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Original Research Article

Awareness of cervical cancer among women aged 18-25 years in rural areas

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ABSTRACT

Background: Cervical cancer is the 2nd most common cancer in India. It is the most common cause of death in developing countries. According to the current global status of 2016, the age-standardized incidence rate of cervical cancer varies between 5.6 to 24.3 per 1 lakh women in India. Human papillomavirus (HPV) is responsible for subclinical/clinical lesions in cervical cancer. Cervical cancer occurs early and strikes at the productive period of a woman's life. The vaccines against HPV are bivalent (Cervarix), the quadrivalent vaccine (Gardasil) was licensed in the country in 2008 and a non-valent vaccine was licensed in 2018.
Methods: An observational study was conducted on 149 women in rural areas from Patan taluka (Satara district). A questionnaire was made after referring to similar studies. Informed consent was taken. A validated questionnaire with 9 questions was given to the person and was asked to fill them.
Results: Awareness about cervical cancer was 15.4%. Awareness about risk factors especially genital warts, and sexual activity before 18 was 30.4% and 8.69% respectively. The least commonly known symptoms were vaginal discharge (26.0%), heavy vaginal bleeding (21.7%). Awareness about cervical screening methods was 8.69%. 18.75% knew about vaccination against cervical cancer.
Conclusions: This study shows poor knowledge about cervical cancer and its symptoms, risk factors and prevention methods in the population surveyed. Thus, extensive health education for the public along with the inclusion of the HPV vaccine in the National Immunization Programme is required.

Keywords: Human Papillomavirus, Prevention, Risk factors, Vaccine

INTRODUCTION

The term "awareness" relates to information about a thing or an event.[1] For prevention, early detection, and targeted treatment to be effective, there must be general public awareness of the disease. People are more likely to take preventive action and undergo screenings, tests, and check-ups if they are aware of a disease and its symptoms. A significant obstacle to optimal health is a lack of knowledge about disorders or choices for screening and treatment. Cultural taboos, myths, and fear can all contribute to a lack of understanding and discourage people from taking appropriate preventive measures.[2]

Studies on awareness are numerous and varied, but gaps in awareness about health seem to exist in our country among all age groups. Low educational status, inadequate functional literacy, a lack of emphasis on education within the healthcare system, and low population priority for health are only a few possible causes.[3]

According to the National Health Portal of India, anaemia, breast cancer, cervical cancer, depression, osteoporosis, and thyroid disorders are some of the main diseases affecting women in India. Cervical, breast, and ovarian cancers are also prevalent among Indian women in addition to diseases associated with tobacco consumption.[4] The results of a study on gynaecological

and sexual diseases among rural women revealed that 92% of all women had one or more gynecological or sexual diseases, whereas only 55% of them reported having gynaecological problems.[5]

Smallpox vaccination campaigns during the early colonial era were often regarded as highly successful; nonetheless, they also marked the first contact between state-sponsored medicine and different kinds of public resistance.[6] People with lower levels of education may be less likely to get immunizations due to misconceptions about the efficacy and safety of vaccines or because of rigid anti-vaccine attitudes.[7] In the COVID-19 epidemic, vaccine optimism has been impacted by vaccine hesitancy. Vaccine hesitation has intrigued medical professionals and the public for many years and serves as a warning to immunization success tales. In the same year, the WHO identified "vaccine hesitancy" as one of the major risks to world health.[8]

Likewise in the case of cervical cancer, India granted licenses for the quadrivalent (Gardasil) and bivalent (Cervarix) HPV vaccines in 2008 and for the non-valent vaccine in 2018.[9] Only Punjab and Sikkim in India have successfully included the HPV vaccine into the immunization program since 2016, and Delhi has begun government-sponsored opportunistic HPV vaccination.[10] The saying that "prevention is better than cure" stands correct in the case of cervical cancer i.e.; HPV vaccination is the best way to reduce the chances of occurrence of cervical cancer. However, people were resistant towards the HPV vaccination drive due to a lack of awareness and knowledge which resulted in the need for awareness about cervical cancer. Along with this there is very poor awareness about the existence of vaccines against cervical cancer.[11]

The prevalence of cervical cancer is particularly high among women who live in rural regions and have low socioeconomic status and the incidence is greater among women of lower classes, those less educated, and those with a larger number of children.[12,13] According to a study, the majority of women from rural areas had less information about cervical cancer.[14]

This arises a great need to encourage the rural women population about screening and prevention of cervical cancer. The lack of awareness and knowledge about cervical cancer which has increased the burden of the disease resulted in the enormous need for awareness in rural areas. This study will help in determining the knowledge associated with cervical cancer among rural women population as well as will help with implementing appropriate measures such as educational intervention programmes, and awareness campaigns.

