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Original Research Article

A comparative study to assess knowledge, health beliefs and preventive practices among women with cervical cancer and general population at tertiary care hospital, New Delhi

Navreet Kaur Saini[1]*, Kamlesh Kumari Sharma[1], Shashi Mawar[1], Lalit Kumar[2], Sunesh Kumar[3]

[1]College of Nursing, [2]Department of Medical Oncology, [3]Department of Obstetrics and Gynecology, All India Institute of Medical Sciences, New Delhi, India

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***Correspondence:**
Navreet Kaur Saini,
E-mail: saini.reet2@gmail.com

ABSTRACT

Background: Awareness regarding cervical cancer, its risk factors and preventive practices is very low among Indian women. The objectives of the study was to compare knowledge, health beliefs and preventive practices regarding cervical cancer among women with cervical cancer and general population at tertiary care hospital, New Delhi; to study the correlation among knowledge, health beliefs and preventive practices of women with cervical cancer and general population and their selected demographic variables.
Methods: A comparative study was conducted using descriptive, cross sectional survey among conveniently sampled 100 women with cervical cancer (cases) taking treatment from cancer department of tertiary care hospital and 100 women relatives of patients with non-malignant diseases admitted in different medical, surgical, pediatrics wards of tertiary care hospital (controls). Self-developed, pretested, structured questionnaires validated by experts were used for data collection.
Results: Majority of subjects had poor knowledge (78% cases and 90% controls) and positive health beliefs (83% cases and 67% controls). Majority of cases (93%) had fair preventive practices while most of controls (62%) had poor preventive practices regarding cervical cancer. There was positive correlation of knowledge with health beliefs (p=0.0001) and health beliefs with preventive practices (p=0.0469) among controls; but in cases none of these correlations were found.
Conclusions: Substantial gaps in knowledge and preventive practices regarding cervical cancer were present in both groups. So there is a need to raise public awareness regarding risk factors and prevention of cervical cancer by modifying the risk factors.

Keywords: Knowledge, Health beliefs, Preventive practices, Cervical cancer, Cases, Controls

INTRODUCTION

Carcinoma of cervix is the fourth largest cancer killer among women and seventh overall, in the world.[1] The incidence and mortality due to cervical cancer in the developed nations are about half of those for the rest of the world due to regular screening practices.[2] Awareness regarding cervical cancer, its risk factors and preventive practices is very low among Indian women. Even educated women, despite having enough knowledge regarding cervical cancer do not approach health care facility for screening.

Cervical cancer is caused by a virus HPV (human papilloma virus). HPV virus has more than 100 types, type - 16 and 18 have been identified to be of highest risk type for cervical cancer and are said to account for approximately 70 percent of all cervical cancer cases in India.[3,4] Cervarix is a bivalent vaccine that protects against HPV strains 16 and 18 and Gardasil is a quadrivalent vaccine that protects against HPV strains 16,18,6 and 11. These vaccines should be given to girls at an age of 11 to 12 or as early as nine.[5,6]

Burden of cervical cancer is growing globally. Majority of women are presenting in stage III and IV, i.e. in advanced stages, when the chances of survival remain very less.[7] Most of the women seem to be unaware of the health practices which prevent cervical cancer seeing the increased burden of this health problem. Therefore, it is important for health care professionals to work on preventive strategies. For this, there is a need to first assess the existing knowledge and practices among people.

Objectives

1) Compare knowledge, health beliefs and preventive practices regarding cervical cancer among women with cervical cancer and general population at tertiary care hospital, New Delhi.
2) Study the correlation among knowledge, health beliefs and preventive practices of women with cervical cancer and general population and their selected demographic variables.

