International Journal of Community Medicine and Public Health
Nelson SB et al. Int J Community Med Public Health. 2018 Jun;5(6):2536-2541
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20182191

Original Research Article

A cross-sectional study on cervical cancer and its prevention among women of age group 25- 50 years in a rural area of South Tamil Nadu, India

Sudhir B. Nelson*, Naveenkumar Viswanathan, Nisha A. Jenifer, Priyanka B.

Department of Community Medicine, Sree Mookambika Institute of Medical Sciences, Kulasekaram, Tamil Nadu, India

Received: 30 March 2018
Accepted: 04 May 2018

***Correspondence:**
Dr. Sudhir B. Nelson,
E-mail: sudhirben@gmail.com

ABSTRACT

Background: Cancer of uterine cervix is one of the common carcinoma among females. India accounts for about 20% of cervical cancers. Prevention of cervical cancer, whether primary or secondary requires active participation of the community. For this they need knowledge about the disease & its prevention. Hence a study to assess the knowledge, attitude and practice regarding cervical cancer and its prevention was undertaken.
Methods: A cross-sectional observational study was conducted in a panchayat area of Kanyakumari district, South Tamilnadu. A sample of 100 women aged 25-50 years was taken by multistage random sampling.
Results: Only 68 women were aware of the existence of cervical cancer & Health workers were the most common source of information (41.2%). Those who were employed had more awareness though the differences were not statistically significant. Only 8 women (11.76%) knew that there is a vaccine to prevent cancer cervix. Among those who were aware of cervical cancer, only 47 (69.1%) knew about the existence of a screening test to detect cancer cervix. Only 8 women had undergone PAP smear. Among those willing to reveal the reason for not undergoing PAP smear, lack of time (15.38%), embarrassment (10.26%) and no facility (2.8%) were the reasons. Women who were employed were more likely to be aware about screening for cervical cancer (75%).
Conclusions: The existence of cervical cancer has reached the awareness of majority of the women in our area. But specific knowledge about cervical cancer & its prevention is still lacking.

Keywords: Cervical cancer, PAP smear, Awareness, Reason, Vaccine

INTRODUCTION

Malignancy or Cancer is becoming a prominent cause of mortality and morbidity over the past few decades. Cancer of the uterine cervix is one of the common carcinomas among females. There were an estimated 528,000 cases and 266,000 deaths from cervical cancer worldwide in 2012, accounting for 7.5% of all female cancer deaths. Almost nine out of ten (87%) cervical cancer deaths occur in the developing or underdeveloped regions. India accounts for about 20% of cervical cancer cases reported from the world. Every year in India, 122,844 women are being diagnosed with cervical cancer and 67,477 die from the disease.[1] It is the second most common cancer in women aged 15–44 years. India also has the highest age-standardized incidence of cervical cancer in South Asia at 22, compared to 19.2 in Bangladesh, 13 in Sri Lanka, and 2.8 in Iran. India has a population of 469.1 million women aged 15 years and older, all of whom are at risk of developing cancer.[2] Human Papilloma Virus (HPV) is proven to be a necessary but not sufficient cause of cervical cancer. The

risk factors known to increase the incidence of cervical cancer are age, low socio-economic status, poor personal hygiene, lack of education, multiple sexual partners, early marriage, early child birth, higher parity and long-term use of hormonal contraceptive.[3] A study in India found a higher incidence of cervical cancer among women with parity of three or more and among who marry late (>30 years of age).[4] Other probable cofactors are co-infection with Chlamydia trachomatis, HIV and Herpes simplex virus type-2, immunosuppression, and certain dietary deficiencies.[5]

With steady increasing mortality and morbidity due to cervical cancer, various preventive steps need to be taken urgently. Primary prevention includes improving the community as a whole with better socio-economic status, literacy, use of barrier contraceptives, safe sex practices etc. Specific protection is provided through HPV vaccination. Secondary prevention is focused on early detection & treatment. This includes screening for precancerous lesions or early stages of cancer and treating them.[6] Pap smear is the commonly used screening test to detect cervical cancer. Prevention of cervical cancer, whether primary or secondary requires the active participation of the women in the community. For this, they need to be aware of the disease & its prevention.

