected through face to face interview with questionnaire and secondary data were collected by reviewing books, research report, journals and internet etc.

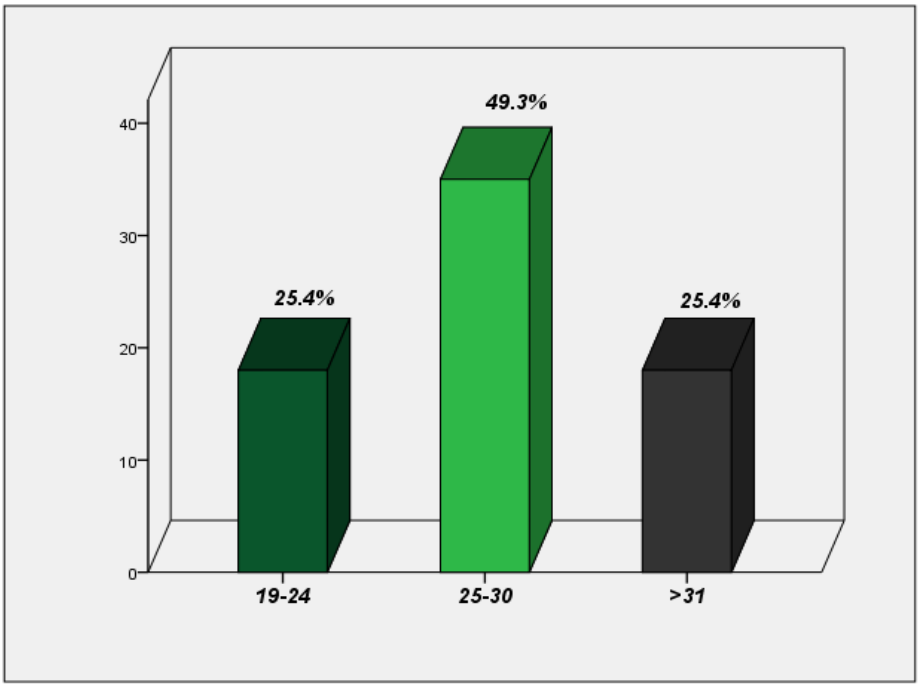
Data processing and Analysis: Data were computerized, analyzed and interpreted using of SPSS (Statistical package for social science) Windows software program version 16.

RESULTS

This descriptive type of cross-sectional study was conducted among 71 purposively selected respondents from 1st July 2021 to 31st December 2021 admitted at CMH Dhaka with the objective to find out the Knowledge about antenatal care among the pregnant women admitted at Combined Military Hospital. The data were collected by face to face interview with a semi-structured questionnaire. After completion of data collection all data were analyzed and processed using the appropriate statistical procedures (SPSS version 23.0) and presented through tables, charts and graphs. All the findings are presented as follows:

Information related to Socio-demographic status of the respondents

Figure 1: Distribution of the respondents by age (n=71)



Mean ± SD (years) = 27.70 ± 4.915

Figure 1 shows out of total 71 respondents, the maximum 35(49.3%) belongs to the age group 25-30 years and the lowest number 18(25.4%) belongs to the age group >31 years.

Table 1: Distribution of the respondents by religion (n=71)

Religion	Frequency	Percentage
Muslim	68	95.8%
Hinduism	3	4.25%
Total	71	100.0%

Table 1 depicts that among 71 respondents most of them 68(95.8%) belongs to the Muslim and 3(4.25%) belongs to the Hindu.

Table 2: Distribution of the respondents by occupational status (n=71)

Occupational status	Frequency	Percentage
Housewife	61	85.9%
Service holder	8	11.3%
Student	2	2.8%
Total	71	100.0%

Table 2 shows that among 71 respondents most of them 61(85.9%) belongs to the housewives and the lowest number 2(2.8%) belongs to the students.