METHODS

A convenience sampling-based observational study was carried out. The operational definition used for rural areas was a minimum of 75% of the male working population involved in agriculture and other allied activities.[15] The study was carried out in rural areas set up from Patan taluka in the Satara district. The sample size for the study was estimated by using single population proportion formula. The sample size was calculated as 149 using a 5% margin of error, and a 95% confidence interval.[16]

$$Sample\ size = N = \frac{z_{1-(\alpha/2)^2} P(1-P)}{d^2}$$

Where Z= Z score, α= type 1 error, P= probability, d= standard deviation.

The study was conducted from October to March 2023. Women between the age group of 18-25 years who gave consent were included in the study. Cognitively challenged women and women who did not give consent for participation in the study were excluded. Prior to starting work on the research project, approval from the ethical committee was acquired. A self-made questionnaire was made referring to similar studies done on awareness of cervical cancer by Kadian et al, Sahu et al etc.[14] The questionnaire was validated by three stakeholders i.e., gynecologist, community physiotherapist, and a woman from a rural area. A questionnaire consisted of a total of 9 awareness-based questions. To avoid biases all close-ended questions were chosen. The questionnaire included questions on awareness about risk factors, symptoms, screening methods, prevention and vaccination of cervical cancer. The Google form was used to distribute each questionnaire to participants. Additionally, each questionnaire was reviewed to ensure that it had been completed. The data obtained was analysed and interpreted via Ms Excel.

RESULTS

Demographic characteristics

The participants included in our study were from rural backgrounds. The mean age of participants was 21.5±2.29 years. Most of the participants were from the age group of 18-21 years.

Awareness about cancer of the cervix

In this study, only 23 participants (15.4%) were aware of cervical cancer. The remaining 126 participants (84.5%) had never heard of cervical cancer (Figure 1).

Awareness about risk factors

In this study, the most commonly known risk factors were the use of oral contraceptives (30.4%), multiple sex partners (17.39%). The least known factors were having genital warts (30.4%), sexual activity before 18 (8.69%). Most of the women thought of radiation exposure

(26.08%), overweight/obese (21.7%) as one the risk factors (Figure 2).

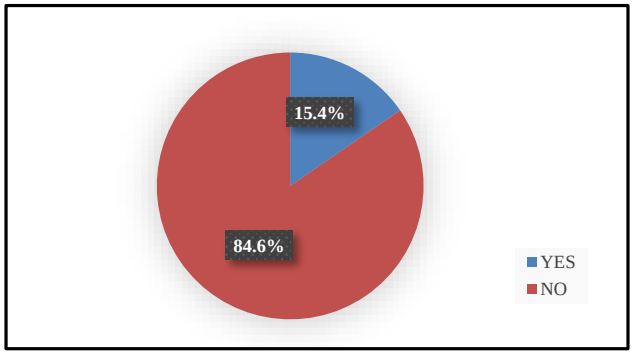

Figure 1: Awareness about cervical cancer.

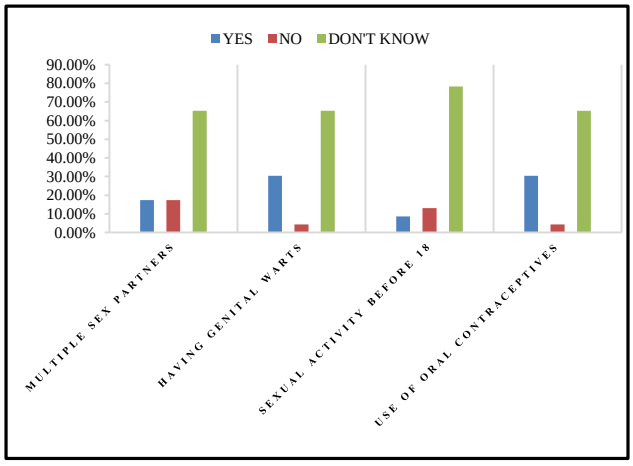

Figure 2: Awareness about risk factors of cervical cancer.