METHODS

This was comparative, cross-sectional survey conducted at a tertiary care hospital, New Delhi from September 2014 to January 2015. Women with cervical cancer (Cases) were enrolled from cancer department. General population (Controls- women who were not having any cancer and were caregivers of patients with non-malignant diseases in different wards of tertiary care hospital) were enrolled from different medical, surgical, pediatrics wards of tertiary care hospital. The estimated sample size was 81 cases and 81 controls but 100 cases and 100 controls were enrolled conveniently. Inclusion criteria for cases was; women in age group 18 - 65 years, diagnosed with cervical cancer as per the diagnostic criteria (cervical biopsy), attending outpatient cancer department and for controls inclusion criteria was; women not having any cancer, in age group 18 - 65 years and didn't have any family history of cervical cancer. Participants who were not willing to take part in the study were excluded. Data were collected using self-developed, validated and pretested questionnaires. Demographic Profile comprised of 22 items like age, marital status, locality etc. and socio-economic status as assessed by Kuppuswamy's socioeconomic status scale. Clinical Profile of cases comprised of ten items dealing with information related to disease of the subjects. Knowledge questionnaire consisted of 22 items which included information related to causes, risk factors, symptoms, prevention and treatment of cervical cancer. Items included multiple choice questions and true/false/don't know response. Correct answer was scored as one, incorrect and don't know response was scored as zero. Health Beliefs questionnaire was a five point Likert scale consisted of 19 items (nine positively worded, ten negatively worded) which assessed health beliefs of women regarding cervical cancer. Health beliefs were assessed under four domains i.e. perceived susceptibility, perceived seriousness, perceived benefits and perceived barriers. Scoring ranged from one for strongly disagree to five for strongly agree. Reverse scoring was done for negatively worded items. Preventive practices checklist consisted of 23 items related to prevention of cervical cancer which included three domains i.e. health care practices, hygiene practices and sexual practices. Each correct response was scored as one, incorrect as zero. Ethical clearance was obtained from ethical committee of study institution. Informed consent was taken from the subjects and anonymity of subjects and confidentiality of information was maintained. Statistical Package STATA 11.2 was used to analyze the data using descriptive (frequency, percentage, mean, median, range and standard deviation) and inferential statistics (Chi-square test, Independent t test, Fisher's exact test, Wilcoxon rank-sum test, Pearson correlation test and Spearman correlation test).

RESULTS

Demographic profile

Mean age of cases was 49.19±8.92 years and of controls were 47.94±8.57 years. Subjects in the both groups were matched in terms of age, age at menarche, age at menopause, religion, locality, socio-economic status. All the subjects (100%) were married in both groups and majority of subjects in both groups (82% cases and 89% controls) were staying together with their husband. Majority of subjects belonged to Hindu religion (87% cases and 84% controls). Most of subjects in both groups were from rural locality (59% cases and 57% controls) and belonged to lower/upper lower socio-economic status (67% cases and 79% controls) of Kuppuswamy's socio-economic status scale. The groups were not comparable in terms of age at marriage (p=0.0006).

Clinical characteristics of cases

Majority (65%) of cases were in age group 41-60 years at the time of diagnosis. Most of cases (59%) had been diagnosed with cervical cancer since more than six months and were undergoing both chemotherapy and radiotherapy. Only 15 cases had family history of cancer, most common cancer in the family was head and neck cancer (5/15), two cases had family history of cervical cancer and this was the mother. Most common presenting symptom was vaginal discharge (46%).

Knowledge

Majority of cases (78%) and controls (90%) had poor knowledge regarding cervical cancer. Only one case and one control had good knowledge regarding cervical cancer (Figure 1). Cases had higher overall knowledge, as compared to controls (p=0.005). Also cases had higher knowledge as compared to controls in symptoms (p= 0.0001) and treatment (p=0.0001) domains of knowledge (Table 1).

Table 1: Comparison of domain wise knowledge score regarding cervical cancer among cases and controls n = 200.

