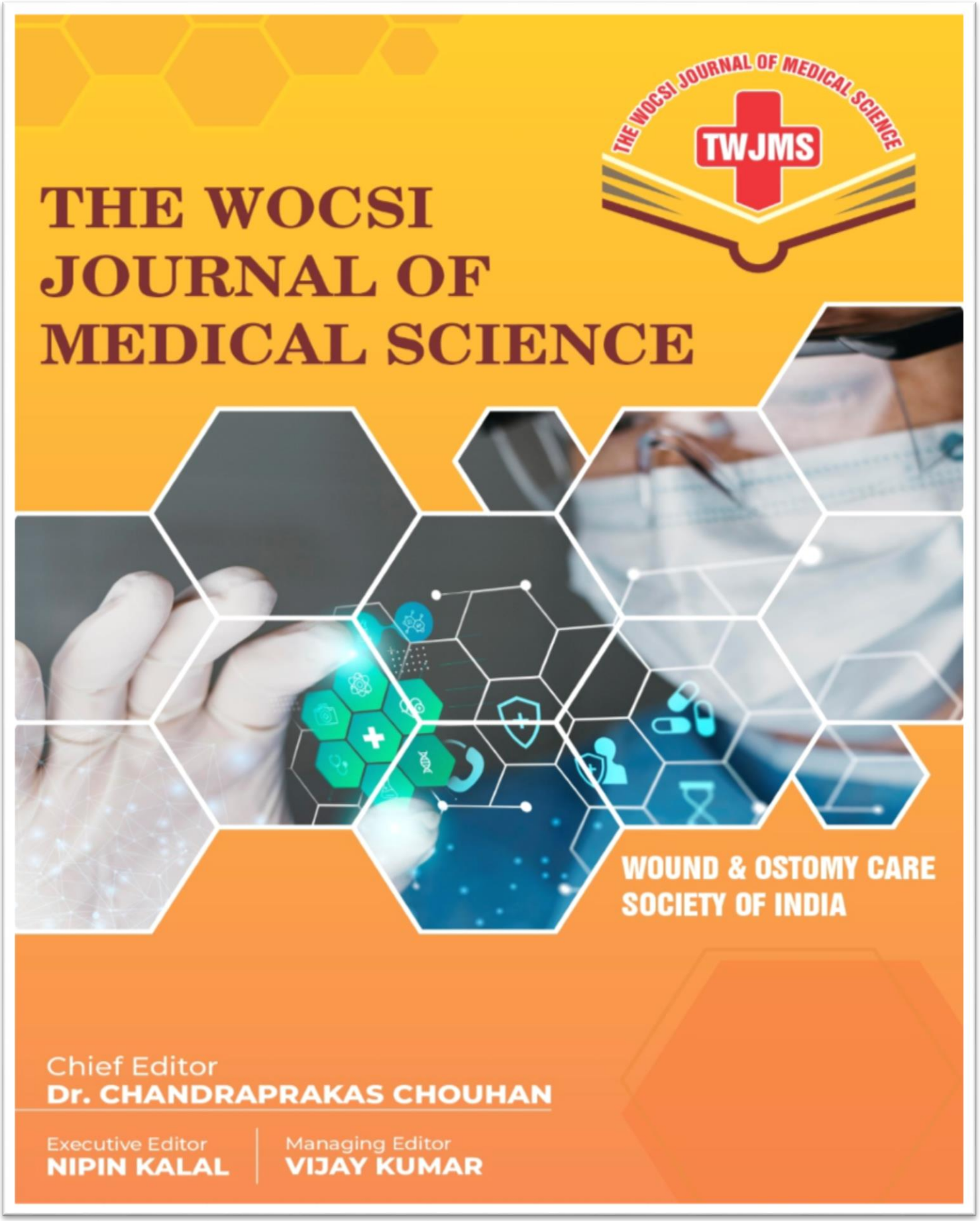
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A Study To Assess Preventive Practices Among Women With Cervical Cancer and General Population At Tertiary Care Hospital, Jodhpur

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Abstract:

Cervical cancer is most prevalent in developing countries and ranks as the third most common type of cancer among women worldwide. Unfortunately, it often presents at a later stage, resulting in high rates of illness and death. The PAP smear, a groundbreaking screening test discovered in 1941, has not been widely accepted. The objective of this study was to assess the level of awareness among rural women regarding the prevention of cervical cancer and to examine the factors that influence this awareness. The global burden of cancer is on the rise, particularly in low- and middle-income countries, leading to poor outcomes in terms of illness and mortality. The lack of knowledge about the risk factors, symptoms, and signs of common cancers, coupled with insufficient community-based cancer prevention programs, poses a significant obstacle to early detection. According to the Indian Council of Medical Research's National Cancer Registry Program, the highest rate of cancer was reported in the North East Region (NER) of India between 2012 and 2014. Aizawl, Mizoram, recorded an age-adjusted rate (AAR) of 271 cancer cases per 100,000 males, while Pampumpare, Arunachal Pradesh, reported 249 cancer cases per 100,000 females. In the Kamrup district of Assam, the AAR incidence was 206 per 100,000 males and 174 per 100,000 females.