Figure 2: Distribution of the respondents by their educational status (n=71)

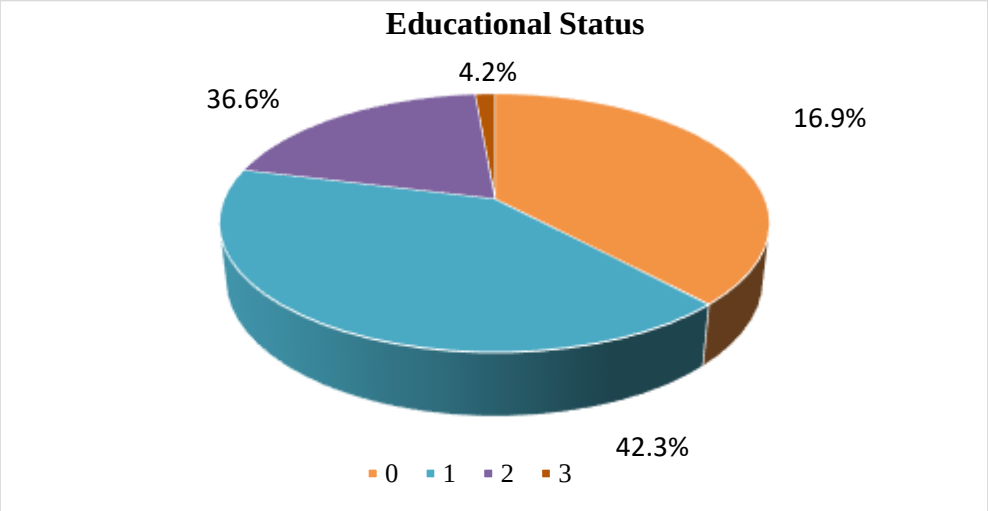


Figure 2: Among 71 respondents the highest number of educational status 30(42.3%) belongs to the HSC and the lowest number 3(4.2%) belongs to the secondary level of education.

Table 3: Distribution of the respondents by monthly family income (n=71)

Monthly family income (In TK)	Frequency	Percentage
10000-19000	4	5.6%
20000-29000	25	35.2%
30000-39000	32	45.1%
40000-49000	6	8.5%
>50000	4	5.6%
Total	71	100.0%

Mean ± SD (years) = 30619.72 ± 10083.36

Table 3 shows out of 71 respondents 32(45.1%) belongs to the highest income between 30000-39000 TK and lowest income belongs to the 4(5.6%) between 10000-19000 TK and >50000 TK.

Table 4: Distribution of the respondents by family size (n=71)

Family size	Frequency	Percentage
2-3	46	64.8%
>4	25	35.2%
Total	71	100.0%

Mean ± SD (years) = 3.34 ± 1.362

Table 4 shows that among 71 respondents highest number of family size 46(64.8%) belongs to the 2-3 members and the lowest 25(35.2%) belongs to the >4 members.

Table 5: Distribution of the respondents by housing condition (n=71)

Housing condition	Frequency	Percentage
Pacca	65	91.5%
Semi pacca	6	8.5%
Total	71	100.0%

Table 5 depicts that among 71 respondents the highest number belongs to the 65(91.5%) had pacca accommodation and the lowest number 6(8.5%) had semi pacca accommodation.

Information related to knowledge on antenatal care among the respondents

A. Level of knowledge among the respondents

Table 6: Distribution of the level of knowledge of respondents on antenatal care

Level of knowledge	Frequency	Percentage
Excellent	66	93.0%
Good	5	7.0%
Total	71	100.0%

Table 6 shows that the highest level of knowledge belongs to the 66 (93.0%) had excellent knowledge and the lowest level of knowledge belongs to the 5 (7.0%) had good knowledge.

B. Knowledge on different variables among the respondents

Table 7: Distribution knowledge of the respondent of antenatal care by different variable

Sl	Variables	True n (%)	False n (%)
1	Antenatal care is a care of mother & fetus during pregnancy	100.0%	0.0%
2	At least 04 antenatal visits are mandatory during pregnancy	98.6%	1.4%
3	Vaginal bleeding is a warning sign during pregnancy	95.8%	4.2%
4	High fever is a warning sign during pregnancy	94.4%	5.6%%
5	TT immunization is done during pregnancy	98.6%	1.4%
6	Extra supplementation of nutritious food during pregnancy	100.0%	0.0%
7	Pre-eclampsia when complicated with convulsion and or coma is called eclampsia	93.0%	7.0%
8	Diabetes mellitus is a high risk condition during pregnancy	100.0%	0.0%
9	Hypertension is a high risk condition during pregnancy	100.0%	0.0%
10	Personal hygiene maintaining is important in pregnancy	100.0%	0.0%
11	Family planning is an integral part during antenatal care	95.8%	4.2%
12	Long journey should be avoided during pregnancy	98.6%	1.4%
13	Adequate rest is very necessary during pregnancy	98.6%	1.4%
14	Heavy working is harmful both mother and fetus during pregnancy	100.0%	0.0%

Table 7 shows that knowledge on antenatal care about antenatal care, diabetes mellitus, hypertension is a high risk during pregnancy, heavy working is harmful during pregnancy had 100% knowledge and pre-eclampsia had 93.0%, high fever had 94.4%, family planning had 95.8% knowledge.

