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Awareness on Cervical Cancer among Reproductive Aged Women

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Abstract

Cervical cancer ranks as the second most prevalent cancer worldwide and is the third leading cause of cancer-related deaths among women. It predominantly affects women under the age of 50 and is particularly prevalent among women aged 15-44 in India. Numerous social barriers hinder access to essential screening and treatment services, placing Indian women at a higher risk of developing this disease. The objective of this study was to assess the level of awareness of cervical cancer among women of reproductive age. This study was a prospective cross-sectional study conducted at Chhatrapati Shahu Maharaj Shikshan Sanstha (CSMSS) different institute of Chh. Sambhajinagar from January 1, 2023-March 31, 2023. In the present study, 89.6% of participants were aware of the cervix as a part of the female body, while 74.6% were aware of cervical cancer. Only 36.4% of participants knew the number of women who die from cervical cancer in India, with 63.6% lacking this knowledge. Approximately 52.2% of participants were knowledgeable about the primary causes of cervical cancer, while 47.8% were not. A majority (63.4%) of participants understood that cervical cancer is preventable. However, only 13.7% had received the HPV vaccine and 48.6% were aware of its preventive role in cervical cancer. The study revealed a low uptake of HPV vaccination. Therefore, these findings underscore the importance of implementing community-level awareness programs about cervical cancer and its prevention. Women who lack awareness and education about cervical cancer are less likely to undergo screening, potentially increasing their risk of infection and disease development.

INTRODUCTION

Cervical cancer is a prevalent and highly preventable form of cancer that affects women worldwide. While it can occur at any age, it poses a particular threat to reproductive-aged women. Cervical cancer ranks as the second most prevalent cancer globally and is the third leading cause of cancer-related deaths among women^[1]. This disease predominantly affects women under the age of 50^[2]. In India, it is the most common cancer among women aged 15-44^[3] and the country shoulders a substantial portion of the global burden, with over 100,000 new cases annually and cervical cancer accounting for 20 percent of all female deaths in India^[4]. Various social barriers hinder Indian women from accessing essential screening and treatment services, placing them at a heightened risk of developing this ailment^[5]. According to the World Health Organization (WHO), cervical cancer stands as the fourth most frequent cancer in women, with approximately 570,000 new cases reported in 2018, constituting 6.6% of all female cancers. Each year, more than 300,000 women succumb to cervical cancer in low and middle-income countries^[6]. India alone records approximately 96,922 new cases and reports 60,078 deaths annually due to cervical cancer^[7]. Recognizing the enormity of the issue, India initiated the National Cancer Control Programme in 1975-76, which has since been integrated into the National Programme on Prevention and Control of Diabetes, Cardiovascular Disease and Stroke (NPCDCS). Services provided under this program encompass health education, early detection, diagnosis and the strengthening of existing institutions for palliative care^[8].

Cervical cancer bears high mortality rates, emphasizing the critical importance of early detection and treatment. The primary causative factor is the human papillomavirus (HPV), the most prevalent sexually transmitted infection worldwide, particularly among women with multiple sexual partners or those engaging in sexual activity with men who have had numerous partners^[9]. Other risk factors include smoking, low consumption of fruits and vegetables, and a family history of the disease. HPVs encompass a diverse group of viruses, with approximately 40 capable of infecting the human genital tract. While some HPVs are known to trigger cervical cancer, others cause genital warts. Most genital HPV infections resolve spontaneously, but when they persist, they can induce precancerous and cancerous alterations in uterine cervix cells. Over 90% of cervical cancers can be attributed to HPV infection, a condition remarkably common, as the majority of sexually active individuals will contact the virus at some point in their lives^[10]. The World Health Organization has urged countries to take the lead in eradicating cervical cancer by enhancing HPV vaccination coverage, expanding HPV testing in

screening programs, appropriately managing women with positive screening results and reducing mortality rates^[11].

