Cervical cancer awareness and its corelates among young females at a tertiary care center: A cross sectional study

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Abstract

Background: Cervical cancer is the second most common cancer in low and middle-income countries, owing to chronic infection with an extremely common family of Human Papilloma Virus. Despite screening and primary preventive efforts, cervical cancer is detected at advanced stages, causing death. It's important to assess young women's knowledge of cervical cancer symptoms and signs and the barriers that prevent them from reporting them.

Materials and methods: A cross-sectional study was conducted in the general OPD of a tertiary care hospital on 247 females aged 25 to 45. Data was collected using a semi-structured questionnaire modified with the Cancer awareness measure (CAM) toolkit version 2.1.

Result and conclusion: The findings indicated that 52 percent of participants had a poor understanding of the symptoms and warning signs of cervical cancer. No socio-demographic characteristics such as age, family type, socio-economic position, education, or cancer family history were associated with cervical cancer knowledge. Females were more comfortable discussing health issues with their husbands than other family members. Stigma, lack of understanding, financial knowledge, neglect, fear of separation, and carcinoma-related dread hinder symptom disclosure. Based on the findings, we advocate partner sensitization and involvement to promote reproductive health care. Training programmes for teenagers, grassroots workers like ASHA and Anganwadi Workers, teachers, Women Self Help Groups, NGOs etc should include information about cervical cancer's danger signs, risk factors, and symptoms.

Keywords : Cervical cancer;Warning signs;barriers; Awareness; HPV

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1 Introduction

Cervical cancer refers to cancers of the uterine cervix. Persistent infection with a member of the Human Papilloma Virus family, which is extremely common and transmits through sexual contact, is a major cause of cervical cancer in India and throughout world. Multiple sexual partners, younger age at first sex, early marriage, bad nutritional habits, immunological suppression, cigarette smoking, etc. are risk factors that influence HPV infection to the progression of cancer.(**WHO 2006, Louie, K. S.,2009, Jemal, A.,2010)**

In 2020, 604000 women had cervical cancer diagnoses worldwide. Also, the sickness claimed 342000 lives. (**Sung, H.,2021)** Between low- and middle-income (LMIC) and high-income (HIC) nations, there is a striking difference in the incidence and mortality of the disease, with LMICs accounting for more than 90% of all disease-related deaths worldwide. The term "disease of discrepancy" is therefore frequently used to describe it.(**Sung, H.,2021 & Vu, M.,2018)**

The age-standardized incidence and mortality rates for women worldwide are 13.1 and 6.9 per 100000 women, respectively. These rates are much higher when compared to Indian women, at 14.7 and 9.2 per 100000, taking into account the increased frequency of risk factors.**(ICO, 2016)**Women over 30 are more likely to get cervical cancer than women under 30, but women in their reproductive years are the most susceptible.

Cervical cancer is largely preventable. Unfortunately, studies suggest that 80% of the cancers are diagnosed in the advanced stages and most cases remaining undiagnosed leading to death of the patients.**(Begum, R.,2016)** Its high mortality rate can be reduced through comprehensive approaches' that includes primary prevention, early diagnosis, effective screening options (Pap smear, HPV-DNA testing, and visual inspection with acetic acid and iodine) and suitable treatment packages.**(Mengesha A., 2020)**

Young women seldom get cervical cancer, but because the human papillomavirus, a sexually transmitted infection, is so prevalent in these women, cytologic abnormalities detected by Pap tests are highly common. A cervical cancer diagnosis at an early stage may result from prompt medical attention in the presence of symptoms. **(Kennedy, A.,1989)** The degree of public knowledge may be related to this.**(Simon, A. E.,2010)** But in developing nations with regional variations, like India, awareness is frequently low. In Puducherry, just 33% of women were aware of the risk factors for cervical cancer, while 35% were aware of the symptoms.**(Siddharthar, J.,2014)** Similar results were found in another study conducted in Bhopal, in which only 35.3% and 39.8% of participants, respectively, knew at least one symptom and one risk factor.**(Bansal, A. B.,2015)**Although there are several nations where the HPV vaccine is available, the prevalence of the disease has not decreased past a certain point due to a lack of widespread adoption, awareness, and accessibility of the vaccine. Lack of knowledge about the disease's symptoms, screening procedures, and vaccine results in a delayed diagnosis and, ultimately, a dismal prognosis. The objectives of this study were to assess women in the reproductive age group's knowledge of the signs and symptoms of cervical cancer as well as the barriers that hinder them from reporting their symptoms.

