

HIV/AIDS Awareness and Prevention Practices among Pregnant Women Attending Antenatal Care in Bangladesh

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Abstract

Background: HIV/AIDS remains a major global health concern, with marginalized groups in Bangladesh, such as injecting drug users, experiencing higher infection rates. This study aims to assess the awareness and prevention practices related to HIV/AIDS among pregnant women attending antenatal care in Bangladesh. **Aim of the study:** The aim of the study was to evaluate the awareness and prevention practices related to HIV/AIDS among pregnant women attending antenatal care in Bangladesh. **Methods:** A descriptive cross-sectional study was conducted at the Department of Public Health and Informatics, Bangabandhu Sheikh Mujib Medical University, Dhaka, from January to May 2016, among 60 pregnant women attending antenatal care to assess HIV/AIDS awareness and prevention practices. Data were collected via face-to-face interviews using a pre-tested structured questionnaire. Verbal consent was obtained, and confidentiality maintained. Data were analyzed using SPSS version 16. **Results:** Among 60 pregnant women, most were aged 26-30 years, illiterate (57%), housewives (65%), and from joint families (71.7%). Awareness of HIV transmission was highest for sexual intercourse with infected partners (90%). Knowledge of mother-to-child transmission (6.7%) and prevention practices like condom use (20%) was low. Misconceptions existed about transmission via utensils (36.7%) and mosquito bites (28.3%). Media exposure was high for television (90%) and outdoor media (80%), with limited participation in HIV/AIDS programs (5%). **Conclusion:** Targeted antenatal education is needed to address HIV/AIDS awareness gaps, especially on mother-to-child transmission and condom use, among pregnant women in Bangladesh.

Keywords: HIV/AIDS, Awareness, Prevention practices, Pregnant women, Antenatal care.

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INTRODUCTION

HIV/AIDS continues to be a major global health concern, despite significant progress in treatment and understanding of the disease. By 2013, around 35 million people were living with HIV, including 3.2 million children under the age of 15 [1], the majority of whom were infected through vertical transmission from HIV-positive mothers during pregnancy, childbirth, or breastfeeding [2]. Bangladesh, with a prevalence rate of 0.1% until 2011, ranks among the countries with a significant HIV burden in South Asia, though its overall

rate remains lower compared to neighboring countries like India and Myanmar [3]. Heterosexual transmission is the most common route, and women are particularly vulnerable due to biological factors, such as a larger surface area exposed to semen, which contains higher concentrations of HIV [4]. Mother-to-child transmission (MTCT) remains the primary source of HIV infections in children under 15, with the risk of transmission being significantly high without appropriate interventions. The use of antiretroviral therapy (ART), safe delivery practices, and the avoidance of breastfeeding has led to a

marked reduction in transmission rates, bringing them down to less than 5% when properly managed [5].

The global impact of HIV/AIDS remains profound, with significant health and socio-economic consequences [6]. In regions like sub-Saharan Africa, the epidemic has undone many developmental achievements of the past decades. By the end of 2007, an estimated 33.2 million people were living with HIV globally [7]. HIV not only affects individuals but also has wide-ranging effects on nations, particularly in low-income and developing regions. In Bangladesh, while the overall HIV prevalence remains low, high-risk groups such as injecting drug users experience significantly higher rates of infection [8]. This highlights the ongoing vulnerability of marginalized populations and the urgent need for expanded education and preventive efforts. Despite these challenges, initiatives like voluntary testing, access to antiretroviral therapy (ART), and safer childbirth practices have contributed to controlling the epidemic in certain countries, offering hope for further progress in reducing transmission and new infections.

Pregnant women represent a key group in efforts to reduce HIV transmission, especially mother-to-child transmission (MTCT). In many developing countries, including Bangladesh, identifying HIV-positive pregnant women before delivery remains a significant challenge. This is exacerbated by factors such as lack of awareness, social stigma, and poor health-seeking behaviors, all of which hinder efforts to prevent MTCT. Research indicates that over 90% of HIV infections in children under 15 are due to MTCT [9]. While developed countries have successfully reduced MTCT through strategies like HIV testing, antiretroviral therapy, and changes in infant feeding practices [10]. These methods are still not widely accessible in countries like Bangladesh. To lower the incidence of MTCT, it is crucial to assess and improve the knowledge and awareness of HIV/AIDS and MTCT among pregnant women attending antenatal clinics. Addressing these knowledge gaps and implementing targeted interventions during antenatal care (ANC) could play a vital role in preventing HIV transmission from mother to child.