Cervical cancer is a significant health concern, particularly among reproductive-aged women. Awareness about cervical cancer is not just a matter of knowledge but a crucial step towards prevention, early detection and better health outcomes. It is crucial for women to have awareness about cervical cancer, its risk factors, prevention and screening methods. Despite the profound impact of cervical cancer, open discussions on the disease remain hindered in India due to cultural taboos prevailing in various forms throughout the country. An urgent need exists to educate Indian women about cervical cancer, its multifaceted aspects and the importance of early detection measures. Hence, the present research endeavors to gauge the level of awareness of cervical cancer among reproductive-aged women in the Chhatrapati Shahu Maharaj Shikshan Sanstha (CSMSS) different institute of Chh. Sambhajinagar city, Maharashtra India. The study's findings will serve to evaluate awareness levels regarding cervical cancer.

Aims and Objectives: The primary aim of this study is to determine the current level of awareness and knowledge regarding cervical cancer among reproductive-aged women in the Chhatrapati Shahu Maharaj Shikshan Sanstha (CSMSS) different institute of Chh. Sambhajinagar .

MATERIALS AND METHODS

Study Design: This research employs a prospective cross-sectional study design to assess the awareness of cervical cancer among reproductive-aged students and staff in the institute of CSMSS campus of Chh. Sambhajinagar.

Study Setting: The current study was conducted at colleges located in Chhatrapati Shahu Maharaj Shikshan Sanstha (CSMSS) campus, Chh. Sambhajinagar, Maharashtra, India. The study was conducted during January 1, 2023 and March 31, 2023.

Study Population: The target population included reproductive-aged women aged 18-45 years of students and staff members of institute of Chhatrapati Shahu Maharaj Shikshan Sanstha, (CSMSS) campus, Chh. Sambhajinagar. A stratified random sampling technique was employed to ensure representation from various age groups within this range.

Inclusion and Exclusion Criteria:

Inclusion Criteria:

- Female participants within the reproductive age group typically defined as aged 18-45 years.

- Women who willingly agree to participate by providing informed consent.

Exclusion Criteria:

- Females outside the reproductive age group (i.e., below 18 years or above 45 years).
- Women who declined or did not provide informed consent to participate in the study.

Sample Size: The sample size was calculated based on 13% Prevalence of adequate knowledge using Cochran formula ($n = z^2 p * q / d^2$)^[7]. The sample size of 481 was obtained after calculation with 3% allowable error at 95% confidence interval (CI). So for present study we enrolled 481 women participants.

Ethical approval for this research has been sought from the Institutional ethics Committee (IEC). All participants in this study were provided informed and voluntary consent before their involvement. The informed consent process was be thoroughly explained to participants, including the study's purpose, procedures, potential risks, benefits and their right to withdraw at any time without consequences. Participant confidentiality was strictly maintained throughout the study. The data collection was done using a structured questionnaire which was developed using insights from a thorough review of existing literature. The questionnaire consisted of socio-demographic details and inquiries related to cervical cancer awareness. This questionnaire consisted of a total of 26 questions. The questions covered a range of topics, such as the causes, risk factors, signs and symptoms, preventive measures for cervical cancer and knowledge about HPV. To ensure the questionnaire's content validity, rigorous methods were employed. This included an extensive literature review, consultations with subject matter experts and a peer review process.

Statistical Analysis: Data were gathered and organized with Microsoft Excel and subsequently subjected to analysis utilizing the IBM SPSS Statistics 25.0 software. For continuous variables, essential statistical measures such as means and standard deviations (SD) were computed, while categorical variables were assessed by determining ratios and proportions.

RESULTS AND DISCUSSIONS

In the present study, a total of 481 participants were enrolled. Among these participants, the majority, specifically 263 individuals (54.7%), fell within the age group of 18-20 years. Additionally, 212 participants (44.1%) belonged to the age group of 20-30 years. The mean age of the participants was calculated to be 22.64 years, with a standard deviation of 5.83 years.