2 Materials and Methods

Study design and settings- A hospital based cross-sectional study was conducted in a general OPD of a tertiary care hospital in metropolitan city of Maharashtra in the month of February 2019

Study population- Females belonging to 25-45 years of age group i.e. reproductive age group attending general OPD of the hospital for various morbidities

Sample size determination- All females in the age group of 25-45 years of visiting for the first time to the hospital general OPD during study period were taken into consideration. Total 247 new female patients fulfilling the inclusion criteria were interviewed for the study.

Sampling technique- Consecutive sampling

Data collection tools and procedure- A semi structured questionnaire was adapted using Cancer awareness Measure (CAM) toolkit version 2.1 developed by cancer research Centre UK.**(Uk, 2008)**The survey questionnaire was developed after thorough literature search on cervical cancer awareness and national and international guidelines. It was validated with the help of public health specialist and qualified obstetricians. Questionnaire consisted of socio-demographic profile of the participants, cervical cancer warning signs awareness and factors affecting disclosure of symptoms. Participants were interviewed in a separate area from other patients in the OPD preferably by female investigators.

Data quality control- Questionnaire was translated into local language by experts and also back translated to the English before beginning data collection to ensure quality and verify the consistency. Interviewers were trained for administering questionnaire and extracting answers from the participants. A pilot study was conducted over 12 patients and amendments were made accordingly.

Data processing and analysis- Data entry was done in MS excel and exported to SPSS version 22 for detailed analysis.

Ethical approval and consent to participants

Ethical approval was taken from the Institutional Ethics Committee of the tertiary care hospital. Consent for the study was administered to the patients in a local language explaining aspect of the study and then interviews were conducted.

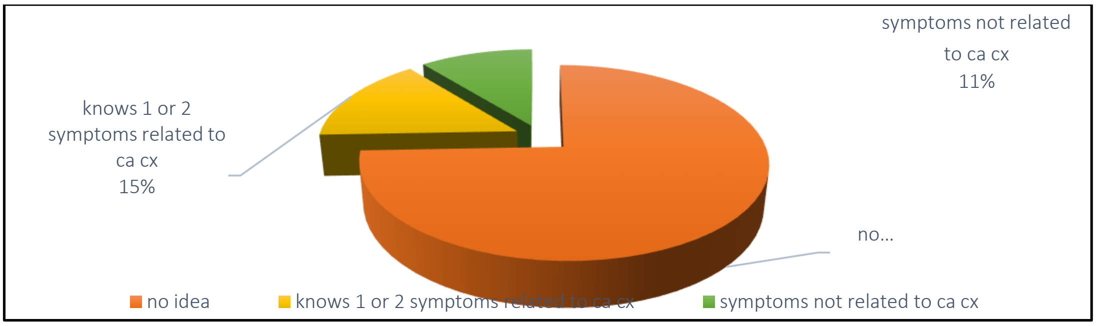
3 Results and Discussions

Among 247 participants, majority (39.7%) belong to the age group 25-30 years of age with mean age 33.92 years with standard deviation of 7.29 years. Majority of the participants 168 (68.0%) were having education less than 10th standard with overall literacy rate of 85%. Participants belonging to upper middle class were 95 (38.4%) followed by middle class 89 (36.03%) and lower middle class 33 (13.36%) according to BG Prasad scale for socio-economic status. B G Prasad scale is being used as patients visiting tertiary care center were from urban or rural area. (Table 1)

Table 1: Socio-demographic characteristics of the participants

AGE	**Frequency**	**Percentage**
25-30 years	98	39.7
31-35 years	50	20.2
36-40 years	48	19.4
41-45 years	51	20.6
Mean = 33.92, SD=7.29		
EDUCATION		
Less than 10th Standard	168	68.0
More than 10th Standard	79	32.0
SOCIO-ECONOMIC STATUS (B G PRASAD SCALE)		
Upper class	16	6.47
upper middle class	95	38.4
Middle Class	89	36.03
Lower middle class	33	13.36
Lower Class	14	5.66

