

## Knowledge and attitude towards cervical cancer among women of reproductive age in Chennai

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### ABSTRACT

**Aim:** To assess the knowledge and attitude towards cervical cancer among women of reproductive age in Chennai.

**Introduction:** Cervical cancer is the fourth most common cancer worldwide. It is caused by infection with certain types of HPV. Planned and organised screening can significantly help the population, whilst disorganised screening can increase costs and reduce benefits.

**Materials and methods:** Cross-sectional study done in South India using a structured questionnaire. It consisted 157 women of childbearing age. Data was analysed statistically and evaluated using Chi-square test.

**Result:** 82.8% of the total women were aware of cervical cancer and 56.1% had heard about the screening test done for the same. Most of the women in our study showed positive attitude toward cervical cancer screening, but still there is a gap between perception and practice.

**Conclusion:** Though majority of women are aware of cervical cancer and its screening, there still exists a need to increase the awareness among certain underprivileged groups of women. Thus, the situation in India is still not in control and will take combined and coordinated efforts from the government, healthcare workers and the public to bring it under control.

**Key words:** Cervical cancer, awareness, screening, attitude, women.

### Introduction:

Cervical cancer is the fourth most frequent cancer in women in the world with an estimated 5,70,000 new cases in 2018 representing 7.5% of all female cancer deaths. Of the estimated more than 3,11,000 deaths from cervical cancer every year, more than 85% of these occur in low and middle income countries (Ferlay et al., 2018). HIV positive women are six times more likely to get cervical cancer compared to women without HIV, and almost 5% of all cervical cancer cases are attributable to HIV (Stelzle et al., 2021). Cervical cancer is caused by infection with certain types of HPV through sexual contact. Two HPV types (16 and 18) cause 70% of cervical cancers and pre-cancerous cervical lesions (Human Papillomavirus (HPV) and Cervical Cancer, n.d.). There are currently two HPV vaccines, protecting against HPV types 16 and 18. These vaccines are effective prior to HPV exposure and cannot treat HPV infections (Human Papillomavirus (HPV) and Cervical Cancer, n.d.). While HPV vaccination is an important supplemental element in addressing the cervical cancer burden, it does not take the place of screening.

Early detection and treatment via screening can prevent up to 80% of cervical cancers in developed countries, where efficient screening programs are in place (Human Papillomavirus (HPV) and Cervical Cancer, n.d.). In developing countries, however, there is limited access to effective, wide scale screening, leading to increased deaths due to cervical cancer (Human Papillomavirus (HPV) and Cervical Cancer, n.d.). Planned and organised screening can significantly help the population, whilst disorganised screening can increase costs and reduce benefits (Sivaram et al., 2018). The WHO estimates that the annual burden of new cases in India will increase to almost 2,25,000 by 2025 without widespread screening and prevention efforts (Krishnan et al., 2015). While there is no national screening program in India, some state governments have taken the initiative. The Tamil Nadu Health Systems Project, established in 2005, a breast and cervical cancer screening program in the state of Tamil Nadu (Sivaram et al., 2018) (TNHSP, n.d.). Despite abundant evidence supporting the use of screening as an effective intervention, there are still very few large-scale screening programs being effected in India (Krishnan et al., 2015).

### **Materials and methods:**

The present cross-sectional study was conducted in Chennai with the aim to assess the knowledge and attitude towards cervical cancer among women. Women in their reproductive age (15 to 45 years) were included in the study, with no bar regarding their marital status. Unwilling participants, Children less than 15 years of age, Women more than 49 years of age, women with diagnosed mental illness were not included in the study. A total of 157 participants were studied. Prevalence rate of 89% was taken from a previous article from Trichy, Tamil Nadu (Veerakumar, 2017). The sample size was calculated using the formula,  $N = Z^2 pq / [L]^2$ . Convenience sampling was done. A pretested semi-structured questionnaire including general information and specific questions regarding their knowledge and attitude towards cervical cancer was given to the study participants and were instructed to fill them. The validation of the questionnaire had been done and filled questionnaires were obtained. The questionnaire contained three sections - Section A comprised of sociodemographic details, Section B contained questions regarding their knowledge about cervical cancer and Section C comprised of questions related to the screening test for Cancer cervix. The participants were asked to answer every question without fail. Every possible measure was taken to uphold the confidentiality that was promised to the participants in the first place. Personal information of the participants was not let out and the participants were also provided with the contact number and address of the principal investigator. Any queries regarding the study were well appreciated and addressed to in the best manner possible. The participants were given the freedom to pull out of the study whenever they wanted if they felt uncomfortable with the study. After obtaining the data, it was entered in excel spreadsheet and was analysed using SPSS software version 16 and statistical analysis was done using Chi square test and the frequencies and percentages were obtained.