In the present study, it was observed that 431 participants, constituting 89.6% of the total, were aware of the location of the cervix within the female body, while 50 participants (10.4%) lacked this knowledge. Regarding awareness of cervical cancer, 359 participants (74.6%) reported being aware of it, while 122 participants (25.4%) had never encountered information about cervical cancer. When questioned about the number of women who die due to cervical cancer in India, 175 participants (36.4%) had this awareness, while 306 participants (63.6%) were unaware of the statistics. Approximately 251 participants (52.2%) were knowledgeable about the most significant causes of cervical cancer, while 230 participants (47.8%) lacked this awareness (Table 1).

In terms of prevention, a majority of 305 participants (63.4%) believed that cervical cancer is preventable, while 176 participants (36.6%) expressed the belief that it is not preventable

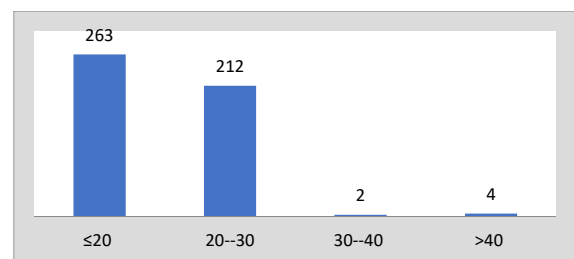


Fig. 1: Age-group of participants

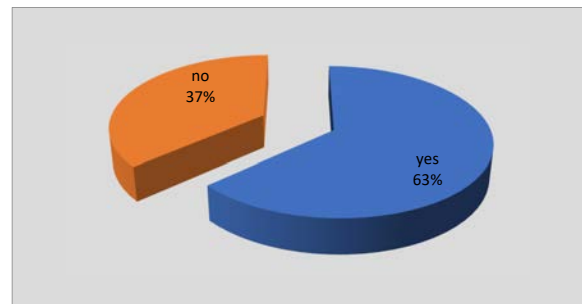


Fig. 2: Do you know that cervical cancer is preventable

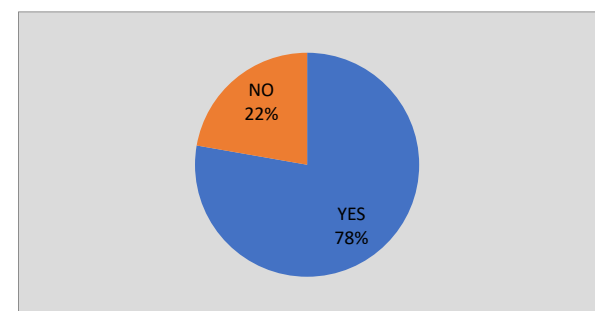


Fig. 3: willingness to receive the HPV vaccine

Table 1: Distribution of study participants according to the level of awareness about Cervical Cancer

Knowledge questions	Yes	No
Do you know what part of the female body is the cervix?	431 (89.6%)	50 (10.4%)
Are you aware about cervical cancer?	359(74.6%)	122(25.4%)
Do you know how many women are affected by cervical cancer in India?	191(39.7%)	290(60.3%)
Do you know how many women die due to cervical cancer in India?	175(36.4%)	306(63.6%)
Are you aware about the most important cause of cervical cancer?	251(52.2%)	230(47.8%)

Table 2: Distribution of study participants according to the knowledge about human papilloma virus Vaccination

Knowledge questions	Yes	No
Have you ever heard of HPV (human papilloma virus) as the most important cause of cervical cancer?	195(40.5%)	286(59.5%)
Have you received HPV vaccine?	67(13.7%)	414(86.1%)
Are you aware, that there's a vaccine for the prevention of cervical cancer?	234(48.6%)	247(51.4%)
Are you aware at what age the vaccine is to be administered?	331(68.8%)	150(31.2%)
Do you agree that being informed, being screened and being vaccinate is the best way to protect yourself from HPV and cervical cancer.	414(86.1%)	67(13.9%)

Table 3: Distribution of study subjects according to the knowledge about Cervical Cancer