Figure 1: Knowledge about the symptoms



Majority of the participants (74%) have no idea about the symptoms related to cervical cancer. Only 15% participants answered one to two symptoms related to cervical cancer that includes weight loss, bleeding per vaginum, loss of appetite etc. While 11% had answered unrelated symptoms due lack of awareness regarding the disease. (Figure 1)

Table 2: Level of knowledge about warning signs

Low (Score less than or equal to 3)	129 (52.0%)
Medium (Score 4 to 8)	102 (41.29%)
High (Score more than or equal to 9)	16 (6.4%)
Mean	3.54
median	3
SD	2.76

Participants were asked about the 11 warning signs during the interview namely vaginal bleeding between the two menses, low back pain, unpleasant vaginal discharge, pain during sexual intercourse, heavy or long menstrual periods, persistent diarrhea, bleeding after menopause, pelvic pain, bleeding during or after sexual intercourse, blood in stool or urine and weight loss. It was observed that only 6.4% participants were having high knowledge level about warning signs and risk factors and were able to identify 9 or more signs correctly. Majority (52.0%) of participants were having low level of knowledge regarding warning signs and risk factors with mean score of 3.54 and SD of 2.76. (Table 2)

Comparing the level of knowledge with socio-demographic factors, none of the factors were significant suggesting that knowledge and awareness about the symptoms, warning signs and risk factors does not depend upon any socio-demographic factors. (Table 3)

Table 3: Comparing level of knowledge sores with socio-demographic factors

Socio-demographic variables		Low	Medium	High	p-value
Age	25-30 years	55	37	6	0.834
	31-35 years	22	25	3	
	36-40 years	27	18	3	
	41-45 years	25	22	4	
Type of Family	Joint	64	50	8	1.00
	Nuclear	65	52	8	
Socio-economic status	Upper class	6	8	2	0.84
	upper middle class	47	41	7	
	Middle Class	52	33	4	
	Lower middle class	16	15	2	
	Lower Class	8	5	1	
Education	Less than 10th std	92	62	14	0.056
	More than 10th Std	37	40	2	
Family History any type of cancer	Yes	17	22	4	0.176
	no	112	80	12	

It was observed that, 58% of the females were comfortable in discussing symptoms and signs related to disease with their husband, 12.5% were comfortable with friends, 5.7% with mother, 5% with other family members while only 2% with doctor. Therefore, there is need of sensitization of the community and counselling of the families to maintain a stress-free environment to discuss even the smallest problem.

Figure 2: People with whom females are comfortable discussing problems

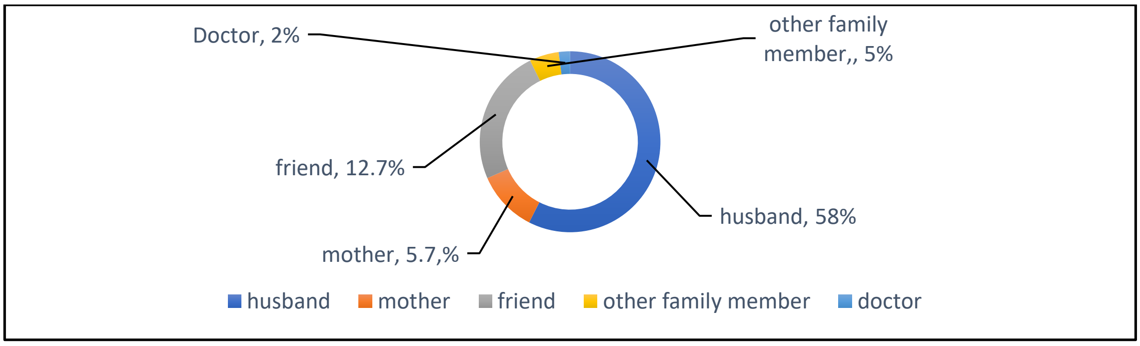
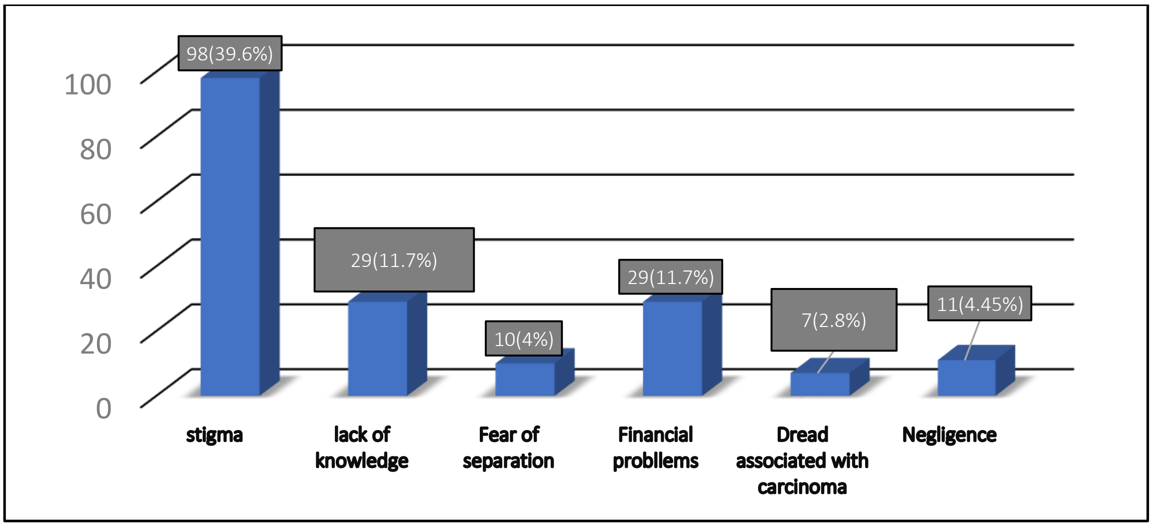


