

# Current knowledge, attitude, and practice about cervical cancer among rural Indian women

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## Abstract

**Background:** Cervical cancer is one of the most important causes of cancer death in women in developing countries such as India. One of the prime reasons for the increased incidence of cervical cancer is the lack of awareness.

**Objective:** To determine the knowledge, attitude, and practice about cervical cancer among rural Indian women

**Material and Methods:** Married women ( $n = 200$ ) between 18 and 65 years, in a rural field practice area of the medical college in Kaiwara village, located in the Chintamani taluk of Chickaballapur district, Karnataka, India, who could communicate effectively in the local language were included in the study. Participants were randomly selected and instructed to complete validated semi-structured, field-tested survey questionnaire.

**Result:** Majority (96.5%) of the respondents did not know what screening for cervical cancer meant. Awareness regarding preventive measures was found to be very poor with just 6% having heard of Pap smear testing and 8% about the availability of a preventive vaccine.

**Conclusion:** Mass media campaigns can go a long way in spreading awareness of cervical cancer.

**KEY WORDS:** Cervical cancer, attitude, knowledge, practice

## Introduction

Cervical cancer is the second most common cancer affecting women worldwide and is especially common in developing countries. India is among the countries with the highest incidence in the Asia Pacific region.<sup>[1]</sup> According to WHO statistics, India accounts for one-fifth of the world burden, with 72,600 deaths every year.<sup>[2]</sup>

Cancer of cervix has been proved to be caused almost exclusively by persistent genital tract infection by the human papilloma virus (HPV), predominantly HPV16 and HPV18

(70% of cases). The virus infects the squamous epithelium of the genital tract, first the basal layer, and alters the function of tumour suppressor genes, thereby activating the cell cycle. This causes the cytopathic effect, leading first to precancerous cervical intraepithelial lesions and, gradually, into invasive carcinoma.<sup>[3]</sup>

It is pertinent to note that India and other underdeveloped countries do not yet have in place a functional mass screening program for cervical cancer. While national guidelines for cervical screening have been prepared by the Ministry of Health of the Government of India, very few states have initiated the program owing to various reasons. Thus, in India, the onus of cervical cancer prevention is on the women themselves and hence existing strategies fail to meet their aims. The level of awareness regarding the disease, its risk factors, acceptability and willingness to be screened, and other sociocultural and psychological factors, all determine whether or not a woman would approach the health-care system. Moreover, because the patient becomes symptomatic only in the late stages of the disease, patient compliance for screening modalities is

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seen to be low, and this is compounded in a scenario where there is poor knowledge of the disease condition. This minimizes the chances of early detection and prompt treatment, and this indirectly stands as the cause of such a large disease burden in the Nation.<sup>[4]</sup>

Given the demography of our country, where 68.84% of the population resides in rural areas; the fact that most other studies have been carried out in institutionalized settings; and the absence of similar studies in the region, we conducted this study among rural women near Kaiwara village in Chintamani taluk of Karnataka, India. Our aim was to assess the knowledge among rural women on cervical cancer and its determinants and to identify misconceptions if any.

## Materials and Methods

A cross-sectional study based on structured interviews was conducted. In the rural field practice area of the medical college in Kaiwara village, located in the Chintamani taluk of Chickaballapur district, Karnataka, India, was selected as the study area. The study was carried out in the months of July and August 2013. Married women between 18 and 65 years who could communicate effectively in the local language were included in the study, while lunatic women were excluded. Only the permanent residents were included. This study was based on a similar study carried out by Thovarayi *et al.*<sup>[5]</sup> regarding the risk factors for cervical cancer in rural area, among rural women in Manipal, which revealed that 98.5% of the women did not have appropriate knowledge regarding the risk factors for cervical cancer and early detection methods. On the basis of the above-mentioned findings with an absolute precision of 2% and confidence level of 95%, it was estimated 188 women need to be included for the study. However, it was proposed to conduct study on 200 women allowing for coverage of error. A semi-structured, field-tested survey questionnaire was developed based on a review of current literature to know about existing knowledge regarding cervical cancer and health-seeking behavior. Survey questionnaire comprised three components: first, sociodemographic details of the study population; second, knowledge about risk factors of cervical cancer and sources of information, and third, the attitude regarding screening. To assess socioeconomic status, Kuppuswamy classification was used. Random sampling of study subjects was followed among households, and in case of more than one woman per household satisfying inclusion criteria, all of them were interviewed. A briefing regarding the questionnaire and methodology was given to before commencing the study. A thorough rapport was established with the household members before collecting the information, and privacy was maintained with the informants while collecting the information.

## Statistical Analysis of the Data

All the data were collected in Excel sheet, and the analysis was carried out employing SPSS, version 18.0. Descriptive

statistics was employed to summarize the quantitative variables. Association of factors were analyzed employing  $\chi^2$  test, which was used to analyze the categorical data.  $P < 0.05$  was considered significant.

