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Original Research Article

Prevalence of cervical cancer among village women: a study in an Upazilla Health Complex in Bangladesh

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ABSTRACT

Background: Cervical cancer arises when cells in the cervix undergo abnormal changes, leading to tumor formation. Although preventable, it remains the fourth most commonly diagnosed cancer and the leading cause of cancer-related deaths among women. This study aimed to assess the prevalence of cervical cancer among village women.
Methods: This prospective observational study was conducted at Upazilla Health Complex (UHC), Sariakandi, Bogura, Bangladesh from January 2023 to December 2023. As the study subjects, a total of 1186 village women who participated in the cervical cancer screening program of the mentioned UHC were enrolled purposively. For data analysis, MS Office tools were applied.
Results: In this study, the majority of participants belonged to the >40 years' age group (53.2%), were housewives (73%), married at the age of 20 or younger (59%), and reported negative vaginal discharge (53%). Among the total participants, the prevalence of cervical cancer, as determined by visual inspection with acetic acid (VIA) tests, was found to be 1.18%.
Conclusions: In comparison to other South Asian or African countries, the prevalence of cervical cancer among village women in Bangladesh is relatively low. However, housewives aged over 40 years, experiencing negative vaginal discharge, and marrying at age 20 or younger are particularly susceptible to such diseases here.

Keywords: Cervical cancer, Village women, Visual inspection with acetic acid, HPV, Tumor

INTRODUCTION

Cervical cancer ranks second among female cancers in Bangladesh, contrasting with its global position as the fourth most common.[1] The annual crude incidence rate of invasive cervical cancer in Bangladesh is 15.9 per 100,000, with over 80% of cases diagnosed at an advanced stage.[2] Early detection allows for preventive and curative treatment of cervical cancer.[3] Progression from dysplastic precursor lesions to invasive cancer typically spans 10-15 years.[3] Developed countries implement screening every 3-5 years using methods like cervical cytology, visual inspection, colposcopy, and HPV DNA testing.[4] However, Bangladesh, a low-income country with limited resources and healthcare education, faces challenges in cervical cancer management.[5] In Bangladesh, VIA has been implemented for cervical cancer screening since 2004 due to its cost-effectiveness, particularly given the

socioeconomic context of the country.[6] VIA is a straightforward and well-received screening method, with a sensitivity of 79% and specificity of 57%.[7] The target population for VIA includes married women aged 30 years and above or those with a marital history of over 10 years. VIA-positive individuals are referred to colposcopy clinics for further assessment, while VIA-negative women are advised to repeat the test after five years.[8] Several risk factors for cervical cancer include HPV infection, low socioeconomic status, smoking, early marriage, early sexual activity, multiple sexual partners, partner's sexual behaviour, and parity.[9] In Bangladesh, village women are susceptible to various health issues, including malnutrition, reproductive health problems, and community-acquired diseases.[10] These women often lack proper access to healthcare facilities due to factors such as limited knowledge, demanding work conditions, long hours, low wages, and inaccessible resources.[11] Among the prevalent health concerns are menstrual disorders, polycystic ovaries, vaginal discharge, infertility, cervical cancer, uterine prolapse, and urinary tract infections.[12] The objective of this study was to assess the prevalence of cervical cancer among village women.

METHODS

This was a prospective observational study that was conducted at Upazilla Health Complex, Sariakandi, Bogura, Bangladesh from January 2023 to December 2023. A total of 1186 village women who attended the cervical cancer screening program at the mentioned UHC were purposively enrolled as study subjects. Ethical approval for the study was obtained from the hospital's ethical committee, and written consent was obtained from all participants before data collection.

Inclusion criteria

Inclusion criteria for the study included women of age above 18 years who participated in the cervical cancer screening program.

Exclusion criteria

Exclusion criteria encompassed pregnant women and those with a history of abnormal visual inspection with acetic acid (VIA) test or previous treatment for precancerous or cancerous cervical lesions.

Demographic and clinical information of all participants was recorded. MS Office tools were utilized for data analysis.