Figure 3:Fcators preventing disclosure of symptoms



Stigma was found to be the most common factor associated with non-disclosure of any symptom followed by lack of knowledge, Financial problems, negligence fear of separation, dread associated with carcinoma.

Discussion

It was observed that the knowledge about the warning signs for cervical carcinomas was miserably low with almost three fourths (74.0%) of the study population being unaware of it. Among those who were aware about one or two symptoms of cervical malignancies (15.0%), the rest (11.0%) mentioned about irrelevant symptoms, thereby further reducing the proportion of the study participants that were actually aware about the symptoms.

The findings of our study reflect the findings from a study conducted in rural India that reported an awareness level of 16% among the married women (**Arunadevi, V.,2015)** Knowledge and awareness of cervical cancer among women in and of 19 % was reported by another study from Tamil Nadu.**(Husain, R. S. A.,2019)** In another study, on risk factors for cervical cancer, it was observed that about 48% and 45% of the study participants from urban regions of North India were able to correctly identify the risk factors and symptoms for cervical cancer. (**Garg, P. R.,2022)**

Symptoms known in present study, majority of the study participants (19.6%) reported weight loss as the main symptom of carcinoma cervix, followed by heavy and prolonged menses by 16.9%, blood in urine or stools by 12.7% and bleeding after menopause in 12.5% whereas, vaginal bleeding was reported as a symptom by 11.2% of them. Nearly 10.0% of the study subjects reported painful sexual intercourse and bleeding during sexual intercourse as the symptoms of cervical cancer. Only 8.0% of them reported that unpleasant vaginal discharge as the main symptom of cervical malignancy. The findings from other studies show somewhat higher awareness about the symptoms of Cervical Cancer. In a study by Garg, P. R (2022),38% knew about bleeding per vaginum, 30.75% reported intermenstrual bleeding, 29.72% mentioned weight loss, and 28.87% reported foul smelling discharge as common symptoms of Cervical Cancer. (**Garg, P. R.,2022)** Even higher level of awareness about the cervical cancer symptoms was reported by **Singh, S (2018).** reported that 79% females were aware about bleeding per vaginum between menses followed by 66% who knew foul-smelling vaginal discharge as symptom of Cervical Cancer. Whereas, in a study done by Shah et al it was observed that 94.2% of the respondents said that vaginal discharge is the main symptom, 86.9% mentioned menstrual abnormalities and 66.6% mentioned pain as the chief symptom of cervical cancer. (**Shah, V.,2012)** Another study by Narayana et al (2017), reported the level of awareness about cervical cancer symptomatology to be 64.2% which is also greater than that reported by our study.(**Narayana, G.,2017).** This could be explained by the fact that majority of the women attending the general OPD belonged to the lower socio-economic strata, residing at the nearby slums and were poorly educated. As a result, the awareness about cervical cancer symptomatology was poor among our study participants.