Interview was administered to participants after describing to them the purpose of the study, obtaining oral consent, and affirming confidentiality.

## Results

All the 200 women who participated in the study were from below poverty line (BPL) families. The mean age of the study participants was  $37.17 \pm 14.97$  years and ranged from 19 to 75 years; 24% of women revealed no formal education, while 54.5% were educated up to school education and 21.5% were graduates. The average number of years of married life among the women in this study was found to be  $16.36 \pm 14.84$ .

Only 11% of the women knew that cervical cancer is most prevalent among Indian women while 89% either did not know or thought it was cancer of another site. With regard to causative factor [Table 1], 46% rightly said copper T is not a cause, while 18% believed that use of copper T can cause cervical cancer. Similarly, 16% believed use of sanitary pad can cause cervical cancer, and 49.5% knew it does not. However, 41.5% identified poor hygiene as a predisposing factor for cervical cancer, while 33% believe it does not play a role.

Alarming, 96.5% of respondents did not know what screening for cervical cancer meant. Only 51% knew that screening was not harmful and, indeed, beneficial. Of the remaining 49%, 33% were not sure if it was harmful, while 15% believed that screening would cause them harm.

On questions regarding the causes of the disease, 21.5% thought cervical cancer ran in families, 23.5% attributed it to stress, 19% thought the disease was water borne, and only 20.5% identified viral etiology for the disease. About 20% revealed knowledge that cervical cancer arises in sexually active women. Only 46% know that cancer does not spread from person to person. Knowledge about risk factors was found to be 16.5% regarding early age at marriage, 23.5% regarding multiple pregnancies, and 25% regarding sexually transmitted diseases (STDs).

As shown in Table 2, 28.5% stated that white discharge as a symptom of cervical cancer, 46.5% said bleeding as a symptom, 24% stated pain, and 25.5% stated weight loss as also being symptom of cervical cancer.

Awareness regarding preventive measures was found to be very poor with just 6% having heard of Pap smear testing and 8% about the availability of a preventive vaccine [Table 3]. The attitude regarding screening too was highly unfavorable as only 13.5% would like to get themselves screened against the cancer. A lack of knowledge regarding screening, and a subsequent reluctance to subject themselves to an unknown test, was the reason for the women not willing to get screened.

Finally, an assessment of the major sources of information [Table 4] was made, where 18% received information from

**Table 1:** Conception about etiology

Conception about etiology			
Copper T	71 (35.5%)	37 (18.5%)	92 (46%)
Sanitary pad	99 (49.5%)	32 (16%)	69 (34.5%)
Bad hygiene	66 (33%)	83 (41.5%)	51 (21.5%)
Genetic	102 (51%)	43 (21.5%)	55 (27.5%)
Stress	85 (42.5%)	47 (23.5%)	68 (34%)
Food and water borne	82 (41%)	38 (19%)	80 (40%)
Virus	83 (41.5%)	41 (20.5%)	76 (38%)
Sexually active	101 (50.5%)	40 (20%)	59 (29.5%)
Communicable	92 (46%)	50 (25%)	58 (29%)
Early marriage	95 (47.5%)	33 (16.5%)	72 (36%)
Multiple pregnancies	77 (38.5%)	47 (23.5%)	76 (38%)
Sexually transmitted	81 (40.5%)	50 (25%)	69 (34%)

**Table 2:** Knowledge about symptoms of cervical cancer

symptoms			
White discharge	85 (42.5%)	57 (28.5%)	58 (29%)
Bleed PV	57 (28.5%)	93 (46.5%)	50 (25%)
Pain	77 (38.5%)	48 (24%)	71 (35.5%)
Weight loss	82 (41%)	51 (25.5%)	67 (33.5%)

**Table 3:** Knowledge about screening

screening			
Heard of vaccine	184 (92%)	16 (8%)	0
PAP screening	188 (94%)	12 (6%)	0
Would you like screening	173 (86.5%)	27 (13.5%)	0

**Table 4:** Source of information

Source of information			
Newspaper	164 (82%)	35 (17.5%)	1 (0.5%)
Television	154 (77%)	46 (23%)	0
Radio	160 (80%)	38 (19%)	2 (1%)
Elders	181 (90.5%)	19 (9.5%)	0
Friends	172 (86%)	28 (14%)	0
Doctor	163 (81.5%)	37 (18.5%)	0
Poster	174 (87%)	25 (12.5%)	1 (0.5%)

newspapers, 23% from television, 19% from radio, 9.5% from elders, 14% from friends, 18.5% from doctors, and 12.5% from posters.

Furthermore, the responses of the study participants were compared with age groups (19–39, 40–60, and >60 years) and no significant association ( $P > 0.05$ ) was found between age of participants and level of knowledge regarding cervical cancer.

A similar comparison was made with education level of the participants, and in this too, no significant association was found.