Figure 3: Distribution knowledge of respondents of antenatal care by different variables

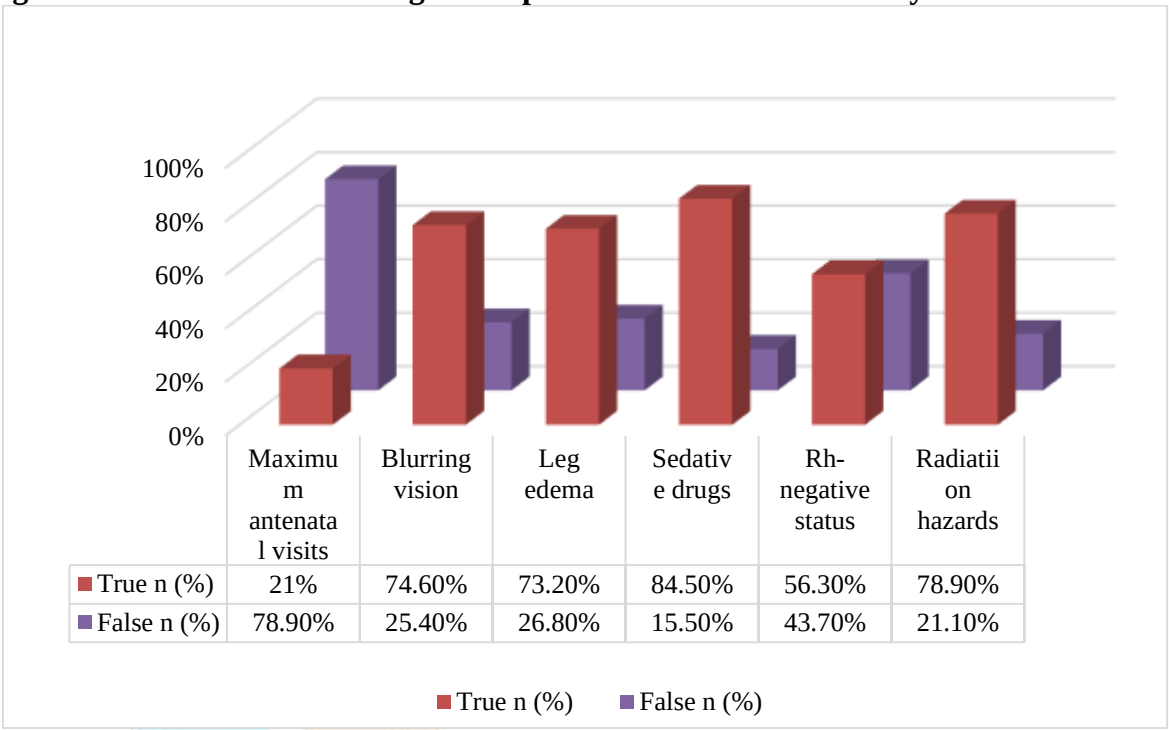


Figure 3 shows that among the respondents 78.90% had no knowledge about maximum antenatal visits, 43.70% had no knowledge about Rh-negative status, 25.40% had no knowledge about blurring vision is warning sign during pregnancy, 26.80% had no knowledge about leg edema is a warning sign during pregnancy and 15.50% had no knowledge about sedative drug is harmful during pregnancy.

C. Mean score of knowledge among the respondent

Table 8: Comparison of mean score of knowledge of antenatal care by age

Age	Frequency	Mean score of knowledge	SD
19-24	18	16.89	1.323
25-30	35	16.91	0.981
>31	13	17.22	0.808
Total	71	16.99	1.035

Table 8 indicates the mean score of knowledge of respondents by age, where it is found that out of 71 respondents, the highest mean score (17.22) belongs to the age group > 31 and the lowest mean score (16.89) belongs to the age group 19-24 years

Table 9: Comparison of mean score of knowledge of antenatal care by religion

Religion	Frequency	Mean score of knowledge	SD
Muslim	68	17.01	1.044
Hinduism	3	16.33	0.577
Total	71	16.99	1.035

Table 9 shows the mean score of knowledge of respondents by religion, where it is found that out of 71 respondents, the highest mean score (17.01) belongs to the Muslim and the (16.33) were Hindu mean score of knowledge.