There are various studies undertaken in India to find the awareness of cervical cancer and its prevention and the results are varied. There is limited data available on the subject from Southern Tamil Nadu. Hence a cross-sectional study to assess the awareness, specific knowledge, attitude, and practice regarding cervical cancer and its prevention among the women aged 25-50 years was undertaken in our area.

METHODS

A cross-sectional observational study was conducted in a panchayat area of Kanyakumari district, South Tamil Nadu from August to September 2015. All women of age group 25-50 years were included in the study. Women with a history of hysterectomy, diagnosed cases of carcinoma cervix and those not willing to take part in the study were excluded. The sample size was calculated as 81 by formula $N= 4pq/d^2$ (p is the proportion of the population with characteristics of interest i.e. 72%, q is 100 -p and d is the absolute error of 10%).[7] A sample of 100 women was taken. Study participants were chosen by multistage random sampling. The study was done in the Arumanai Panchayat of Kanyakumari district which contains our field practice area. Within the panchayat, simple random sampling was done to choose 10 streets. Ten participants were chosen from each street by simple random sampling. Ethical clearance was obtained and care was taken to maintain confidentiality. Participants were explained about the study and informed written consents was obtained.

Data was collected by face-to-face interview and a semi-structured and pretested interview schedule was used. It comprised of questions on the general characteristics, awareness, perceptions and practices of women. Data was entered in Microsoft Excel 2010 & analyzed using GNU PSPP version 1.0.1. The statistical tests used were descriptive statistics, Pearson's Chi-square test & Fischer's test. P value of less than 0.05 was considered to be significant.

RESULTS

A total of 100 participants among women of age group 25-50 years took part in our study of which 50% belonged to the age group of 40 to 50 years, 26% belonged to 30-39 years of age and 24 % of women belonged to 20-29 years of age. The mean age of the study population was 37.67 (±7.947) years. In our study group, the majority of participants were Christians (46%), followed by Hindus (37%), and Muslims (17%). According to the modified Kuppuswamy socioeconomic scale, 65% of the study population belonged to the upper middle class, 28% to lower middle class, 6% to the upper lower class and 1% belonged to the upper class. The literacy profile showed 100% literate with 1 having a professional education, 24% being graduate or postgraduate, 12% holding a diploma, 26% with high school certificate, 22% with middle school certificate, and 15% with primary school certificate. Majority i.e. 84 among the study participants were housewives and thus considered to be unemployed. Among those employed, 5 were semi-professionals, 4 were farmers, 3 were skilled workers and 4 were unskilled workers. Most of the women were married (96%) with others being divorced (2%), unmarried (1%) and widowed (1%). Nine women got married before the age of 18 years & the maximum age at marriage was 28 years. 22% had a parity of 3 or more children, and the mean parity was 2.05(±0.66).

Among the 100 study participants, 8 women had a history of symptoms like foul-smelling discharge, abdominal pain, and menorrhagia which might be suggestive of cervical cancer. Out of the 8 women, 3 had taken allopathic treatment and 3 had taken AYUSH treatment for the complaints. The remaining two women did not take any kind of treatment, but the symptoms resolved by themselves. Among the study participants, 11% had a family history of cancer, of which 3% were of reproductive tract cancer and rest 8% accounting for other cancer types.

Only 68 women were aware of the existence of cervical cancer (Figure 1). Further questions were asked of these 68 women. Health workers were the most common source of information i.e. 28 (41.2%) followed by friends and family i.e. 18 (26.5%) (Figure 2). Among them, only 20 participants (29.4%) had received proper health education regarding prevention of cervical cancer. Among the 68 who were aware of cervical cancer, 58.52% i.e. 40 women thought that government is playing a role in the prevention of cancer cervix.