RESULTS

In this study, the age distribution of subjects revealed that the majority (53.2%) were from the >40 years age group, followed by 39.0% from the 31-40 years age group, and 7.8% from the 21-30 years age group. The educational status of participants indicated that the highest proportion (47%) had no formal education. Additionally, 23%, 13%, and 17% had completed primary, secondary, and higher education, respectively. In terms of occupational status, the analysis revealed that the majority of cases (73%) were housewives, followed by 23% service workers and 4% laborers. Regarding the age at marriage of cases, it was observed that more than half of the patients (59%) were married at the age of 20 or younger. Additionally, 20.8%, 13.0%, 3.9%, and 2.6% of cases were married at ages 21-25, 26-30, 31-35, and over 35 years, respectively. As per the parity status, nulliparous comprised 3.9%, 1-2 children accounted for 42.8%, 3-4 children represented 42.9%, and 5 or more children constituted 10.4% of the study population. In the current study, comorbidities such as hypertension and asthma were found in 13.0% and 10.4% of the cases, respectively, which was noticeable. Upon analysing the age of menarche of participants, it was observed that in the highest number of cases (40.3%), menarche began at 12 years.

Additionally, menarche started at 10, 11, and 13 years in 16.9%, 10.4%, and 23.3% of cases, respectively. According to the bleeding pattern of our participants, irregular bleeding was observed in more than half of the cases (53.3%), while regular bleeding was noted in more than one-third of cases (36.4%). In this study, the last menstrual period was within the past month for 47.0% of participants, 1-3 months ago for 8.0%, and 3-6 months ago for 45.0% of participants. We observed that the majority of our participants (53%) had negative vaginal discharge, while less than 47% tested positive. In this study, according to the visual inspection with acetic acid (VIA) tests among the total participants, the prevalence of cervical cancer was found 1.18%.

Table 1: Age distribution of participants.

Age (years)	N	%
21-30	93	7.8
31-40	462	39.0
>40	631	53.2
Total	1186	100

Table 2: Educational status.

Educational status	N	%
No formal education	553	47
Primary education	275	23
Secondary education	155	13
Higher education	203	17

Table 3: Age at marriage of cases.

Age at marriage (years)	N	%
≤20	708	59.7
21-25	247	20.8
26-30	154	13.0
31-35	46	3.9
>35	31	2.6

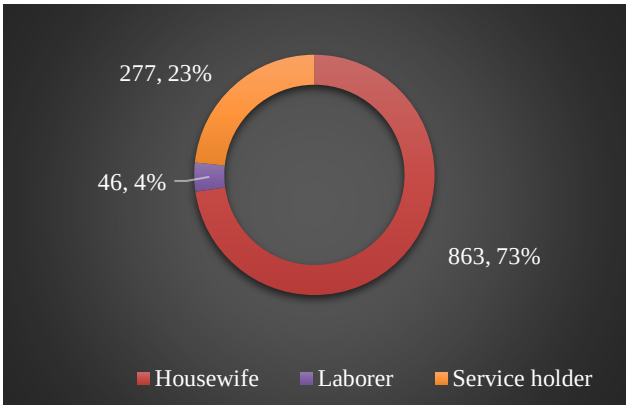

Figure 1: Occupational status.

Table 4: Parity status.

Parity	N	%
Nulliparous	46	3.9
1-2	508	42.8
3-4	509	42.9
≥5	123	10.4

Table 5: Comorbidities distribution.

Comorbidities	N	%
Hypertension	154	13.0
Diabetes	46	3.9
Asthma	123	10.4
Cardiac conditions	46	3.9
No comorbidities	474	40.0

Table 6: Age of menarche.

Age of menarche	N	%
10 years	201	16.9
11 years	276	23.3
12 years	478	40.3
13 years	123	10.4
14 years	77	6.5
15 years	31	2.6

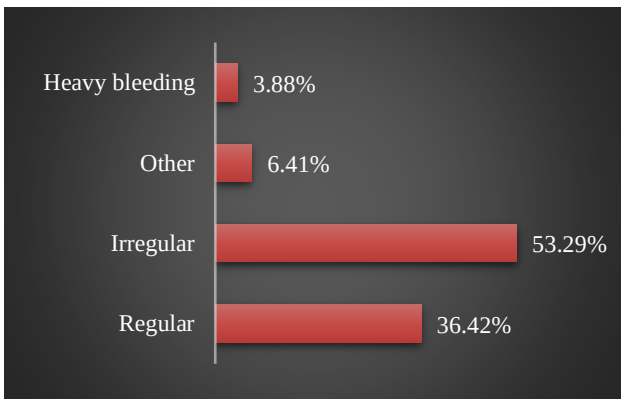

Figure 2: Bleeding pattern of participants.

Table 7: Last menstrual period.