Table 10: Comparison of mean score of knowledge of antenatal care by occupational status

Occupational status	Frequency	Mean score of knowledge	SD
Housewife	61	17.00	0.949
Service holder	8	17.13	1.246
Student	2	16.00	2.828
Total	71	16.99	1.035

Table 10 depicts that among 71 respondents, the highest mean score belongs to 8 (17.13) were Service holder mean score of knowledge and the lowest mean score belongs to 2 (16.00) were student mean score of knowledge.

Table 11: Comparison of mean score of knowledge of antenatal care by educational status

Educational status	Frequency	Mean score of knowledge	SD
Secondary	3	17.00	1.000
SSC	12	15.58	0.900
HSC	30	17.03	0.850
Graduate or above	26	17.58	0.643
Total	71	16.99	1.035

Table 11 shows that Graduate or above qualified of the respondents were more knowledgeable. At the highest (17.58) mean score of knowledge secured by those who qualified in Graduate or above, next (17.03) mean score of knowledge in HSC, next (17.00) mean score of knowledge in Secondary and next (15.58) mean score of knowledge in SSC.

Table 12: Comparison of mean score of knowledge of antenatal care by monthly family income

Monthly family income (Tk)	Frequency	Mean score of knowledge	SD
10000-19000	4	16.50	0.577
20000-29000	25	17.00	1.080
30000-39000	32	17.06	1.105
40000-49000	6	16.67	1.033
>50000	4	17.25	0.500
Total	71	16.99	1.035

Table 12 reveals that the highest (17.25) mean score of knowledge belongs to the respondents who had a family income of > 50000 TK and above, the second highest (17.06) mean score of knowledge belongs to the respondents who had a family income of 30000-39000 TK, (17.00) mean score of knowledge of the respondents who had a family income of TK 20000-29000 and (16.67) mean score of knowledge those who had a income of TK 40000-49000 and (16.50) mean score of knowledge those who had a income of TK 10000-19000 respectively.

Table 13: Comparison of mean score of knowledge of antenatal care by family size

Family Size	Frequency	Mean Score of Knowledge	SD
2-3	46	17.00	1.095
4-5	20	17.05	0.887
5-6	4	16.50	1.291
>7	1	17.00	0.000
Total	71	16.99	1.035

Table 13 reveals the respondents mean score of knowledge according to the number of family members. The highest (17.05) mean score of knowledge belongs to the respondents who had 4-5 number of family members and the least (17.00) mean score of knowledge belongs to the respondents who had 2-3 and >7 and above numbers of family members and the rest respondents (16.50) mean score of knowledge belongs to the respondents who had 5-6 number of member.

Table 14: Comparison of mean score of knowledge of antenatal care by housing condition

Housing condition	Frequency	Mean score of knowledge	SD
Pacca	65	17.02	1.023
Semi pacca	6	16.67	1.211
Total	71	16.99	1.035

Table 14 shows that the highest mean score of knowledge 65 (17.02) those who were living in Pacca house and the lowest mean score of knowledge 6 (16.67) those who were living in Semi pacca house.

Information related to the obstetrical aspects of the respondents

Figure 4: Distribution of the respondents by para (n=71)

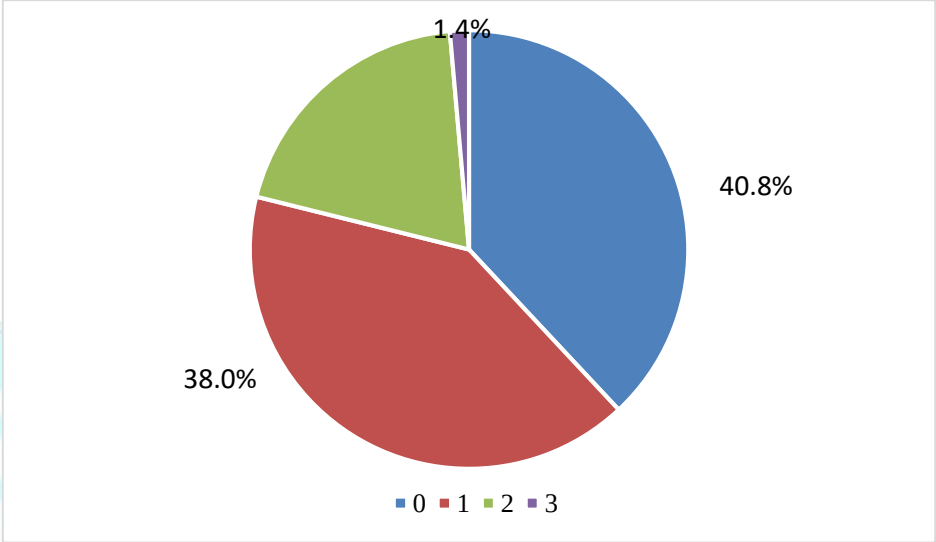


Figure 4 shows that out of 71 respondents the highest number of para had 29 (40.8%) and the lowest number of para had 1 (1.4%).