Keywords : Cervical Cancer, Oncology Nursing, Preventive Oncology,

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Introduction

Cervical cancer is a significant cause of mortality for women worldwide, ranking as the fourth leading cancer killer among women and seventh overall.[1] However, developed nations have lower incidence and mortality rates due to regular screening practices. [2] Unfortunately, there is a lack of awareness among Indian women regarding cervical cancer, its risk factors, and preventive measures. Even educated women, who possess knowledge about the disease, do not seek screening at healthcare facilities. The main cause of cervical cancer is the human papillomavirus (HPV), which has over 100 types. Types 16 and 18 are considered the highest risk types for cervical cancer and account for approximately 70 percent of cases in India. [3-4] Vaccines like Cervarix and Gardasil protect against these HPV strains, as well as others. It is recommended to administer these vaccines to girls at the age of 11 to 12, or as early as nine. [5-6] The burden of cervical cancer is increasing globally, with a majority of women being diagnosed in advanced stages (III and IV) when the chances of survival are significantly reduced. [7] Many women are unaware of the preventive measures that can help reduce the burden of this disease. Therefore, it is crucial for healthcare professionals to focus on preventive strategies. To do so, it is necessary to assess the knowledge and practices of existing cervical cancer patients.

Materials and Methods

This study was a comparative, cross-sectional survey conducted at a tertiary care hospital in jodhpur from August 2014 to December 2014. The participants included women with cervical cancer (Cases) who were enrolled from the cancer department, and the general population (Controls) who were women without any cancer and were caregivers of patients with non-malignant diseases in different wards of the tertiary care hospital. The initial estimated sample size was 81 cases and 81 controls, but conveniently, 100 cases and 100 controls were enrolled. The inclusion criteria for cases were women aged 18-65 years, diagnosed with cervical cancer based on the diagnostic criteria (cervical biopsy), and attending the outpatient cancer department. The inclusion criteria for controls were women without any cancer, aged 18-65 years, and without 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. The demographic profile included 22 items such as age, marital status, and locality, while the socio-economic status was assessed using Kuppuswamy's socioeconomic status scale. The clinical profile of cases included ten items related to the disease of the subjects. The knowledge questionnaire consisted of 22 items that covered information about the causes, risk factors, symptoms, prevention, and treatment of cervical cancer. The questionnaire included multiple-choice questions and true/false/don't know responses, with correct answers scored as one and incorrect or don't know responses scored as zero. The health beliefs questionnaire was a five-point Likert scale consisting of 19 items (nine positively worded and ten negatively worded) that assessed the health beliefs of women regarding

cervical cancer. The health beliefs were assessed under four domains: perceived susceptibility, perceived seriousness, perceived benefits, and perceived barriers. The scoring ranged from one for strongly disagree to zero for strongly agree.

Results

Mean age of cases was 49.19±8.92 years and of controls was 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). The groups were not comparable in terms of age at marriage (*P*=0.0006).

Clinical Profile 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).Only two cases had family history of cervical cancer and this was the mother. Almost half of cases (48%) underwent biopsy, CT scan and blood tests. Most common presenting symptom was vaginal discharge (46%).

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 (Fig1).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. (Table1)

Most participants; 83% cases and 67% had positive health beliefs regarding cervical cancer. (Fig 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. Most of cases 60% and 48% of controls either agreed or were neutral regarding screening was of no use if a person didn't have any symptom of cervical cancer. 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%) andcontrols (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.

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)

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 checkupwhile 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 were 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.

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 KS, Tanya S (2014)([**Error! Bookmark not defined.**])where majority of subjects had poor knowledge about cervical cancer (81.9%); but contrary to the findings of Lee-Lin et al. (2007)[8]who reported higher mean knowledge score of subjects (5.41±2.33, range = 0–12), which is higher as compared to present study. It may be because in the study by Lee-Lin et al. (2007)[8], 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 KS, Tanya S (2014) where majority of subjects had poor knowledge about cervical cancer screening (85.5%). Findings are contrary to the study done by Aswathy S et al (2012)[9]where 89.2% women did not know even a single risk factor but 74.2% women were aware of screening tests.

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 PN, Shokar NK. (2009)[10]whereperceived 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.

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 PN, Shokar NK. (2009)[10] where 87.6% subjects were in agreement regarding importance of Pap test in depicting health status of a woman.