### **Results:**

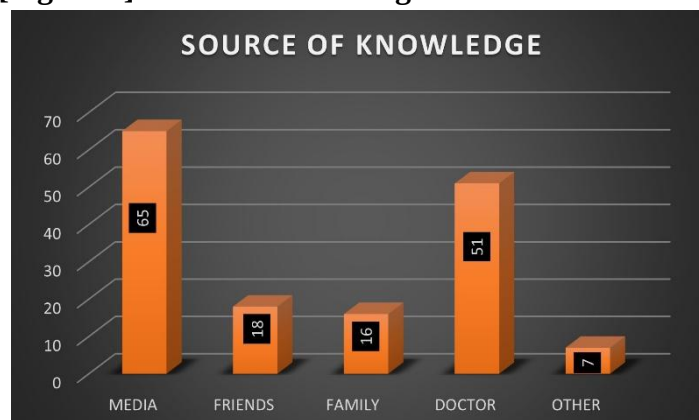
In total, 157 women were studied, between the age group of 15-49 years. The socio-demographic details of the participants have been listed in Table 1. Out of the 157 participants, 43 (27.4%) women had undergone family planning surgery.

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From the data collected, 130 (82.8%) participants had heard about cervical cancer whereas 27 (17.2%) women said they had never heard about cervical cancer before. To the question, “From where did you got to know about cervical cancer?” the responses were [Figure 1]

[Table 1] Sociodemographic details of participants

| CHARACTERISTIC                                                  | FREQUENCY (n) | PERCENTAGE (%) |
|-----------------------------------------------------------------|---------------|----------------|
| <b>Respondents</b>                                              | 157           | 100            |
| <b>Age</b>                                                      |               |                |
| 15-19                                                           | 7             | 4.46           |
| 20-29                                                           | 89            | 56.69          |
| 30-39                                                           | 29            | 18.47          |
| 40-45                                                           | 32            | 20.38          |
| <b>Living sector</b>                                            |               |                |
| Rural                                                           | 26            | 16.6           |
| Semi-urban                                                      | 25            | 15.9           |
| Urban                                                           | 106           | 67.5           |
| <b>Marital status</b>                                           |               |                |
| Single                                                          | 82            | 52.3           |
| Married                                                         | 65            | 41.4           |
| Widowed                                                         | 8             | 5.1            |
| Divorced                                                        | 1             | 0.6            |
| Separated                                                       | 1             | 0.6            |
| <b>Parity</b>                                                   |               |                |
| None                                                            | 90            | 57.3           |
| 1-2                                                             | 62            | 39.5           |
| 3-4                                                             | 3             | 1.9            |
| >4                                                              | 2             | 1.3            |
| <b>Educational status</b>                                       |               |                |
| Illiterate                                                      | 1             | 0.6            |
| Primary school                                                  | 4             | 2.5            |
| Secondary school                                                | 13            | 8.3            |
| College/university                                              | 139           | 88.6           |
| <b>Socio-economic class (Modified BG Prasad classification)</b> |               |                |
| Upper                                                           | 7             | 4.5            |
| Upper middle                                                    | 82            | 52.2           |
| Lower middle                                                    | 56            | 35.7           |
| Upper lower                                                     | 9             | 5.7            |
| Lower                                                           | 3             | 1.9            |

**[Figure 1] Source of knowledge about cervical cancer**

Out of the 157 participants, 22 (14.1%) women knew someone who had been diagnosed to have cervical cancer, whereas the other 135 (85.9%) participants did not. When asked the question about the symptoms of cervical cancer and given the freedom to opt for multiple symptoms, 80 (50.9%) of women out of 157 chose bleeding in between periods, 74 (47.1%) of women out of 157 chose foul smelling discharge, 56 (35.7%) chose bleeding after intercourse, 54 (34.4%) chose severe backache with lower abdominal pain and other symptoms like severe swelling of feet, post-menopausal bleeding and urinary urgency had been chosen by only a lesser percentage of the participants. Similarly, when asked the question about risk factors of cervical cancer with the same prerequisites the responses were, 72 (45.9%) women thought having multiple sexual partners was one of the risk factors, 53 (33.8%) women thought sexual intercourse at an early age is a risk factor, 58 (36.9%) thought history of sexually transmitted diseases predisposed to cervical cancer, 69 (43.9%) thought poor menstrual hygiene could be one of the risk factors whereas cigarette smoking, young age at first delivery and multiple pregnancies had very less representation from the participants. In the same way, when asked about what some of the preventive measures to be taken could be, majority of women chose vaccination against HPV (49.1%) and avoid having multiple sexual partners (47.8%) as the preventive measures. Out of the 157 participants, 137 (87.3%) of women thought cervical cancer was treatable whereas the rest 20 (12.7%) thought it was not treatable.