Knowledge domains	Cases (n_1=100)		Controls (n_2=100)		p value
	Median (Min-Max)	Mean±SD	Median (Min-Max)	Mean±SD	
Overall knowledge (0-22)	6.5 (0-16)	6.33±2.95	5 (0-14)	5.26±2.646	0.005*
Causative factors (0-11)	4 (0-10)	4.42±2.16	5 (0-8)	4.44±1.91	0.99
Symptoms (0-3)	1 (0-3)	0.70±0.63	0 (0-1)	0.33±0.47	0.0001*
Screening (0-3)	0.0(0-1)	0.03±0.17	0.0 (0-3)	0.10±0.44	0.29
Treatment (0-3)	2 (0-3)	1.1±0.70	0.0 (0-2)	0.25±0.52	0.0001*
HPV vaccination and prevention (0-2)	0.0 (0-1)	0.08±0.27	0.0 (0-3)	0.14±0.43	0.34

Wilcoxon rank - sum test *Significant at p<0.05.

Table 2: Comparison of domain wise health beliefs score regarding cervical cancer among cases and control n = 200.

Health beliefs domains	Cases (n_1=100)	Controls (n_2=100)	p value
	Mean±SD	Mean±SD	
Overall health beliefs (19-95)	67.73±6.61	65.54±6.45	0.018*
Perceived barriers (8-40)	23.92±4.49	23.2±4.182	0.24
Perceived benefits (4-20)	14.88±2.16	13.85±2.06	0.0007*
Perceived susceptibility (2-10)	7.98±2.16	8.55±2.09	0.06
Perceived seriousness (5-25)	20.95±2.812	19.94±2.337	0.007*

Independent t test *significant at p<0.05.

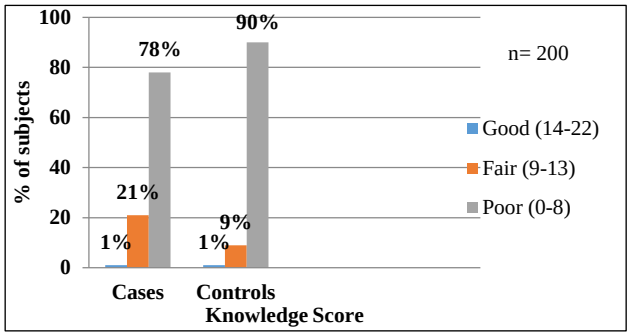

Figure 1: Knowledge in cases and controls regarding cervical cancer.

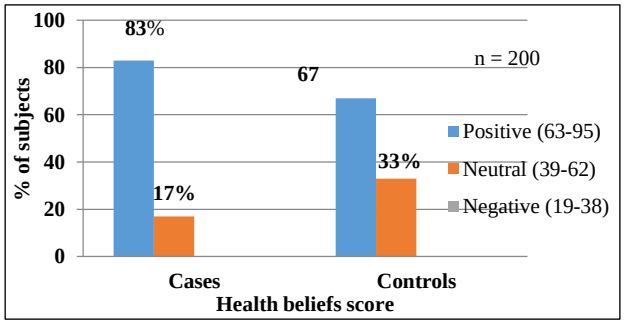

Figure 2: Health Beliefs in cases and controls regarding cervical cancer

Health beliefs

Most participants; 83% cases and 67% had positive health beliefs regarding cervical cancer (Figure 2). But on comparison of overall sores, it was found that cases had positive health beliefs (higher overall score) as compared to controls (p=0.018). Also cases had higher score as compared to controls in perceived benefits (p=0.0007) and perceived seriousness (p=0.007) domains of health beliefs (Table 2).

But the response of subjects in individual items regarding health beliefs was not consistent. Majority of cases (63%-88%) and controls (72%-97%) gave neutral response when asked regarding efficacy of HPV vaccine in preventing cervical cancer, importance of Pap test in depicting health status of a woman, if Pap test was painful, if Pap test was costly and if Pap test was time consuming. More than half of cases (51%-58%) and majority of controls (65%-90%) disagreed that screening was not necessary as cervical cancer had no cure, partner's consent was necessary for Pap test, it was embarrassing to get Pap test and cervical cancer could happen to a woman more than 50 year only. Majority of controls (61%) and 47% of cases disagreed that getting Pap test at younger age labeled a woman sexually active. Majority of cases (75%-82%) and controls (72%-80%) agreed that all women had equal chance of getting

cervical cancer and HPV infection was curable with proper medical treatment. Majority of cases (75%) and 57% of controls agreed that cervical cancer would affect sexual activity of a woman.