Knowledge question	Yes	No
Do you believe that early hospital visits and periodic screening can prevent cervical cancer?	392(81.5%)	89(18.5%)
Do you know that before occurs of cervical cancer there is a precancerous stage?	277(57.6%)	204(42.4%)
Will you be willing to spread awareness about cervical cancer amongst family members, friends and neighbours?	411(85.4%)	70(14.6%)
Do you know that early sexual debut is a high risk factor for cervical cancer?	263(54.7%)	218(45.3%)
Are you aware that early-stage cervical cancer generally produces no symptoms?	230(47.8%)	251(52.2%)
Do you think that cervical cancer can be eliminated?	365(75.9%)	116(24.1%)
Do you know that cervical cancer is a cancer which can be prevented through screening and vaccination?	222(46.2%)	259(53.8%)
Have you ever heard about the PAP test for women?	160(33.3%)	321(66.7%)
Do you know that screening can detect cervical infections, so they do not develop into cancer?	254(52.8%)	227(47.2%)
Can cervical cancer be cured if it is diagnosed and treated in Early-stage?	388(80.7%)	93(19.3%)

In the present study, it was found that 195 participants (40.5%) had heard of HPV (human papillomavirus) as the most important cause of cervical cancer, while 286 participants (59.5%) were not aware of the connection between HPV and cervical cancer. Regarding HPV vaccination, only 67 participants (13.7%) reported having received the HPV vaccine, whereas 414 participants (86.1%) had not received it. In terms of awareness about the preventive role of the HPV vaccine in cervical cancer, about 234 participants (48.6%) were aware of this preventive effect, while 247 participants (51.4%) were not aware of it. A significant majority, specifically 331 participants (68.8%), were aware of the recommended age for administering the HPV vaccine, while 150 participants (31.2%) were not aware of the age recommendation. Moreover, the majority of 414 participants (86.1%) agreed that being informed, undergoing screening and receiving the HPV vaccine constituted the best way to protect oneself from HPV and cervical cancer, while 67 participants (13.9%) did not agree with this statement (Table 2).

In response to the willingness to receive the HPV vaccine, 374 participants (77.8%) expressed a willingness to vaccinate themselves, while 107 participants (22.2%) were not willing to do so.

Majority of participants 392(81.5%) believe that early hospital visits and periodic screening can prevent cervical cancer. About 277(57.6%) participant knows that before the occurrence of cervical cancer there is a precancerous stage. Maximum 411(85.4%) participants were willing to spread awareness about cervical cancer amongst family members, friends and neighbors. About 263(54.7%) participants were knows that early sexual debut is a high risk factor for cervical

cancer. 230(47.8%) participants were aware that early-stage cervical cancer generally produces no symptoms and 251(52.2%) participants were not aware that early-stage cervical cancer generally produces no symptoms. Majority of 365(75.9%) participants think that cervical cancer can be eliminated. About 222(46.2%) participants know that cervical cancer is the only cancer which can be prevented through screening and vaccination. Only 160(33.3%) participants were ever heard about the PAP test and 321(66.7%) participants were not ever heard about the PAP test. Majority of participants 254(52.8%) know that screening can detect cervical infections, so they do not develop into cancer and 227(47.2%) participants were not known about it. Majority of 388(80.7%) participants were aware that cervical cancer be cured if it is diagnosed and treated in Early-stage.

The present study aimed to assess awareness of cervical cancer among reproductive-aged women and included a diverse set of questions to gauge their knowledge. Additionally, it delves into primary prevention methods, such as HPV vaccination, and explores the various sources through which individuals acquire information about cervical cancer. Here, we discuss the key findings and compare them with previous studies for context.

In the current study, out of the 481 participants, the largest group, comprising 263 individuals (54.7%), fell within the age range of 18-20 years. This was followed by 212 participants (44.1%) who were in the age group of 20-30 years. The mean age of the participants was 22.64 years with a standard deviation of 5.83 years. In contrast, Devkota^[12] conducted research on participants aged 15-49 years and found

that the majority (83%) were between 33-49 years old. Another study by Misra^[13] reported a mean age of 34.14 years with a standard deviation of 6.59, with the majority (53%) falling within the age group of 21-30 years. In the present study, 431 (89.6%) participants were aware of the location of the cervix within the female body, while 50 (10.4%) did not possess this knowledge.