On assessing the sociodemographic profile of our participants, it was observed that age distribution was predominantly of younger age group with about 40.0% of the participants belonging to of 25-30 years with mean age of 33.92 and standard deviation of 7.29 years. Majority of the study participants (38.5%) belonged to upper middle class and only 5.7% belonged lower class according to the B.G.Prasad's scale**. (Khairnar, M., 2021).**

Overall literacy rate was 85% among the participants. There were 68.0% participants who were educated upto the 10th grade, 24.7% were married before the age of 18 years and 54.7% were married for more than 10 years. There were 77.7% participants who reported the age of the first sexual activity to be more than 18 years. In our study, most of the participants (77.38%) who were educated less than the 10th grade showed lesser awareness levels about the symptoms as compared to those who were educated above the 10th grade (67.8%). Knowledge about the number of symptoms was also marginally higher in those educated above the 10th grade. Similarly, other studies by Mitiku and Tefera, 2016 and Darwish et al., 2014 have also reported education as an important determinant for the level of awareness about cervical cancer, consistent with other studies.(**Mitiku, I.,2016 & Al-Darwish 2014)** Other predictors as reported by studies conducted in India were early age at marriage and first sexual intercourse, lack of personal hygiene, and multiple sexual partners that posed a higher risk for developing Cervical Cancer in 32.68%, 25.22%, and 23.01% women, respectively.(**Taneja, N.,2021)** Other studies by Dhodapkar SB et al have also similarly reported that young age at first intercourse, multiple sex partners, and lower socio-economic status were the observed risk factors for Cervical Cancer among 13%, 48%, and 13% of the study participants respectively.(**Dhodapkar, S. B.,2014).** Another study by Amos D Mwaka et al observed that 88.3% of the study participants knew about multiple male sexual partners as the risk factor for Cervical Cancer as also the presence of sexually transmitted infections as reported by 82.0% of the study participants**. (Mwaka, A. D.,2016)** As reported in our study, the study by Shah et al also reported that only 8 (11.5%) of the respondents were aware of multiple sexual partners as one of the risk factors for cancer cervix.**(Shah, V., 2012)**

Level of knowledge and awareness about cervical cancer in present study found to be low among 52% of the paticipants, 41% had moderate level and only 6.4% were having high level of knowledge. A study from south India observed, 84.6% of women with poor knowledge and 5.1% had good knowledge.**(Reichheld, A.,2020).** A study from Ethiopia confirmed similar findings with only 19% women with good knowledge about the disease. (**Mengesha A., 2020)**

When they were asked about the persons with whom they were most comfortable to discuss about these symptoms, majority of them (58.0%) reported that they would disclose it to their husbands, followed by friends (12.7%) and lastly to mother (5.7%) or other family members (5.0%). Only 2.0% of them reported that they would discuss about their symptoms with a doctor. The reasons for their preferred choices of persons were stigma in 20.7% and other miscellaneous reasons like lack of knowledge, dread associated with the condition, financial problems and negligence in a minority of the study participants.

Thus, to conclude, the awareness of the study participants was poor regarding the risk factors and the symptoms of cervical cancer despite the educational status of the participants. Some of the risk factors observed in the study participants were early age at marriage and first sexual activity. The participants felt comfortable to discuss the symptoms with their husband and only about 2% were willing to seek medical advice for the same. The major factors inhibiting them from approaching for expert medical advice were stigma, dread and negligence. Therefore, lower level of awareness results in underutilization of the health services specifically cervical cancer screening services that remain underutilized despite being widely available.

The study being cross-sectional in nature, fails to establish causality. As the study was conducted in a single center, the findings cannot be generalized. As the responses about knowledge of risk factors and symptoms of cervical cancer were self-reported, the study may have had a social desirability bias.

4 Conclusion

Therefore, based on the study findings, we wish to recommend partner sensitization and involvement for promoting the utilization of reproductive health services. In order to improve the awareness about the danger signs, risk factors and the symptoms of cervical cancer should be incorporated in the training programs for adolescents, grass root workers like ASHA and Anganwadi Workers, college teachers, Women Self Help Groups, NGOs and NSS co-ordinators. Using mass media campaigns through celebrities and displaying IEC materials at prominent areas for promoting awareness creation can be utilized at prominent areas like the waiting lounges of hospitals and places frequented by young women to facilitate utilization of reproductive health services and promoting cancer screening among women at high risk of cervical cancer.

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