Public awareness plays a crucial role in preventing the spread of HIV/AIDS, particularly among pregnant women. Comprehensive programs aimed at preventing mother-to-child transmission (PMTCT), which focus on raising awareness about HIV/AIDS and offering proper care and support to HIV-positive women, are vital to reducing the epidemic's impact [11,12]. As the number of HIV-positive women rises and the risks of MTCT increase, enhancing HIV knowledge through public awareness campaigns becomes increasingly important [12,13]. These initiatives will not only help lower transmission rates but also promote healthier behaviors among pregnant women. Strengthening knowledge and encouraging preventive practices

through antenatal care are essential steps toward reducing HIV transmission and improving both maternal and child health outcomes. The purpose of this study was to assess the awareness and prevention practices related to HIV/AIDS among pregnant women attending antenatal care in Bangladesh.

OBJECTIVE

- The aim of the study was to evaluate the awareness and prevention practices related to HIV/AIDS among pregnant women attending antenatal care in Bangladesh.

METHODOLOGY & MATERIALS

This descriptive cross-sectional study was conducted at the Department of Public Health and Informatics, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh, from January 2016 to May 2016. A total of 60 pregnant women attending antenatal care (ANC) at BSMMU were included in the study, selected based on specific inclusion and exclusion criteria to evaluate their awareness and prevention practices related to HIV/AIDS.

Inclusion Criteria

- Pregnant women attending antenatal care at BSMMU.
- Willing to participate in the study.
- Aged between 15 and 50 years.

Exclusion Criteria

- Pregnant women who were unable to speak or were hard of hearing.
- Those who refused to participate or were unable to complete the interview.

Participants were selected using a convenience sampling method. Pregnant women attending ANC at BSMMU during the study period were approached, and those meeting the inclusion criteria and providing verbal consent were enrolled. This method was adopted due to the limited timeframe and ease of accessibility to the study population. Data collection was carried out through face-to-face interviews using a structured questionnaire designed to assess HIV/AIDS awareness, prevention practices, attitudes, and media exposure. The questionnaire was pre-tested to ensure clarity, relevance, and consistency, and interviews were conducted by trained interviewers in a private setting to maintain confidentiality and participant comfort. Prior to each interview, a consent form outlining the study objectives, time requirements, and participant rights was read out, and verbal consent was obtained. All data were systematically recorded in pre-formed data collection sheets. Quantitative data were presented as mean and standard deviation, while qualitative data were expressed as frequency distributions and percentages. Data processing included entry and verification, cleaning,

coding, development of an analysis plan, program development, and report generation. Statistical analysis was performed using SPSS version 16. Quality control measures included a one-day orientation for interviewers on questionnaire administration and confidentiality maintenance. The questionnaire was pre-tested, and regular monitoring of the data collection process was conducted to ensure accuracy and consistency, with

feedback provided as necessary. Ethical clearance for the study was obtained from the ethical review committee of BSMMU. All participants were informed of the study objectives, procedures, their rights, and their ability to withdraw at any time without any consequences.

RESULTS

Table 1: Demographic Characteristics of Pregnant Women Attending Antenatal Care (n = 60)

| Demographic | | Frequency (n) | Percentage (%) |
|--------------------|--------------------------|---------------|----------------|
| Age Group (Years) | ≤ 20 | 4 | 6.7 |
| | 21-25 | 12 | 20.0 |
| | 26-30 | 18 | 30.0 |
| | 31-35 | 10 | 16.7 |
| | 36-40 | 9 | 15.0 |
| | ≥ 40 | 7 | 11.7 |
| Education Level | Illiterate | 34 | 57.0% |
| | 1-5 Years of Education | 14 | 23.3% |
| | 6-9 Years of Education | 10 | 16.7% |
| | 10-12 Years of Education | 2 | 3.3% |
| Religion | Muslim | 59 | 98.3 |
| | Hindu | 1 | 1.7 |
| Occupation | House wife | 39 | 65.0 |
| | Agriculture | 16 | 26.7 |
| | Manual labourer | 3 | 5.0 |
| | Government job | 2 | 3.3 |
| Type of Family | Nuclear | 19 | 31.7 |
| | Joint/Extended | 43 | 71.7 |
| Order of Pregnancy | First | 19 | 31.7 |
| | Second or more | 41 | 68.3 |