Table 15: Distribution of the respondents by gravida (n=71)

Gravida (no)	Frequency	Percentage
1	23	32.4%
2	18	25.4%
3	20	28.2%
4	7	9.9%
5	2	2.8%
6	1	1.4%
Total	71	100.0%

Table 15 shows that out of 71 respondents the highest number of gravida had 23 (32.4%) and the lowest number of gravida had 1 (1.4%).

Table 16: Distribution of the respondents by contraceptives practice (n=71)

Contraceptive practice	Frequency	Percentage
Nill	39	54.9%
Oral pill	30	42.3%
Injection	1	1.4%
IUCD	1	1.4%
Total	71	100.0%

Table 16 shows that the highest use of contraceptive practice was 39 (54.9%) which indicates Nill, the rest highest was 30 (42.3%) which indicates Oral pill, the rest highest was 1(1.4%) which indicates Injection and IUCD method.

Table 17: Distribution of the respondents by obstetrical aspects (n=71)

Obstetrical aspects	Frequency	Percentage
History of abortion	27	38.0%
Mal presentation	13	18.3%
History of APH	12	16.9%
History of PPH	13	18.3%
History of obstetrical surgery	8	11.3%
History of trauma	8	11.3%

Table 17 reveals that the highest number of obstetrical aspects 27 (38.0%) belongs to the respondents who had a history of abortion, the second highest 13 (18.3%) belongs to the respondents who had a history of mal presentation and history of PPH

Information related to co-morbidity status of the respondents

Table 18: Distribution of the respondents by co-morbidity status

Co-morbidity status	Frequency	Percentage
Hypertension	8	11.3%
Diabetes mellitus	16	22.5%
Coronary heart disease	2	2.8%
Chronic kidney disease	1	1.4%
COVID-19	8	11.3%
COPD	2	2.8%
Bronchial asthma	5	7.0%
Thyroid disease	10	14.1%

Table 18 shows that most prevalent disease were Diabetes mellitus 16(22.5%), followed by Thyroid disease 10(14.1%), Hypertension and COVID-19 8(11.3%), Bronchial asthma 5(7.0%), Coronary heart disease and COPD 2(2.8%), Chronic kidney disease 1(1.4%).

CONCLUSION

This study revealed that most of the respondents had excellent knowledge and few had good knowledge on antenatal care of pregnant women admitted at different Hospitals at Bagerhat district in Bangladesh. The result showed that maximum respondents had excellent knowledge about antenatal care. This study revealed that one fourth of the respondents had no knowledge about blurring vision is a warning sign during pregnancy, one fifth of the respondents had no knowledge about radiation hazards during pregnancy, one third of the respondents had no knowledge about leg edema is a warning sign during pregnancy, half of the respondents had no knowledge about Rh-negative status is a warning sign during pregnancy. We should suggest them to continue taking care and regular antenatal check-up because every pregnant woman must have adequate knowledge about her own physical and emotional health as well as optimal health of the unborn child. The knowledge can be achieved properly through regular antenatal care. That will help the mother to have a healthy baby at the end of the pregnancy. On the other hand, we should arrange more health educational program and increase mass awareness of the study population who have lack of knowledge about antenatal care. After doing that it is expected to significantly reduce maternal morbidity

and mortality, infant mortality and low birth weight babies. It is hoped that present study will draw the attention of hospitals and health care providers in obstetric department to provide the guidance, help and health education in adopting intervention to improve the health status of the pregnant mother allowing safe pregnancy.

RECOMMENDATIONS

On the basis of the findings and discussion of the study following recommendations are put forward for the policy maker, hospital administrator, public health specialist, study population and future researchers.

1. Health education program should be arranged for increasing knowledge of the respondents about importance of 14 antenatal visits and risk for Rh-negative status.

2. Steps should be taken among the study population for increasing knowledge about warning sign of leg edema, blurring vision and use of sedative drugs during pregnancy.

3. Mass awareness program should be arranged among the respondents about harmful effects of radiation during pregnancy and importance of family planning.

4. Studies on larger sample size may be conducted for more accurate findings of this problem.

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