Preventive practices

Majority of cases (93%) had fair preventive practices regarding cervical cancer but most of controls (62%) had poor preventive practices regarding cervical cancer (Fig 3). Cases had better overall preventive practices as compared to controls (p=0.0001). Also cases had better health care (p=0.0001) and hygiene practices (p=0.0001) as compared to controls (Table 3).

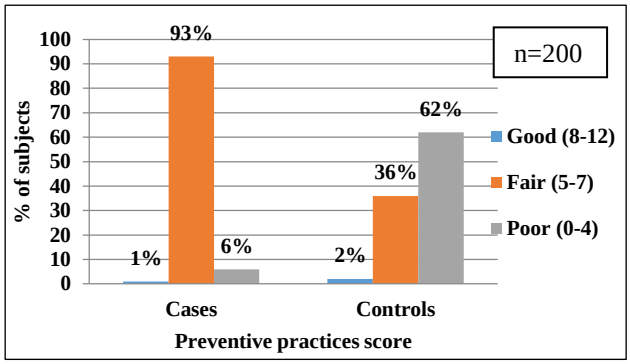

Figure 3: Preventive practices in cases and controls regarding cervical cancer.

Most of the subjects (78% cases and 80% controls) were not using condom as a method of contraception. Five cases and three controls had multiple sex partners. None of the cases were using condom with partner other than husband but one control was using. Though 24 cases and three controls had undergone Pap smear test, only one case and control got it done as per the guidelines. All the cases (100%) were following regular gynecological checkup while only three controls were going for regular gynecological checkup. None of the cases and controls had received HPV vaccine. Majority of subjects (95% cases and 69% controls) were maintaining genital hygiene after every urination and all the participants (100% cases and controls) were maintaining genital hygiene after every defecation. Majority of subjects (90% cases and 98% controls) were using only water for cleaning genitalia while rest was using both soap and water. Most of subjects (68% cases and 57% controls) were changing undergarments daily while 28% of cases and 42% of controls were not wearing undergarments. Of the women in menstrual age, majority of subjects (28/30 cases and 51/52 controls) were maintaining genital hygiene during menstruation and 27/30 cases and 49/52 controls were taking daily bath during menstruation. Most common material used by cases during menstruation was cloth (13/30) followed by napkin (12/30) and most common material used by controls was cloth (32/52) followed by napkin (32/52). Most of subjects (21/30 cases and 33/52 controls) were using 1-2 pads per day during menstruation.

Table 3: Comparison of domain wise preventive practices score regarding cervical cancer among cases and controls (n=200).

Preventive practices score	Cases (n_1=100)		Controls (n_2=100)		P value
	Mean±SD	Median (min-max)	Mean±SD	Median (min-max)	
Overall practices (0-12)€	5.69±0.82	6(3-8)	4.24±1.09	4 (2-8)	0.0001*
Sexual practices (0-4)ⁿ	0.84±8.99	1.0 (0-4)	0.93±0.62	1.0 (0-4)	0.30
Health care practices (0-3)ⁿ	1.24±0.43	1.0 (0-2)	0.06±0.31	0.0 (0-2)	0.0001*
Hygiene practices (0-5)€	3.61±0.05	4 (2-4)	3.25±0.71	3 (2-4)	0.0001*

€Independent t test, ⁿWilcoxon rank- sum test *significant at p<0.05.

Table 4: Correlation of knowledge, health beliefs and preventive practices among cases and controls.