Table 1 presents the demographic profile of the study participants, including age, education level, occupation, type of family, and order of pregnancy. The majority of participants were aged 26-30 years (30.0%), with a significant proportion being illiterate (57.0%) or

having only 1-5 years of education (23.3%). Most participants were housewives (65.0%), and 71.7% lived in joint/extended families. Additionally, 68.3% of the women were in their second or subsequent pregnancy, reflecting a multiparous cohort.

Table 2: Awareness of HIV Transmission Routes Among Pregnant Women (n = 60)

| Ways to Get HIV/AIDS | Frequency (n) | Percentage (%) |
|--|---------------|----------------|
| 1. Through sexual intercourse with an infected partner | 54 | 90.0% |
| 2. From mother to child (MTCT) | 4 | 6.7% |
| 3. Through sharing needles/syringes | 25 | 41.7% |
| 4. Receiving blood from an HIV-infected person | 11 | 18.3% |
| 5. Through sexual intercourse with multiple partners | 2 | 3.3% |

Table 2 summarizes the awareness of HIV transmission routes among pregnant women attending antenatal care. The majority of participants recognized sexual intercourse with an infected partner (90.0%) as a primary route of transmission. However, awareness of mother-to-child transmission (MTCT) was

notably low (6.7%), highlighting a critical gap in knowledge. Moderate awareness was observed for other routes, such as sharing needles/syringes (41.7%) and receiving blood from an HIV-infected person (18.3%).

Table 3: Awareness of HIV Prevention Practices Among Pregnant Women (n = 60)

| Ways to Prevent HIV/AIDS | Frequency (n) | Percentage (%) |
|--|---------------|----------------|
| Avoiding sexual intercourse with CSW | 51 | 85.0% |
| Not to share needle | 23 | 38.3% |
| Avoiding sexual intercourse with HIV infected person | 16 | 26.7% |
| Using condom at every sex | 12 | 20.0% |
| Receive blood after testing HIV | 9 | 15.0% |
| Don't know / can't say | 7 | 11.7% |
| Be faithful to sexual partner | 1 | 1.7% |
| Avoiding sex with MSM | 1 | 1.7% |

Table 3 outlines the awareness of HIV prevention practices among pregnant women attending antenatal care. The majority of participants recognized avoiding sexual intercourse with commercial sex workers (CSWs) (85.0%) as a key prevention method. However, awareness of other critical practices, such as using condoms during every sexual act

(20.0%) and being faithful to one sexual partner (1.7%), was notably low. Moderate awareness was observed for not sharing needles (38.3%) and avoiding sexual intercourse with HIV-infected persons (26.7%). A small proportion of participants (11.7%) reported not knowing how to prevent HIV.

Table 4: Attitudes and Perceptions About HIV/AIDS and Condom Use Among Pregnant Women (n = 60)

| Statements | Yes | | No | | Don't Know/Can't Say | |
|--|---------------|----------------|---------------|----------------|----------------------|----------------|
| | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) |
| Carrying condoms is difficult because it implies planning to have sex | 55 | 91.7% | 5 | 8.3% | | |
| It is embarrassing to purchase condoms | 20 | 33.3% | 40 | 66.7% | | |
| Condoms are easy to use | 51 | 85.0% | 7 | 11.7% | 2 | 3.3% |
| A person can always tell by looking if someone has HIV/AIDS | 15 | 25.0% | 43 | 71.7% | 2 | 3.3% |
| A healthy-looking person can be infected with HIV | 52 | 86.7% | 5 | 8.3% | 3 | 5.0% |
| A person can get HIV/AIDS the first time he or she has sex | 35 | 58.3% | 21 | 35.0% | 4 | 6.7% |
| A woman who has HIV can give birth to a child with HIV | 47 | 78.3% | 7 | 11.7% | 6 | 10.0% |
| HIV infection can be transmitted through sharing eating utensils | 22 | 36.7% | 28 | 46.7% | 10 | 16.7% |
| A person can get AIDS through mosquito, flea, or bedbug bites | 17 | 28.3% | 23 | 38.3% | 20 | 33.3% |
| HIV can be transmitted from mother to child | 50 | 83.3% | 5 | 8.3% | 5 | 8.3% |
| I don't have sex without my wife | 41 | 68.3% | 14 | 23.3% | 5 | 8.3% |
| It is necessary to use a condom when having sex with someone other than wife | 58 | 96.7% | 1 | 1.7% | 1 | 1.7% |
| I have seen many people my age have sex without a condom | 3 | 5.0% | 52 | 86.7% | 5 | 8.3% |