## Discussion

Cervical cancer is the second most common cancer in the world and the most common cause of cancer mortality among women in India.<sup>[1]</sup> This is reflected in the data from the population-based cancer registries, which show high rates of incidence and prevalence in rural areas, which lack screening facilities. Since the advent of Pap screening technique, although urban areas have shown a slow but steady decline in incidence of cervical cancer, the absolute number of cases is still on the rise owing to population growth.<sup>[6]</sup> The drastic fall in incidence shown in the West could not be replicated in India as the coverage of Pap smear is low in the population.

Pap-based screening programs on a large scale by the Government is not feasible owing to economic and logistic constraints such as lack of trained pathologists and equipped laboratories. In the absence of a systemic screening program, the practice of opportunistically screening eligible women when they present at health centers for other reproductive services is not very effective. Therefore, the Government recommends visual inspection (see and treat) as an alternative method.<sup>[7]</sup> However, the risks associated with this technique outweigh the benefit, leaving Pap smear the preferable method for population screening.<sup>[5,6]</sup>

Despite the existence of several screening options, the utilization of such screening is very low among the population. This in turn is owing to inadequate knowledge about the cause, risk factors, prevention, and screening modalities in India.

This study was conducted to find out knowledge on cervical cancer among rural women who all were socio-economically backward, expected to have low access to education and health-care facilities, represent a population group at high risk for undetected cases of cervical cancer, and are a good representation of the situation facing a large portion of Indian women today.

Of the 200 rural women who were included in the study, 76 were educated up to some form of education and 42%

up to secondary or a higher education. This level of education among the subjects reflected in the level of knowledge of cervical cancer in terms of cause, risk factors, and screening, with higher knowledge being among those with higher education. The economic background revealed no bearing as all the women included in the study were below the poverty line.

In terms of causes, of the total study population, only 22 (11%) knew that it was caused by the virus, more than half of whom received secondary or higher education. Among these 22 subjects, 18 (81.81%) belonged to the younger age group of less than 40 years, a population that is an ideal target for screening as being the age group where precancerous lesions are most common. In comparison with other studies conducted in India, what is the percentage in our study. Shekhar et al.<sup>[8]</sup> reported that 23.4% among rural nurses knew HPV as a risk factor of cervical cancer, and Moreira et al.<sup>[9]</sup> showed that 17.6% of their respondents revealed a correct understanding. The highest among the studies was in that by Thippeveeranna et al.,<sup>[10]</sup> which claimed a 39.2% of the study population possessing the knowledge of causative HPV but this is attributed to the fact that the study was conducted on paramedical staff in a tertiary-care center.

In addition to this, our study tried to explore the misconceptions about the causes of cervical cancer among the women, and it was found that a significant number considered copper T (26%), sanitary pad (26%), genetic factor (31%), stress (30%), and contaminated food or water (18%) to be causative factors. This stresses on the need to educate the masses about the causative virus of the cancer, which forms the very basis for screening and prevention of cervical cancer. Such incorrect knowledge may also affect the use of copper T for contraception or sanitary pads during menstruation, which will only have an adverse effect.

In terms of knowledge of risk factors, 46% of the population knew poor genital hygiene, 24% knew active sexual life, 72% knew that early marriage, and 76% knew that multiple pregnancies predisposed to cervical cancer. On comparison, the study by Thippeveeranna et al.<sup>[10]</sup> showed that 18.3% knew that early coitus, 33.9% that an early first pregnancy, 15.1% multiple pregnancy, 8.4% poor hygiene, and 20.9% knew that STDs were risk factors for cervical cancer.

Awareness about Pap smear was low in our study, similar to other studies such as that by Hyacinth et al.<sup>[11]</sup> in which the awareness of Pap smear was only 38.6% among Federal Civil Servants in North Central Nigeria,<sup>[11]</sup> and in another study by Adamu et al.<sup>[12]</sup> among the female teachers of northwestern Nigeria, it was low.<sup>[12]</sup> Awareness about cervical cancer was mostly by television in our study, similar to the study by Hyacinth et al.<sup>[11]</sup> in which media was the major source of information while a few studies such as by Obi et al.<sup>[13]</sup> and Kwok et al.,<sup>[14]</sup> have shown that doctors can be strong motivators for undergoing screening. In our study, only 18.5% of the people got to know about screening from doctors.

## Strengths and Limitations

The major strength of this study is that it has addressed a major issue in a rural area where the burden of cervical cancer is more and it has unveiled that unawareness may be one of the prime reasons for failure of screening programs. However, the limitation of this study is that it was conducted on a small number of patients and, thus, gives only a snapshot view of the situation in rural areas.

## Conclusion

This study explored the knowledge, attitude, and misconceptions of rural women in India with regard to cervical cancer. Majority (96.5%) of respondents did not know what screening for cervical cancer meant. This shows that there is an urgent need for an effective strategy that needs to be formulated for increasing awareness among the women to get them screened. Effective usage of the mass media and active participation of the medical professionals might help us in reducing the existing gaps.

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