In this current study, it was noted that 359 participants, accounting for 74.6% of the total, were aware of cervical cancer, while 122 participants (25.4%) had never come across information about it. This awareness level differs from the findings of Roy^[14] where a higher percentage, 86%, had heard about cervical cancer. Similarly, Saha^[15] conducted a study among college students in Kolkata and found that about 50% of students were aware of cervical cancer. Additionally, M. Abdul-Aziz^[16] reported that the majority of respondents (80.6%) had knowledge about cervical cancer.

Regarding knowledge about the number of women who die due to cervical cancer in India, in present study, 175 participants (36.4%) were informed, while 306 participants (63.6%) were not aware of this statistic. In contrast, Roy^[14] found that 62% believed that women could die from cervical cancer, while 6% believed it was not fatal, 5% were unsure and 8% did not have knowledge of it. Additionally, 2% of participants had not heard about it and 2% had not provided an answer to the question.

In present study, Approximately 251 participants, representing 52.2% of the total, possessed awareness regarding the primary causes of cervical cancer, while 230 participants (47.8%) were not knowledgeable about it.

In present study, the majority, comprising 305 participants (63.4%), were aware that cervical cancer is preventable, while 176 participants (36.6%) held the belief that cervical cancer is not preventable. A study conducted by M. Abdul-Aziz in Yemen^[16] similarly found that a majority (70%) of respondents correctly understood that cervical cancer is preventable.

In the current study, 195 participants (40.5%) were familiar with HPV (human papillomavirus) as the primary cause of cervical cancer, while 286 participants (59.5%) had not heard of HPV's role in it. Only 67 participants (13.7%) had received the HPV vaccine, with the majority, 414 participants (86.1%), not having been vaccinated against HPV. About 234 participants (48.6%) were aware that the HPV vaccine can prevent cervical cancer, while 247 participants (51.4%) were unaware of this preventive aspect. In a study by Devkota^[12] a high percentage, 98.3%, of respondents were not aware of HPV vaccination. Similarly, studies conducted by Siddharthar^[17] and Johnson^[18] in a

tertiary care hospital in Puducherry, India and among women in Nepal, found awareness levels of 87.2% and 66%, respectively.

In present study, a majority of 331 participants (68.8%) were aware of the recommended age for administering the HPV vaccine, while 150 participants (31.2%) were not aware of this information. In present study, 374 participants (77.8%) expressed a willingness to receive the HPV vaccine, whereas 107 participants (22.2%) were not willing to be vaccinated. Furthermore, the majority of 414 participants (86.1%) agreed that being informed, undergoing screening, and receiving vaccination were the best ways to protect oneself from HPV and cervical cancer, while 67 participants (13.9%) did not share this agreement.

In this study, the majority of participants, specifically 392 individuals (81.5%), believed that early hospital visits and regular screening could prevent cervical cancer. However, 89 participants (18.5%) did not share this belief. In a study conducted in Yemen by M. Abdul-Aziz^[16] a significant majority (70%) of respondents were correctly informed that cervical cancer is preventable. Conversely, Roy^[14] found that 62% of women believed that cervical cancer could lead to death. However, research indicates that early detection and screening can effectively prevent fatalities from cervical cancer.

CONCLUSION

From the current study, it was observed that 74.6% of participants demonstrated awareness of cervical cancer. Approximately 52.2% of the participants were informed about the primary causes of cervical cancer. The majority of participants were aware that cervical cancer is a preventable condition. However, most respondents lacked awareness regarding the vaccine against Human Papilloma Virus (HPV). Approximately 40.5% of participants had heard of HPV as the primary cause of cervical cancer and only 13.7% had received the HPV vaccine. These findings underscore the pressing need for community-level awareness programs focused on cervical cancer and its prevention. Women who lack knowledge and education about cervical cancer are less likely to undergo screening and more susceptible to infection and subsequent illness. Therefore, it is imperative to implement community-based education initiatives and interventions that educate individuals about HPV infection, its causes, modes of transmission, prevention measures and the identification of signs and symptoms of cervical cancer.

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Conflict of interest: The author declares no conflict of interest.

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