Awareness about symptoms of cervical cancer

We asked participants about the signs and symptoms of cervical cancer. Most commonly known was pain in the abdomen (30.4%), pain during intercourse (34.7%). The least commonly known were vaginal discharge (26.0%), heavy vaginal bleeding (21.7%). Some women thought of weight loss (4.3%) as one of the symptoms (Figure 3).

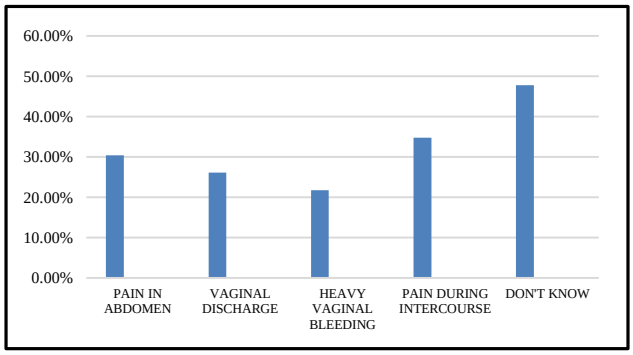

Figure 3: Awareness about symptoms of cervical cancer.

Awareness about screening

In this study, most of the women lack knowledge about cervical cancer screening methods. Among all the participants only 6 (13.0%) knew about the PAP smear, VILI, and VIAM. Most of them considered magnetic resonance imaging (13.04%) a screening method for cervix cancer (Figure 4).

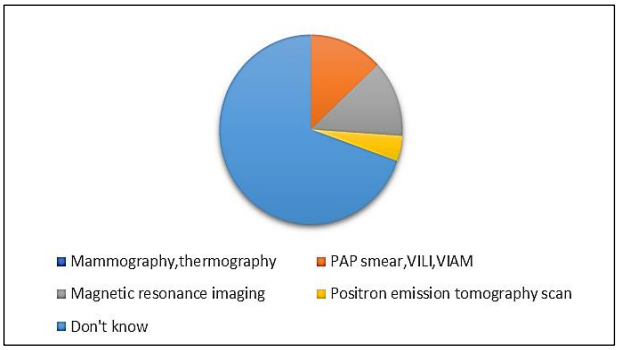

Figure 4: Awareness about screening methods to detect cervical cancer

We also asked participants about the frequency of screening. Most of them thought women should get screened every 2 years (13.04%). Very few knew that women should get screened every 3 years (8.69%) (Figure 5).

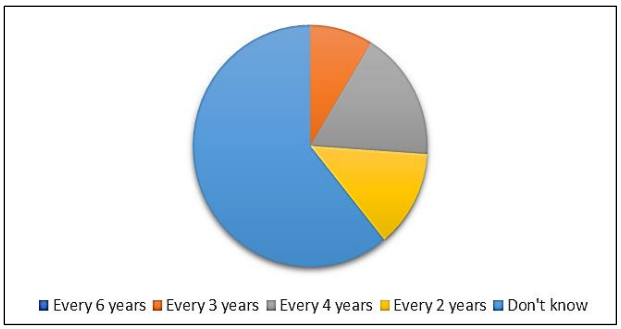

Figure 5: Awareness about the frequency of screening.

Awareness about the prevention, of the HPV vaccine

In this study, 16 (69.56%) participants knew that cervical cancer is preventable (Figure 6). Among the above participants who knew it was preventable, 3 participants (18.75%) knew about vaccination against cervical cancer. (Figure 7).

Awareness regarding the HPV vaccine among women was poor. In this study, among those who thought cervical cancer is preventable through vaccination, 2 participants (66.66%) knew about the recommended age limit for HPV vaccination (Figure 8). Similarly, 2 (66.66%) women knew about the HPV vaccine recommended doses (Figure 9).