Cases (n_1=100)		
Variables (Mean ± SD)	**Knowledge** (6.33±2.95)	**Health beliefs** (67.73±6.60)
Health beliefs (67.73±6.60)	r=0.0341 p=0.74	1.000
Preventive practices (5.69±0.825)	r= 0.1752 p=0.08	r=0.1197 p=0.24
Controls (n_2=100)		
Variables (Mean ± SD)	**Knowledge** (5.26±2.646)	**Health beliefs** (65.54±6.45)
Health beliefs (65.54±6.45)	r=0.5135 p=0.0001*	1.000
Preventive practices (4.24±1.09)	r= 0.1948 p=0.05	r=0.1992 p=0.0469*

r= Pearson correlation coefficient *significant at p<0.05.

Correlation among knowledge, health beliefs and preventive with selected demographic variables

In controls there was a positive correlation of knowledge with health beliefs (p=0.0001) and health beliefs with preventive practices (p=0.0469) but in cases none of these correlations were found (Table 4).

When the correlations were analyzed domain wise it was found that in cases knowledge had a positive correlation with health care practices (p=0.03). In controls knowledge had a positive correlation with health care practices (p=0.001) and hygiene practices (p=0.02). Thus, the subjects who had higher knowledge had better health care and hygiene practices (p<0.05). This suggests that for better preventive practices knowledge improvement is important.

In controls a positive correlation of knowledge was found with perceived benefits (p=0.0001), perceived barriers (p=0.006), perceived susceptibility (p=0.002) and perceived seriousness (p=0.01). In cases none of these correlations were found. Hence, the subjects who had higher knowledge perceived more benefits from preventive strategies, perceived less barriers for screening, perceived themselves more susceptible to cervical cancer and perceived cervical cancer as more serious disease.

A negative correlation of age was detected with knowledge (p=0.02) and preventive practices among cases (p=0.048); and with health beliefs (p=0.005) and preventive practices (p=0.001) among controls. In cases there was a positive correlation between locality and health beliefs (p=0.02) with subjects living in urban locality having positive health beliefs as compared to those living in rural community.

DISCUSSION

In the present study majority of subjects (78% cases and 90% controls) had poor knowledge regarding cervical cancer. Overall mean knowledge score for cases was (6.33±2.95) and for controls was (5.26±2.646) (range 0-22). Findings are congruent to the study by Harsha, Tanya where majority of subjects had poor knowledge about cervical cancer (81.9%); but contrary to the findings of Lee-Lin et al. who reported higher mean knowledge score of subjects (5.41±2.33, range=0–12), which is higher as compared to present study.[7,8] It may be because in the study by Lee-Lin et al., 48% of subjects had a college or graduate degree and 77% of women had regular health care provider while in present study only four cases and 10 controls had a college or graduate degree.

In the present study both cases (4.42±2.16) and controls (4.44±1.91) had fair knowledge regarding causes of cervical cancer (range=0-11) but poor knowledge regarding screening (cases 0.03±0.17, controls 0.10±0.44) (range=0-3). Similar findings are shown by Harsha, Tanya where majority of subjects had poor knowledge about cervical cancer screening (85.5%).[7] Findings are contrary to the study done by Aswathy et al where 89.2% women did not know even a single risk factor but 74.2% women were aware of screening tests.[9]

In present study perceived barriers to screening were: absence of symptoms (47% cases and 33% controls), fear of being mislabeled as sexually active (33% cases and 30% controls), perception that Pap test is embarrassing (39% cases and 29% controls), seeking permission from partner is necessary (41% cases and 21% controls), Pap test is painful (7% cases and 2% controls). Findings are in line with the study done by Abotchie, Shokar where perceived barriers to screening were: (40.6%) believed non-consenting partner for screening, (23.2%) perceived high cost as barrier, (24.6%) afraid of being labeled as sexually active after screening, (9.4%) perceived pap test painful.[10]

In present study only 19% cases and 7% controls were in agreement regarding importance of Pap test in depicting health status of a woman. Findings are not comparable to the findings of Abotchie, Shokar where 87.6% subjects were in agreement regarding importance of Pap test in depicting health status of a woman.[10]

In present study majority of cases (93%) had fair preventive practices regarding cervical cancer but most of controls (62%) had poor preventive practices regarding cervical cancer. Difference in preventive practices may be because patients acquire knowledge regarding cervical cancer and its prevention during course of treatment from health care professionals.