Among the participants, 88 (56.1%) of women had heard about Pap smear whereas the rest 69 (43.9%) had no idea about what it was. When asked the question, “Who according to you should be screened for cervical cancer?” the responses were as given in [Figure 2].

When asked the question, “How often do you feel the screening test should be done?”, 51 (32.5%) women told once every year, 36 (22.9%) women felt it should be done once every 3 years, 20 (12.7%) thought it was once every 5 years whereas the rest 50 (31.8%) participants did not know the answer to the question.



[Figure 2] Who should be screened for cervical cancer?

Two association tables were constructed by ascertaining significance of certain factors associated with knowledge about cervical cancer and getting a pap smear test done on them using Chi-square test, P values less than 0.05 were taken as significant and values less than 0.0001 were taken as highly significant, these factors have been listed below in Table 2 and Table 3. Certain other demographic factors such as area of residence, religion, educational status, occupation, socioeconomic class etc., were found to be not significant at  $P < 0.05$ .

[Table 2] Association of cervical cancer knowledge with social factors

| Associated Factors | Knowledge on Cervical Cancer |                    | Total<br>(n= 157, 100%) | p-value  |
|--------------------|------------------------------|--------------------|-------------------------|----------|
|                    | Yes<br>(n=130,82.8%)         | No<br>(n=27,17.2%) |                         |          |
| Marital status     |                              |                    |                         |          |
| Single             | 74(90.24%)                   | 8(9.76%)           | 82(100%)                | 0.031659 |
| Married            | 48(73.85%)                   | 17(26.15%)         | 65(100%)                |          |
| Others             | 8(80%)                       | 2(20%)             | 10(100%)                |          |
| Parity             |                              |                    |                         |          |
| None               | 80(88.89%)                   | 10(11.11%)         | 90(100%)                | 0.016406 |
| 1-2                | 48(77.42%)                   | 14(22.58%)         | 62(100%)                |          |
| 3-4                | 1(33.33%)                    | 2(66.67%)          | 3(100%)                 |          |
| >4                 | 1(50%)                       | 1(50%)             | 2(100%)                 |          |
| Education          |                              |                    |                         |          |
| Primary and below  | 2(40%)                       | 3(60%)             | 5(100%)                 | 0.002773 |
| Secondary          | 8(61.54%)                    | 5(38.46%)          | 13(100%)                |          |
| College/university | 120(86.33%)                  | 19(13.67%)         | 139(100%)               |          |

**[Table 3] Association of number of people who got the screening test done with social factors.**

| ASSOCIATED FACTORS                | SCREENING TEST DONE  |                    | TOTAL<br>(n= 157, 100%) | p-value  |
|-----------------------------------|----------------------|--------------------|-------------------------|----------|
|                                   | YES<br>(n=130,82.8%) | NO<br>(n=27,17.2%) |                         |          |
| Age                               |                      |                    |                         |          |
| 15-29                             | 4(4.17%)             | 92(95.83%)         | 96(100%)                | <0.00001 |
| 30-39                             | 15(51.72%)           | 14(48.28%)         | 29(100%)                |          |
| 40-45                             | 17(53.13%)           | 15(46.87%)         | 32(100%)                |          |
| Marital status                    |                      |                    |                         |          |
| Single                            | 1(1.22%)             | 81(98.78%)         | 82(100%)                | <0.00001 |
| Married                           | 29(44.62%)           | 36(55.38%)         | 65(100%)                |          |
| Other                             | 6(60%)               | 4(40%)             | 10(100%)                |          |
| Child births                      |                      |                    |                         |          |
| None                              | 2(2.22%)             | 88(97.78%)         | 90(100%)                | <0.00001 |
| 1-2                               | 32(51.61%)           | 30(48.39%)         | 62(100%)                |          |
| 3-4                               | 1(33.33%)            | 2(66.67%)          | 3(100%)                 |          |
| >4                                | 1(50%)               | 1(50%)             | 2(100%)                 |          |
| Family planning done              |                      |                    |                         |          |
| Yes                               | 22(51.16%)           | 21(48.84%)         | 43(100%)                | <0.00001 |
| No                                | 14(12.28%)           | 100(87.72%)        | 114(100%)               |          |
| Know someone with cervical cancer |                      |                    |                         |          |
| Yes                               | 9(40.90%)            | 13(59.10%)         | 22(100%)                | 0.030517 |
| No                                | 27(20%)              | 108(80%)           | 135(100%)               |          |
| Aware of Pap smear                |                      |                    |                         |          |
| Yes                               | 33(37.50%)           | 55(62.50%)         | 88(100%)                | <0.00001 |
| No                                | 3(4.35%)             | 66(95.65%)         | 69(100%)                |          |