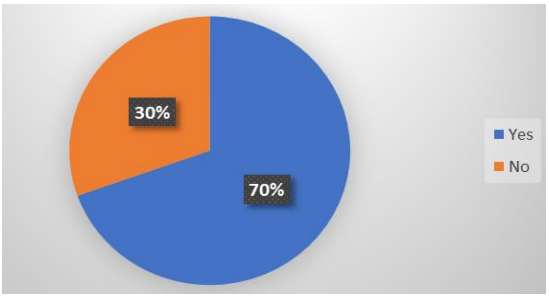

Figure 6: Awareness about the prevention.

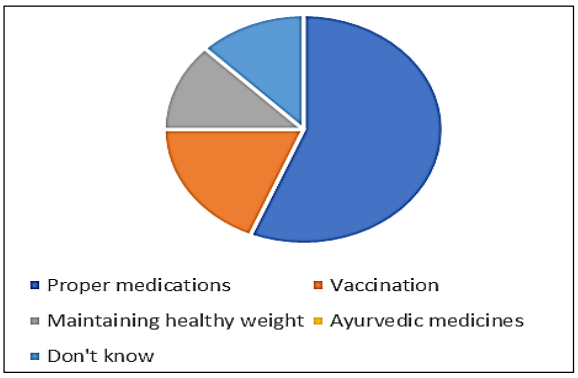

Figure 7: Awareness about preventive methods for cervical cancer.

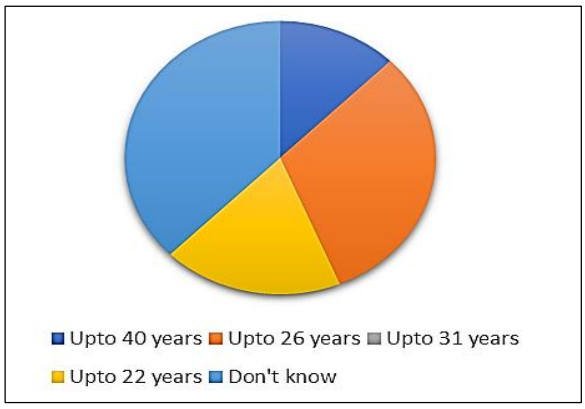

Figure 8: Awareness about the HPV vaccine recommended age limit.

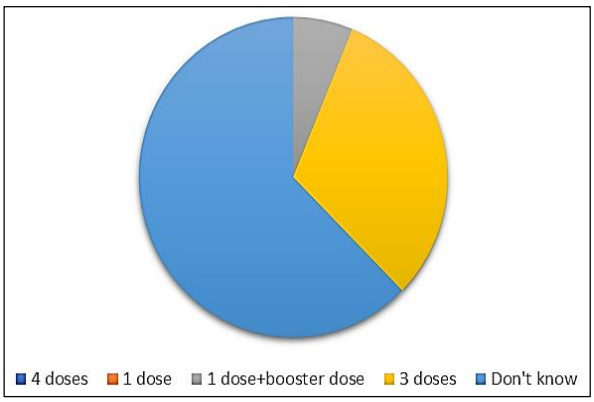

Figure 9: Awareness about HPV vaccine doses.

DISCUSSION

The present study was carried out among young women aged between 18-25 years in rural areas setup to obtain data regarding awareness about cervical cancer, which will help in implementing effective awareness campaigns and educational interventions. The second most frequent cancer in Indian women is cervical cancer. Human papillomavirus is the most common cause of developing subclinical lesions of cervical cancer and its most common HPV genotypes HPV 16 and HPV 18 are highly prevalent in India. The study also surveyed awareness about symptoms, screening methods, preventive methods, and vaccines against cervical cancer. This survey found that 84.9% of the women did not know about cervical cancer. Awareness of risk factors associated with cervical cancer, especially genital warts and sexual activity before 18 was alarmingly poor. Even though those were just diversions, the majority of women believed that radiation exposure (26.08%) and being overweight/obese (21.7%) were risk factors for cervical cancer. Among all the participants,69.56% of women thought that cervical cancer is preventable but only 18.75% of women were aware of the vaccination as a preventive method.