In this study only 24% of cases and 3% of controls had undergone Pap smear test but only one case and control got it done as per guidelines. Findings are in line with study done by Wright et al where only 5.1% subjects underwent Pap test.[11] Similar findings were reported by Basu et al where only 6.2% women had Pap smear test at least once in their lives.[12] On the contrary Lee-Lin et al reported 68% women having a Pap test within the prior three years.[8]

Strengths

It is less researched area in India and informal education was given to subjects for prevention of cervical cancer after data collection.

Limitations

Small sample size and convenient sampling limits the generalizability of the study. This was a single- center study and self-developed questionnaires were used for data collection.

Recommendations

Multi-center studies on assessment of knowledge, health beliefs and preventive practices can be conducted. Similar studies can be conducted with large sample size.

CONCLUSION

In this study though the cases had significantly higher overall knowledge, positive health beliefs and better preventive practices as compared to controls but the knowledge regarding cervical cancer was poor in both groups. Both groups had gaps in knowledge especially regarding symptoms, screening, HPV vaccination and prevention and preventive practices especially sexual and health care practices. Hence the need of the hour is to disseminate information about cervical cancer and to raise public awareness regarding risk factors, symptoms, screening and prevention of cervical cancer so that the disease can be prevented by modifying the risk factors.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee of All India Institute of Medical Sciences, New Delhi

REFERENCES

1. Fact Sheets by Cancer. Available at: http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx. Accessed on 4 November 2017.
2. Adeleke NA, Komolafe JA. Knowledge, attitude and practice of cervical cancer screening among women of reproductive age group in Osogbo, south western Nigeria. Sex Health Matters. 2007;8:70-3.
3. Kaarthigeyan K. Cervical cancer in India and HPV vaccination. Indian J Med Paediatr Oncol Off J Indian Soc Med Paediatr Oncol. 2012;33(1):7–12.
4. Montgomery MP, Dune T, Shetty PK, Shetty AK. Knowledge and Acceptability of Human Papillomavirus Vaccination and Cervical Cancer Screening among Women in Karnataka, India. J Cancer Educ Off J Am Assoc Cancer Educ. 2014;30(1):130-7.
5. Zahedi L, Sizemore E, Malcolm S, Grossniklaus E, Nwosu O. Knowledge, attitudes and practices regarding cervical cancer and screening among Haitian health care workers. Int J Environ Res Public Health. 2014;11(11):11541–52.
6. American Cancer Society Recommendations for Human Papilloma Virus (HPV) Vaccine Use to Prevent Cervical Cancer and Pre-Cancers. Available at: http://www.cancer.org/cancer/cancercauses/othercarcinogens/infectiousagents/hpv/acs-recommendations-for-hpv-vaccine-use Accessed on 3 May 2017.
7. 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):751–6.
8. Lee-Lin F, Pett M, Menon U, Lee S, Nail L, Mooney K, et al. Cervical cancer beliefs and pap test screening practices among Chinese American immigrants. Oncol Nurs Forum. 2007;34(6):1203–9.
9. 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.
10. Abotchie PN, Shokar NK. Cervical cancer screening among college students in ghana: knowledge and health beliefs. Int J Gynecol Cancer Off J Int Gynecol Cancer Soc. 2009;19(3):412–6.
11. Wright KO, Aiyedehin O, Akinyinka MR, Ilozumba O. Cervical cancer: community perception and preventive practices in an urban neighborhood of lagos (Nigeria). ISRN Prev Med. 2014;2014:950534.
12. Basu P, Hassan S, Fileeshia F, Mohamed S, Nahoodha A, Shiuna A, et al. Knowledge, attitude and practices of women in maldives related to the risk factors, prevention and early detection of cervical cancer. Asian Pac J Cancer Prev APJCP. 2014;15(16):6691–5.

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