When asked if they were willing to regularly consult a doctor for screening of cervical cancer, majority of the women (68.8%) told they were willing whereas the rest 31.2% of women were not willing to consult a doctor. When asked if they were willing to get a pap smear test done on them, again majority Of the women (61.8%) told they were willing and the rest 31.2% were not willing. When asked the question, “Is there any vaccination available for preventing cervical cancer?” 64 (40.8%) women told yes, 20 (12.7%) women told there was not any vaccine and the rest 73 (46.5%) women told they did not know.

### Discussion:

Though cervical cancer has been somewhat kept under check in the developed countries, the risk of getting it is still looming at large in the developing countries of the world. In India, it is there among the most prevalent cancers in reproductive age women along with breast cancer. The perfect tool to counteract this is, screening for the disease to establish early diagnosis and management and for this participation of the public is highly vital.

The present study was conducted to assess the knowledge and attitude towards cervical cancer among women of reproductive age in South India. In the current study it was found that 82.8% women were aware of cervical cancer which was similar to the finding in a previous study conducted by Vora et al in which 75.42% women were aware of what it was(K et al., 2020). In this

study media, doctors and friends are the principle information sources of cervical cancer which is similar to the findings of study conducted by G Narayana et al (Narayana et al., 2017). Bleeding in between periods and foul smelling discharge were the two most commonly mentioned symptoms in this study, similar findings were seen in a study by Bansal et al (Bansal et al., 2015). Most of the participants chose having multiple sexual partners (45.9%) , sexual intercourse at an early age (33.8%) , history of sexually transmitted diseases (43.9%) as the risk factors for cervical cancer, this finding was similar in the study conducted by Vora et al (K et al., 2020). Most of the participants felt the preventive measures of cervical cancer were avoiding multiple sexual partners (47.8%) , vaccination against HPV (49.1%) and avoiding sexual intercourse at an early age (36.9%), this finding was again similar to the study done by Vora et al (K et al., 2020). A very high proportion of participants (87.3%) felt that cancer cervix was a preventable disease, this finding is higher than what was reported in a previous study where only 51% of women believed it was preventable (Ghosh et al., 2021).

In the current study, 56.1% of women were aware screening cervical cancer is done through pap smear, this finding is higher than what was seen in another similar study conducted among women in south India where only 20.31% of women were aware(Taneja et al., 2021). 22.9% of the participants in this current study had pap smear test done at least once in their lifetime, this finding was similar to the finding in the study by Taneja et al where 16.21% of women had undergone the test(Taneja et al., 2021). Most of the women in our study showed positive attitude toward cervical cancer screening, but still there is a gap between perception and practice, this is a similar finding in another study done in South India(Narayana et al., 2017). A higher proportion of women (40.8%) in our study were aware of HPV vaccination, this is in contrast with another study where only 14% of women were aware about HPV and its vaccination (Husain, 2019).

## Conclusion:

From the study it is pretty evident that the awareness about the existence of cervical cancer is increasing and it can be seen from the findings that more people are willing to get a screening test done for cervical cancer. One of the alarming results obtained was that even though many were aware and willing to get the screening test done only very few 22.9% had got it done previously. Some of the positive findings in the study was that most participants knew what the symptoms of cervical cancer were, what the risk factors were and what the preventive measures to be taken were. Also, the attitude of the women towards the disease and its screening was forthcoming. But one must note that this study population comprises of people who have access to tertiary care facilities and most visit these hospitals for some or the other reason where they could have been exposed to the information. Many of the underprivileged women in India still have no proper access to such information and facilities. Thus, the situation in India is still not in control and will take combined and coordinated efforts from the government, healthcare workers and the public to bring it to a controllable margin.