The present study results are similar to the study done in the Indian tribal population in 2021 by S Ghosh et al, which found that 75 per cent of the individuals lacked sufficient understanding of cervical cancer. The participants' knowledge scores were substantially correlated with their age, marital status, education level, socioeconomic status, and tribal community.[17]

Only 8.69% of respondents were aware of the link between sexual activity and its role in producing cervical cancer. The participant's awareness of the link between sexual activity and cervical cancer may have resulted from their lack of knowledge regarding sexual activity before marriage. This resonates with the study done in India by Taneja et al revealed that 23.01% of women were aware that starting sexual activity at a young age was a common risk factor for cervical cancer.[18] According to a 2010 study by Saha et al, 41% of female college students from premier colleges in Kolkata were knowledgeable of the link between sexual activity and cervical cancer, which may be correlated with the respondent's level of sexual activity education.[19]

Many studies have been done to compare how aware people are in urban and rural settings about cervical cancer and HPV.[14] According to a study by Kadian et al, compared to urban settings, the majority of women from rural areas had less information about cervical cancer. The women's limited understanding of cervical cancer came from their college education, acquaintances, neighbours, family, and medical professionals like doctors.[14] This study supports the findings of the previous study. Despite the National Cancer Control Programme being introduced in India, the participants' understanding of cervical cancer was limited.[20]

In a 2014 study by Hussain et al, just 15% of students and their parents were found to be aware of HPV and cervical cancer.[21] According to a different study, primary healthcare systems in resource-poor nations like India should incorporate cervical cancer screening programs based on visual screening tests like VIA/VILI.[22] According to Siddhartha et al study in Puducherry, 18% of the female participants had heard about screening, while 44.5% were aware of cervical cancer.[23] A similar finding from the current study was that only 13.04% of participants were familiar with the screening techniques needed to detect cervical cancer. In contrast, in a study done in 2012 by Aswathy et al among the rural population of Kerala, nearly three-fourths of the study population were aware of cervical cancer and its screening.[24] On the other hand, the findings of the current study, which conflict with those of the study conducted in Kerala, show that less than one-fourth of respondents were aware of cervical cancer. This difference in awareness level which is seen might be due to the variation in literacy rates of studied regions. According to the above data, it is important to focus more on educating women who live in rural areas.

In a 2007 study by Pitts et al in Australia, it was found that 51% of participants had heard of HPV, and the majority of them had heard it from the media.[25] Women were unaware of cervical cancer despite Australia's population having a literacy rate of 97.8%, greater than India's rate of 77.7%. The majority of women indicated "limited" to "no" awareness of cervical cancer (85%) and the Pap test (95%) in a study done by Roy et al in Kolkata.[26] The current study is congruent with a study conducted in Tamil Nadu by Nelson et al, which revealed that 11.76% of women were aware of the existence of vaccination to prevent cervical cancer.[11] Another study done in India in 2016 by Rashid et al, observed that girls were more aware of the existence of HPV vaccines (44%) and eligibility for vaccination (6.28%) compared to boys. But neither boys nor girls knew much about the vaccines' names.[27] It's possible that India's low vaccination rates are a result of cultural and religious norms, socioeconomic factors, and, most importantly, a general lack of knowledge and attitude about cervical cancer.

The CDC reports that in the US, coverage with a single dose of the HPV vaccine increased from 71.5% in 2019 to 75.1% in 2020. In 2020, 58.6% of teenagers had received their HPV vaccination, up from 54.2% in 2019.[28] Only Punjab and Sikkim in India have successfully included the HPV vaccine into the immunization program since 2016, and Delhi has begun government-sponsored opportunistic HPV vaccination.[10] Currently, HPV vaccination in India is exclusively available in private hospitals and clinics, which may be a result of low vaccine acceptance. Get informed-get screened-get vaccinated is the theme of the 2023 WHO cervical cancer awareness campaign.[29]

Additional research should consider a number of rural locations from a number of districts.

CONCLUSION

This study shows poor knowledge about cervical cancer and its symptoms, risk factors and prevention methods in the population surveyed. Thus, extensive health education for the public along with the inclusion of the HPV vaccine in the National Immunization Programme is required.

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