Table 4 summarizes the attitudes and perceptions of pregnant women regarding HIV/AIDS and condom use. A majority of participants (91.7%) agreed that carrying condoms implies planning to have sex, and 33.3% found it embarrassing to purchase condoms. However, 85.0% believed that condoms are easy to use. Regarding HIV/AIDS knowledge, 86.7% correctly acknowledged that a healthy-looking person can be infected with HIV, and 83.3% knew that HIV can be transmitted from

mother to child. However, misconceptions persisted, with 36.7% believing that HIV can be transmitted through sharing eating utensils and 28.3% thinking it can spread through mosquito bites.

Additionally, 96.7% agreed that condoms are necessary when having sex with someone other than their spouse, but only 5.0% reported seeing people their age having sex without condoms, suggesting a gap between knowledge and observed behavior.

Table 5: Exposure to Media and HIV/AIDS Awareness among Pregnant Women (n = 60)

| Media Type | Frequency (n) | Percentage (%) |
|-------------------------------|---------------|----------------|
| Radio | 22 | 36.7% |
| Television | 54 | 90.0% |
| Newspaper | 7 | 11.7% |
| Outdoor Media | 48 | 80.0% |
| Exposure to HIV/AIDS Programs | 3 | 5.0% |

Table 5 summarizes the exposure to media and HIV/AIDS awareness among pregnant women attending antenatal care. The majority of participants had access to television (90%) and outdoor media (80%), while 37% had access to radio and 11% read newspapers. Only 5% of participants reported participating in HIV/AIDS programs, indicating limited engagement with targeted interventions.

DISCUSSION

This study evaluates the awareness and prevention practices related to HIV/AIDS among pregnant women attending antenatal care at a tertiary hospital in Bangladesh. HIV/AIDS remains a significant public health concern, particularly among pregnant women, as it poses risks to both maternal and neonatal health. The findings from this study highlight the varying levels of awareness and preventive practices among the participants, underscoring the need for comprehensive education and targeted interventions. The results indicate that while some women are well-informed about HIV prevention, gaps in knowledge and practices persist, particularly regarding HIV testing and safe delivery practices. These findings emphasize the importance of strengthening HIV education and prevention efforts in antenatal care settings to improve maternal and infant health outcomes.

In our study, the majority of participants were illiterate (57.0%) or had only 1-5 years of education (23.3%), a finding consistent with Kumar *et al.*, [14], who also reported low literacy levels among pregnant women in their cohort. This highlights a potential barrier to HIV/AIDS awareness, as limited education often correlates with gaps in health knowledge. The predominance of housewives (65.0%) in our study aligns with Kumar *et al.*'s findings, where a significant proportion of participants were also homemakers, suggesting that pregnant women in both settings may have limited exposure to health information outside the home. Additionally, 68.3% of participants in our study were in their second or subsequent pregnancy, similar to Kumar *et al.*'s findings, where multiparous women also constituted a majority. These demographic similarities underscore the need for targeted antenatal education programs that address the unique challenges faced by women with low literacy levels, limited occupational exposure, and prior pregnancy experiences, ensuring effective dissemination of HIV/AIDS awareness and prevention practices.