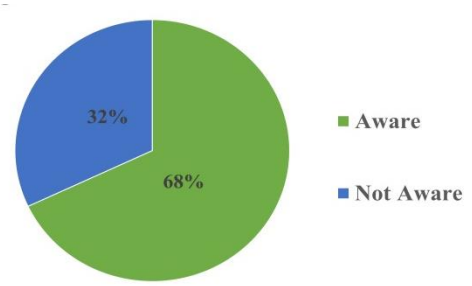

Figure 1: Awareness about cervical cancer.
Pie chart showing the percentage of women who are aware about the existance of cervical cancer.

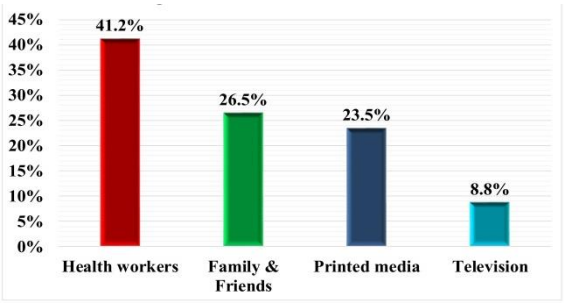

Figure 2: Sources of information.
Column chart showing the main sources of information about cervical cancer that the participants claim to possess.

Table 1: Factors influencing the awareness about cervical cancer among women.

Factors	Women who are not aware (%)	Women who are aware (%)	Total (%)	P value
Religion				
Hindu	11 (29.7)	26 (70.3)	37 (100)	0.558
Christian	17 (37)	29 (63.0)	46 (100)	
Muslim	4 (23.5)	13 (76.5)	17 (100)	
Age group				
20-30 years	9 (37.5)	15 (62.5)	24 (100)	0.726
30-39 years	7 (26.9)	19 (73.1)	26 (100)	
40-50 years	16 (32)	34 (68)	50 (100)	
Socioeconomic class				
Upper class	0 (0.0)	1 (100)	1 (100)	1.000
Upper middle class	21 (32.3)	44 (67.7)	65 (100)	
Lower middle class	9 (32.1)	19 (67.9)	28 (100)	
Upper lower class	2 (33.3)	4 (66.7)	6 (100)	
Marital status				
Un-married	1 (100)	0 (0)	1 (100)	0.052
Married	29 (30.2)	67 (69.8)	96 (100)	
Divorced	2 (100)	0 (0)	2 (100)	
Widowed	0 (0)	1 (100)	1 (100)	
Education				
School	17 (27)	46 (73)	63 (100)	0.161
College	15 (40.5)	22 (59.5)	37 (100)	
Employment				
Un-employed	30 (35.7)	54 (64.3)	84 (100)	0.068
Employed	2 (12.5)	14 (87.5)	16 (100)	
Family history of cancer				
Absent	28 (31.5)	61 (68.5)	89 (100)	0.741
Present	4 (36.4)	7 (63.6)	11 (100)	

There was no significant association between any demographic factors, the age of menarche, the age of marriage, parity, occupation, and family history of cancer and the awareness of cancer cervix. But those with school education (73%) were more aware than those with college education (59.5%) & those who are employed (87.5%) had more awareness compared to unemployed (64.3%), though the differences were not statistically significant (p value=0.187 and 0.084 respectively) (Table 1).

None of the women in our study group were currently using a temporary method of contraception. 97% of the study participants have never adopted a temporary method of contraception till now. Among those who had used temporary methods of contraception, 2 had used oral contraceptive pills for one year and the other one had used an intrauterine device for 3 years. None of them had used a barrier method. Only 8 women (11.76%) thought that there is a vaccine that can help prevent cancer cervix. 43 women (63.24%) said that there is no such vaccine & 17 women (25%) were not sure about it.

Among those who were aware of cervical cancer, only 47(69.1%) knew about the existence of a screening test to detect cancer cervix (Figure 3). Knowledge, attitude, and practice regarding Pap smear were assessed among those who had heard about the test. More than half (57.45%) did not know what kind of test it was. Among those claiming knowledge about Pap smear, 23.4% thought it was a blood test, 17.02% a type of biopsy and 2% a urine test.