Last menstrual period	N	%
Within past month	557	47.0
1-3 months ago	95	8.0
3-6 months ago	534	45.0

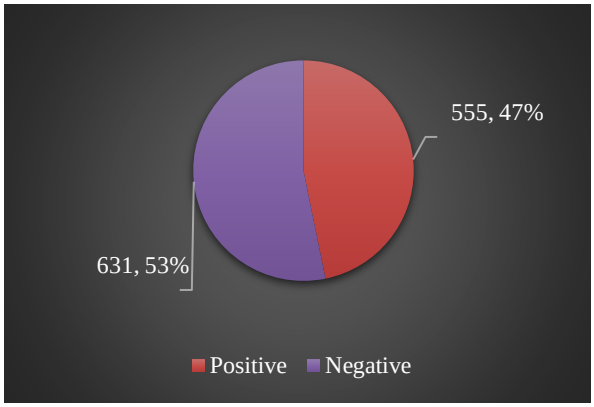

Figure 3: Vaginal discharge.

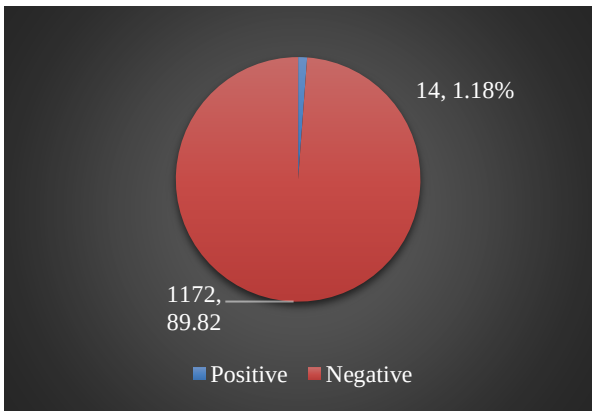

Figure 4: Prevalence of cervical cancer (VIA).

DISCUSSION

In our study, the age distribution showed that the majority (53.2%) were from the >40 years age group, followed by 39.0% from the 31-40 years age group, and 7.8% from the 21-30 years age group. A separate study found the highest number of carcinomas in the 45-64 years age group (9.1%), followed by the 35-44 years age group (8.2%).[13] Regarding educational status, 47% had no formal education, while 23%, 13%, and 17% had completed primary, secondary, and higher education, respectively, aligning with findings from another study.[14] In this study, the majority of cases (73%) were housewives, followed by 23% service workers and 4% labourers, mirroring findings from another study.[15] Parity status showed that 3.9% were nulliparous, 42.8% had 1-2 children, 42.9% had 3-4 children, and 10.4% had 5 or more children, similar to observations in another study.[16] In this study, the analysis of participants' age at menarche revealed that the highest proportion (40.3%) experienced menarche at 12 years,

with 10, 11, and 13 years accounting for 16.9%, 10.4%, and 23.3% of cases, respectively. Comparable findings were reported in a student-based cohort study conducted in Bangladesh.[17] Regarding bleeding patterns, more than half of the cases (53.3%) had irregular bleeding, while over one-third (36.4%) experienced regular bleeding. Additionally, the majority (53%) had negative vaginal discharge, with less than 47% testing positive. We did not analyze the color of the discharge in our study. However, a previous study reported frequencies of reddish (33.3%), brownish (12.5%), watery (12.5%), and whitish (5%) discharge.[13] Regarding cervical cancer prevalence, our study found a rate of 1.18% through visual inspection with acetic acid (VIA) tests. In comparison, another study reported a 2.4% positive rate for cervical cancer diagnosed via VIA testing.[18] Similarly, like Bangladesh, India also has a notably low prevalence of cervical cancer, estimated at 2%.

Limitation

The study limitations stem from its single-center approach and small sample size, compounded by its brief duration. As such, the findings may lack a comprehensive representation of the broader national context, warranting careful consideration in extrapolating conclusions to the entire country.

CONCLUSION

When juxtaposed with other South Asian or African nations, the incidence of cervical cancer among rural women in Bangladesh is relatively lower. Nonetheless, specific demographics, such as women over 40 years of age, housewives, and those with a history of marrying at age 20 or younger, are notably vulnerable to this disease. These findings underscore the importance of targeted interventions and preventive measures, particularly for high-risk groups within the rural female population in Bangladesh. By focusing on early detection and promoting awareness among these susceptible demographics, public health efforts can effectively mitigate the burden of cervical cancer in this context.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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