In this study, a high level of awareness about HIV transmission routes was observed among pregnant women, with 90.0% recognizing sexual intercourse with an infected partner as a primary route. However, awareness of mother-to-child transmission (MTCT) was notably low, with only 6.7% of participants identifying this route. These findings are consistent with a similar study by Praveena *et al.*, [15], which also reported high awareness of sexual transmission (95%) and other routes such as infected blood transfusion (88%) and sharing of infected needles (87.42%). However, a striking difference was observed in the awareness of MTCT, where the previous study reported 84% of pregnant women acknowledging this route, compared to just 6.7% in the current study. This discrepancy underscores a critical gap in knowledge among pregnant women in Bangladesh, particularly regarding MTCT, which is a key concern during antenatal care. The high awareness of sexual transmission and moderate awareness of other routes in both studies suggest that antenatal education programs are effectively addressing some aspects of HIV prevention but may need to place greater emphasis on MTCT and its prevention strategies.

In this study, awareness of HIV prevention practices among pregnant women varied significantly, with 85.0% recognizing that avoiding sexual intercourse with commercial sex workers (CSWs) can prevent HIV. However, awareness of other critical prevention methods, such as using condoms during every sexual act (20.0%) and being faithful to one sexual partner (1.7%), was notably low. These findings are consistent with those of Parmar *et al.*, [16], who also reported high awareness of sexual transmission as a prevention method, with 74.0% of participants knowing that an infected person can transmit HIV to their sexual partner(s). However, a striking difference was observed in awareness of condom use, where Parmar *et al.*, reported 72.5% of participants acknowledging its role in preventing HIV, compared to only 20.0% in the current study. Additionally, 11.7% of participants in this study reported not knowing how to prevent HIV, similar to the 19.3% in Parmar *et al.*'s study who were unsure if HIV/AIDS is preventable. These similarities and differences highlight the need for targeted antenatal education programs to address gaps in knowledge, particularly regarding condom use and partner fidelity, while building on existing awareness of sexual transmission as a prevention method.

In this study, pregnant women demonstrated a mix of accurate knowledge and persistent

misconceptions about HIV/AIDS, with 86.7% correctly acknowledging that a healthy-looking person can be infected with HIV and 83.3% knowing that HIV can be transmitted from mother to child. However, misconceptions were evident, as 36.7% believed HIV can be transmitted through sharing eating utensils and 28.3% thought it could spread through mosquito bites. These findings align with those of Mazloomi *et al.*, [17], who also reported misconceptions, such as 20.8% believing AIDS can be transmitted to nurses and 11.7% thinking speaking with infected people can transmit HIV. Additionally, both studies reveal stigma and fear surrounding HIV/AIDS, with 91.7% of participants in this study feeling that carrying condoms implies planning to have sex and 33.3% finding it embarrassing to purchase condoms, compared to 28.3% in Mazloomi *et al.*'s study who agreed that infected people should be quarantined. These similarities highlight the need for targeted antenatal education programs to correct misconceptions, reduce stigma, and promote accurate knowledge about HIV transmission and prevention.

In this study, the majority of pregnant women reported accessing information about HIV/AIDS through television (90%) and outdoor media (80%), while 37% had access to radio. These findings align closely with those of Mazloomi *et al.*, [17], who also found that 74.1% of pregnant women relied on radio and television as their primary sources of HIV/AIDS information. Both studies highlight the dominant role of electronic media in disseminating health information to pregnant women. These similarities underscore the importance of leveraging television, radio, and outdoor media as effective tools for improving HIV/AIDS awareness and prevention practices among this population.

Limitations of the Study

This study had some limitations:

- The study was conducted among pregnant women attending a selected antenatal care hospital in Bangladesh, limiting the generalizability to all regions.
- Limited time availability of pregnant women during antenatal visits restricted in-depth interviews.
- Lack of appropriate interview space affected the ability to strictly maintain confidentiality.

CONCLUSION

This study evaluated the awareness and prevention practices related to HIV/AIDS among pregnant women attending antenatal care in Bangladesh. The findings revealed that while most participants were aware of sexual transmission and recognized the importance of avoiding commercial sex workers, critical gaps in knowledge persisted, particularly regarding mother-to-child transmission and condom

use. Misconceptions about HIV transmission, such as through sharing eating utensils and mosquito bites, were also common. Despite high exposure to television and outdoor media, very few participants reported participating in HIV/AIDS programs. These results underscore the need for targeted antenatal education programs to address knowledge gaps, correct misconceptions, and promote effective prevention practices, particularly focusing on mother-to-child transmission and condom use, to improve maternal and child health outcomes in Bangladesh.

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