Only 29.69% people knew about the nearest Health Care Facilities where Pap smear is done. Among the 47 women, 34.04% thought that screening should be done before sexual activity, 34.04% thought that it should be done above 25 years of age and 87.23% thought that screening should be done above 35 years. When asked about the frequency of screening, 25 women (53.19%) told us that screening should be done once in a year, 10.63% told once in three years, 36.17% had no opinion regarding it.

Table 2: Factors influencing the awareness about screening for cervical cancer among women.

Factors	Women who are not aware (%)	Women who are aware (%)	Total (%)	P value
Religion				
Hindu	23 (62.2)	14 (37.8)	37 (100)	0.371
Christian	22 (47.8)	24 (52.2)	46 (100)	
Muslim	8 (47.1)	9 (52.9)	17 (100)	
Age group				
20-30 years	13 (54.2)	11 (45.8)	24 (100)	0.426
30-39 years	11 (42.3)	15 (57.7)	26 (100)	
40-50 years	29 (58.0)	21 (42)	50 (100)	
Socioeconomic class				
Upper class	0 (0)	1 (100)	1 (100)	0.941
Upper middle class	35 (53.8)	30 (46.2)	65 (100)	
Lower middle class	15 (53.6)	13 (46.4)	28 (100)	
Upper lower class	3 (50)	3 (50)	6 (100)	
Marital status				
Un-married	1 (100)	0 (0)	1 (100)	0.422
Married	50 (52.1)	46 (47.9)	96 (100)	
Divorced	2 (100)	0 (0)	2 (100)	
Widowed	0 (0)	1 (100)	1 (100)	
Education				
School	30 (47.6)	33 (52.4)	63 (100)	0.159
College	23 (62.2)	14 (37.8)	37 (100)	
Employment				
Un-employed	49 (58.3)	35 (41.7)	84 (100)	**0.014***
Employed	4 (25)	12 (75)	16 (100)	
Family history of cancer				
Absent	49 (55.1)	40 (44.9)	89 (100)	0.741
Present	4 (36.4)	7 (63.6)	11 (100)	

Significant association since p is <0.05.

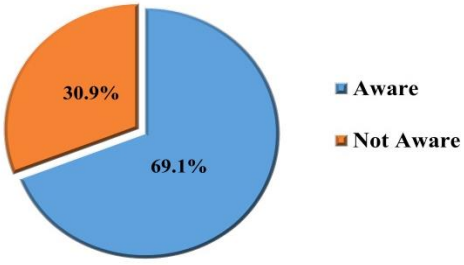

Figure 3: Awareness about screening test.
Pie chart showing the percentage of women who are aware about the existance of screening test to detect cervical cancer (among those aware about the disease i.e. 68 women).

Among those aware of a test, only 8 study participants (17.02%) had undergone Pap smear. When the rest (82.98%) were asked about the reasons for not undergoing screening, a majority of them (61.54%) did not wish to reveal the reason, while the others gave, no time (15.38%), embarrassment (10.26%) and no facility (2.8%) as the reasons. All 8 women who underwent PAP smear tested negative.

From this study, it has been found that women who were employed were more likely to be aware of screening for cervical cancer (75%) when compared to unemployed women (41.7%) and the association was statistically significant. There was no significant association between

awareness regarding screening for cancer cervix any other factors. Although the association was not statistically significant, the percentage of those with awareness were more among women who had a family history of cancer compared to others (Table 2).

After data collection from each woman, they were individually giving information about prevention of cervical cancer and importance of PAP smear in cervical cancer. After receiving this information 88 women were willing to undergo pap smear and any other required procedures. Out of the 12 who said no to Pap test, 11 were still not convinced about the importance or urgency of the test. One woman said that she still felt too embarrassed to undergo the test.