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### **References:**

- [1] Bansal, A. B., Pakhare, A. P., Kapoor, N., Mehrotra, R., & Kokane, A. M. (2015). Knowledge, attitude, and practices related to cervical cancer among adult women: A hospital-based cross-sectional study. *Journal of Natural Science, Biology, and Medicine*, 6(2), 324–328. <https://doi.org/10.4103/0976-9668.159993>
- [2] Ferlay, J., Ervik, M., Lam, F., Colombet, M., Mery, L., Piñeros, M., Znaor, A., Soerjomataram, I., & Bray, F. (2018). *Global cancer observatory: Cancer today*. Lyon, France: International Agency for Research on Cancer.
- [3] Ghosh, S., Mallya, S. D., Shetty, R. S., Pattanshetty, S. M., Pandey, D., Kabekkodu, S. P., Satyamoorthy, K., & Kamath, V. G. (2021). Knowledge, Attitude and Practices Towards Cervical Cancer and its Screening Among Women from Tribal Population: A Community-Based Study from Southern India. *Journal of Racial and Ethnic Health Disparities*, 8(1), 88–93. <https://doi.org/10.1007/s40615-020-00760-4>
- [4] Human papillomavirus (HPV) and cervical cancer. (n.d.). Retrieved 2 May 2021, from [https://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-\(hpv\)-and-cervical-cancer](https://www.who.int/news-room/fact-sheets/detail/human-papillomavirus-(hpv)-and-cervical-cancer)
- [5] Husain. (2019). Knowledge on human papillomavirus and cervical cancer awareness among women in South India. <https://www.saudijhealthsci.org/article.asp?issn=2278-0521;year=2019;volume=8;issue=2;spage=81;epage=87;aulast=Husain>
- [6] K, V., Mcquatters, L., Saiyed, S., & Gupta, P. (2020). KNOWLEDGE, ATTITUDES, AND BARRIERS TO SCREENING FOR CERVICAL CANCER AMONG WOMEN IN INDIA: A REVIEW *WCRJ* 2020; 7: e1504. *World Cancer Research Journal*, 7. [https://doi.org/10.32113/wcrj\\_20203\\_1504](https://doi.org/10.32113/wcrj_20203_1504)

- [7] Krishnan, S., Madsen, E., Porterfield, D., Varghese, B., Poehlman, J., & Taylor, O. (2015). Advancing cervical cancer prevention in India.
- [8] Narayana, G., Suchitra, M. J., Sunanda, G., Ramaiah, J. D., Kumar, B. P., & Veerabhadrapa, K. V. (2017). Knowledge, attitude, and practice toward cervical cancer among women attending Obstetrics and Gynecology Department: A cross-sectional, hospital-based survey in South India. *Indian Journal of Cancer*, 54(2), 481. [https://doi.org/10.4103/ijc.IJC\\_251\\_17](https://doi.org/10.4103/ijc.IJC_251_17)
- [9] Sivaram, S., Majumdar, G., Perin, D., Nessa, A., Broeders, M., Lynge, E., Saraiya, M., Segnan, N., Sankaranarayanan, R., Rajaraman, P., Trimble, E., Taplin, S., Rath, G., & Mehrotra, R. (2018). Population-based cancer screening programmes in low-income and middle-income countries: Regional consultation of the International Cancer Screening Network in India. *The Lancet Oncology*, 19(2), e113–e122. [https://doi.org/10.1016/S1470-2045\(18\)30003-2](https://doi.org/10.1016/S1470-2045(18)30003-2)
- [10] Stelzle, D., Tanaka, L. F., Lee, K. K., Khalil, A. I., Baussano, I., Shah, A. S., McAllister, D. A., Gottlieb, S. L., Klug, S. J., & Winkler, A. S. (2021). Estimates of the global burden of cervical cancer associated with HIV. *The Lancet Global Health*, 9(2), e161–e169.
- [11] Taneja, N., Chawla, B., Awasthi, A. A., Shrivastav, K. D., Jaggi, V. K., & Janardhanan, R. (2021). Knowledge, Attitude, and Practice on Cervical Cancer and Screening Among Women in India: A Review. *Cancer Control*, 28, 10732748211010800. <https://doi.org/10.1177/10732748211010799>
- [12] TNHSP. (n.d.). Retrieved 2 May 2021, from <https://www.tnhsp.org/>
- [13] Veerakumar, A. M. (2017). Knowledge of Carcinoma Cervix among rural women of Reproductive age in Trichy district, India. *Journal of Comprehensive Health*, 5(2), 46–52.