Regarding perceived susceptibility to cervical cancer only 27% cases and 13% controls believed that cervical cancer can happen to a woman aged more than 50 years only and 75% cases and 80%

controls perceived every woman being at risk of getting cervical cancer. Findings are in line with the study done by Abotchie PN, Shokar NK. (2009)[10] where only 2.2% subjects perceived that cervical cancer can happen to a woman of over 50 years age only and 73% women perceived themselves at risk of getting cervical cancer.

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 thisstudy 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 K O Wright et al (2014)[11]where only 5.1% subjects underwent Pap test. Similar findings were reported by Basu P et al (2013)[12] where only 6.2% women had Pap smear test at least once in their lives. On the contrary Lee-Lin et al (2007)[8]reported 68% women having a Pap test within the prior three years.

In our study negative correlation was found between age and preventive practices among all subjects (n=200, *P*=0.0007) as well as among cases (*P*=0.048) and controls (*P*=0.001). Similar findings were reported by Lee-Lin et al (2007)[8] who found a significant negative correlation of age with Pap test done in previous three years (*P*=0.001)

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 studyandself-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.

FIGURES AND TABLES

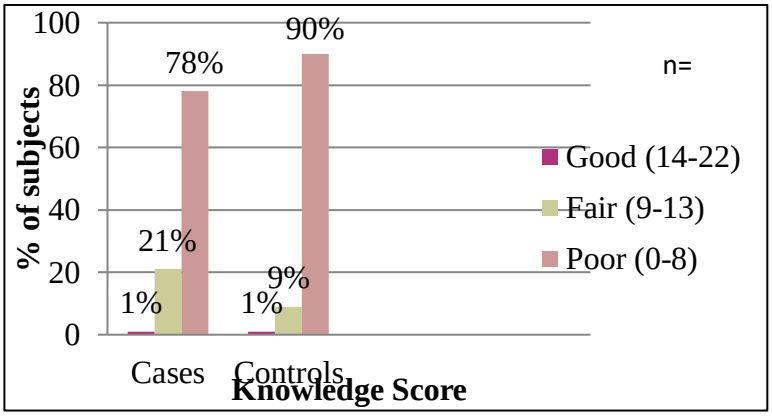

Fig 1. Knowledge in cases and controls regarding cervical cancer

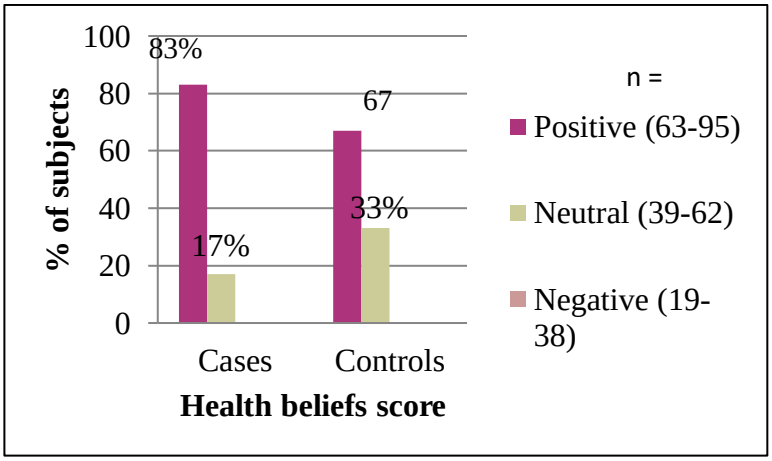

Fig2. Health Beliefs in cases and controls regarding cervical cancer

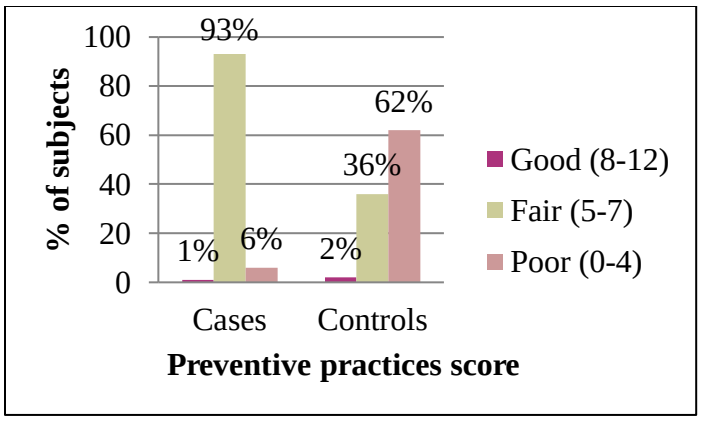

Fig3. Preventive practices in cases and controls regarding cervical cancer

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.

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*
	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 $P<0.05$

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

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