DISCUSSION

In our study, only 68% were aware of cervical cancer. Aswathy et al in a study in rural Kerala also reported that 72.1% of the women were aware of cervical cancer.[8] This is much lower than the level of awareness reported by Raychaudhuri et al in rural West Bengal (87.3%).[9] Shrestha S et al reported a similarly low level of knowledge about cervical cancer of about 65.7% among women in Nepal.[10] Jayant et al reported that the percentage of women with awareness regarding cervical cancer was 25% in Barshi, Maharastra and it improved to 76% with intervention.[11] Though the results of our study are on par with the studies by Aswathy et al & Shrestha et al, it is much less than the Raychaudhuri study. The awareness was also far better than that found in Barshi. Though the literacy rate was comparatively high among our study population the awareness about the cervical cancer is lower than expected.

The most common source of Information on cervical cancer and its prevention was health workers (41.2%) followed by friends and family (26.5%) and newspapers (23.5%). This is different from other studies done in India. According to a study done in Kancheepuram district by Mani et al the main source of information was television, accounting for 51.3%.[12] Media accounted for 55.8% of the information on cervical cancer in the study conducted by Aswathy et al in the rural areas of Kerala.[8] About 39.8% of the study group gained awareness through mass media in the Kumar & Tanya study conducted in the Mangalore city.[13] Thus compared to most of the studies done in India, our study had a different source of information i.e. health workers. Hence we believe that there exists a very good system in the locality, to educate the people regarding cervical cancer and its prevention. Though the mass media do account for educating, it is not a major source of health education.

Use of barrier methods of contraception is one of the preventive strategies for cervical cancer. But none of the study participants reported using them. But it might not be a major factor if a monogamous relationship is the norm & high-risk behaviour is absent/ rare in the community.

Only 8 women (11.76%) thought that vaccination would prevent cancer cervix. This was far better than the 0.5% reported by Bathija et al in Urban slums of Hubli, Karnataka and 0% reported in Theni, Tamil Nadu by Sambath and Chandrasekaran.[14,15] This difference might be explained by the better literacy rate. Both these studies had more than 30% illiterate while our study did not have any illiterates. But it was markedly lower than 82.9% reported by Khanna et al among women of an Odisha community.[16] One of the factors contributing to this difference might be the fact that a portion of the study participants of the Odisha study were those attending a cancer centre where they will be exposed to health education.

Only 17.02% had ever done the Pap test, though 47% of the population knew that cervical cancer could be detected early by a screening test. Aswathy et al showed that 6.9% of their study group has undergone cervical screening by PAP smear.[8] The study by Kumar and Tanya showed that 7.2% of the study participants in Mangalore city had undergone pap smear.[13] Sudhir and Krishna conducted a study in Manipal and it showed a very poor result of 2.25% who have undergone pap testing among their study group.[17] By comparing with other studies that have been undertaken in India, our study showed a better utilization of cervical screening services.

In our study, 88% showed a willingness to undergo cervical screening if they are given proper place and facility. 89.9% showed willingness if they are given the facility in the Shrestha et al study.[10] A study done in Bhopal by Bansal et al showed a willingness of 76.25%.[18] Thus the willingness among our study group is almost similar to that found in most other studies.

The study has a few limitations. It was conducted during day time when most of the working women was not available at home. Hence they were under-represented in the sample. The area studied was a single village. Hence it might not be generalizable to all of South Tamilnadu.

CONCLUSION

The existence of cervical cancer has reached the awareness of majority of the women in our area. But specific knowledge about cervical cancer, especially its prevention is still not adequate. Health education should give more specific information regarding prevention of cervical cancer. It should also include information about the nearest health care facility which provides the needed preventive services and the steps taken to ensure adequate privacy during procedures.

ACKNOWLEDGEMENTS

We thank the management of our Institute for providing the opportunity and resources to conduct the study. We thank all the faculty of the department of community medicine for their support and encouragement. We thank

Dr. Priya R. Paniker for her constructive criticism of the manuscript. We thank the field staffs from our college who assisted us during data collection in the study area.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. World Health Organisation. GLOBOCAN 2012: Cervical Cancer Estimated Incidence, Mortality and Prevalence Worldwide in 2012. GLOBOCAN 2012. Available at http://globocan.iarc.fr/Pages/fact_ sheets_cancer.aspx. Accessed 23 November 2017.
2. ICO HPV Information Centre. Human Papillomavirus and Related Diseases Report: INDIA. Available at: http://www.hpvcentre.net/ statistics/reports/IND.pdf. Accessed 23 November 2017.
3. Sreedevi A, Javed R, Dinesh A. Epidemiology of cervical cancer with special focus on India. Int J Womens Health. 2015;7:405-14.
4. Misra JS, Srivastava S, Singh U, Srivastava AN. Risk-factors and strategies for control of carcinoma cervix in India: hospital based cytological screening experience of 35 years. Indian J Cancer. 2009;46(2):155-9.
5. ICO HPV Information Centre. Human Papilloma virus and related Diseases Report: World. Barcelona: HPV Information Centre; 2017 Jul. p. 325. Available from: http://www.hpvcentre.net/ statistics/reports/XWX.pdf. Accessed 27 November 2017.
6. Garner EI. Cervical Cancer: Disparities in Screening, Treatment, and Survival. Cancer Epidemiol Biomarkers Prev. 2003;12(3):242s–7s.
7. Asthana S, Labani S. Factors associated with attitudes of rural women toward cervical cancer screening. Indian J Community Med. 2013;38(4):246–8.
8. Aswathy S, Quereshi MA, Kurian B, Leelamoni K. Cervical cancer screening: Current knowledge & practice among women in a rural population of Kerala, India. Indian J Med Res. 2012;136(2):205–10.
9. Raychaudhuri S, Mandal S. Current Status of Knowledge, Attitude and Practice (KAP) and Screening for Cervical Cancer in Countries at Different Levels of Development. Asian Pac J Cancer Prev. 2012;13(9):4221–7.
10. Shrestha J, Saha R, Tripathi N. Knowledge, Attitude and Practice regarding Cervical Cancer Screening Amongst Women visiting Tertiary Centre in Kathmandu, Nepal. Nepal J Med Sci. 2013;2(2):85-90.
11. Jayant K, Rao RS, Nene BM, Dale PS. Improved stage at diagnosis of cervical cancer with increased cancer awareness in a rural Indian population. Int J Cancer. 1995;63(2):161–3.
12. Mani G, Annadurai K, Danasekaran R. Awareness Regarding Cervical Cancer and Preventive Practices Among Rural Married Women of Kancheepuram District, Tamil Nadu. J Comprehensive Health. 2014;2(1):42-8.
13. Kumar H, Tanya S. A study on knowledge and screening for cervical cancer among women in Mangalore city. Ann Med Health Sci Res. 2014;4(5):751.
14. Bathija G, Mallesh S, Gajula M. A study on awareness of cervical cancer among women of reproductive age group in urban slums of old Hubli, Karnataka, India. Int J Community Med Public Health. 2016;3(9):2579–83.
15. Sambath S, Chandrasekaran M. Knowledge, awareness and prevention of cervical cancer among women attending a rural based tertiary care centre, Theni, South India. Int J Reprod Contracept Obstet Gynecol. 2018;7(2):608.
16. Khanna N, Ramaseshan A, Arnold S, Panigrahi K, Macek MD, Padhi BK, et al. Community Awareness of HPV Screening and Vaccination in Odisha. Obstet Gynecol Int. 2015;2015: 7.
17. Sudhir, Krishna D. Knowledge and Practice about Cervical Cancer Screening among Women in a Rural Population of South India. Sch J App Med Sci. 2014;2(2C):689–93.
18. Bansal AB, Pakhare AP, Kapoor N, Mehrotra R, Kokane AM. Knowledge, attitude, and practices related to cervical cancer among adult women: A hospital-based cross-sectional study. J Nat Sci Biol Med. 2015;6(2):324–8.

Cite this article as: Nelson SB, Viswanathan N, Jenifer NA, Priyanka B. A cross-sectional study on cervical cancer and its prevention among women of age group 25- 50 years in a rural area of South Tamil Nadu, India. Int J Community Med Public Health 2018;5:2536-41.