

RESEARCH ARTICLE

Perception and Practices on Screening and Vaccination for Carcinoma Cervix among Female Healthcare Professional in Tertiary Care Hospitals in Bangalore, India

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Abstract

Background: Cervical cancer is potentially the most preventable and treatable cancer. Despite the known efficacy of cervical screening, a significant number of women do not avail themselves of the procedure due to lack of awareness. **Objectives:** This study was conducted to elicit information on the knowledge, attitude and practice (KAP) regarding screening (Pap test) and vaccination for carcinoma cervix among female doctors and nurses in a tertiary care hospital in Bangalore and to assess barriers to acceptance of the Pap test. **Materials and Methods:** A cross-sectional, descriptive study was conducted with semi-structured, self-administered questionnaire among female health professionals. The study subjects were interviewed for KAP regarding risk factors for cancer cervix, Pap test and HPV vaccination for protection against carcinoma cervix. **Results:** Higher proportion of doctors 45 (78.9%) had very good knowledge as compared to only 13 (13.3%) of the nurses, about risk factors for cancer cervix and Pap test ($p=0.001$). As many as 138 (89.6%) of the study subjects had favorable attitude towards Pap test and vaccination, but 114 (73.6%) of the study subjects never had a Pap test and the most common reason 35 (31%) for not practicing was absence of disease symptoms. **Conclusions:** In spite of good knowledge and attitudes towards cancer cervix and Pap test being good, practice remained low among the study subjects and most common reasons for not undergoing Pap test was absence of disease symptoms. The independent predictors of ever having a Pap test done was found to be the occupation and duration of married life above 9yrs. Hence there is a strong need to improve uptake of Pap test by health professionals by demystifying the barriers.

Keywords: Knowledge - attitude - practice - carcinoma cervix - Pap test - India

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Introduction

Cervical cancer is potentially the most preventable and treatable cancer but it is the leading cause of cancer morbidity and mortality in women around the world, it is third most common cancer among women globally and ranking first in many developing countries (ACS 2011). Worldwide cancer cervix affects about 16/100,000 women per year and kills about 9/100,000 per year globally. Developing countries account for 85% of the estimated 530,000 new cases and 275,000 deaths, where as in affluent countries, cancer cervix does not find place even in top five cancers in women (Ferlay et al., 2011). The incidence and mortality in the developed countries are about half of those for the rest of the world which is due in part to success of screening with test (Adeleke, 2007). Most women with cervical cancer in developing countries present in advanced stage of the disease, resulting in low cure rates (Park, 2013). Several factors contribute to high burden of disease and advanced stage at presentation

including poor knowledge about the disease, furthermore in most of the developing countries the mass screening programme for early detection of cancer cervix is practically nonexistent.

Methods of prevention, early detection and treatment are well established that include vaccination against HPV as primary prevention. Pap test for early identification and treatment of precancerous/cancerous lesion of uterine cervix include secondary prevention. Early identification and treatment of precancerous/cancerous lesion of uterine cervix lead to better prognosis and survival. In spite all this cancer cervix burden is high in low income countries as the health infrastructure is limited. At the same time it is essential that our health care professionals are aware of these advances and especially of those interventions which can be utilized in low-resource settings. No such studies have been attempted in Southern part of India focusing on attitudes and practice of Pap test amongst female doctors and nurses. Very few studies have been done in the developing countries to assess the knowledge, attitude

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and practice of Pap test and HPV vaccination among the health care providers (doctors and nurses), (Gharoro 2006; Mutyaba et al., 2006; Ertem, 2009; Thanappapasr 2010; Tran 2011; Ursa and Darj 2011; Addah, 2012; Shekhar 2013). This set of health care providers play a vital role in imparting awareness to patients in the prevention and control of uterine cervix.

Hence this study was done with the objective to elicit information on the knowledge, attitude and practice regarding screening (Pap test) and vaccination for carcinoma cervix among female doctors and nurses in a tertiary care hospital in Bangalore and also to assess the barriers in the acceptance of Pap test.

Materials and Methods

The present cross sectional study was conducted from 2 Sept to 30 Oct 2011 in a tertiary care hospital and medical college and the study population included female Doctors and Nurses above the age of 30 years. A pre tested, pre designed semi-structured self-administered questionnaire was used as the tool for data collection. The questionnaire included information on, socio-demographic characteristic (age, marital status, occupation and work experience) knowledge about cervical cancer, Pap test and vaccination (risk factors, eligibility for screening and vaccination), attitude of the respondents was determined through questions regarding opinions on issues such as willingness to get Pap test, HPV vaccination, patient education on risk factors for cancer cervix, and self-practice of Pap test and vaccination for carcinoma cervix and barriers in the acceptance of Pap test. Questions regarding knowledge about carcinoma cervix, Pap test and vaccination were answered as 'true', 'false' or 'don't know'. Total knowledge scores for each of the participants was calculated by adding 1 point for each correct answer and 0 for wrong answer. Based on the total scores the knowledge was graded into four groups, poor (<25%), average (26- 50%), good (51-75%), very good (76-100%).

List of all the female doctors and nurses employed in the institution during the period of study and the necessary permission to conduct the study was obtained from the concerned authority. Informed consent was taken from the study subjects after explaining the need for the study. All the 191 staff members above the age of 30 years were included in the study. Pre-tested and semi-structured questionnaire was provided to the participants for self-administration. Average time taken by the participants to fill the questionnaire was around 15-20 min. It was emphasized that privacy and confidentiality would be strictly maintained; hence no personal identifiers were included in the questionnaire.

Sample size for the study

A study carried out by Mutyaba et al 2006 revealed the proportion of nurses having had Pap test as a screening procedure was 47% the findings from the above article has been utilized for estimating the sample size for the study with a relative precision of 17% and 95% confidence interval the number required was estimated to be 150. However making an allowance response rate of 80% it was

proposed to include all the 191 employees into the study.

Statistical analysis

The data obtained was entered in an excel sheet and analyzed using Statistical Package for Social Sciences, version 18.0. Descriptive statistics such as frequency, mean, standard deviation was employed to summarize quantitative data such as age, duration of married life and years of experience. Student t test was applied to test for differences in the mean values for the above mentioned parameters. Chi square test/Fisher test was employed to compare the proportion between different groups. First bivariate analysis was performed to examine the relationships between the various factors that influence health professionals for ever/never undergoing Pap test, which was followed by multiple logistic regressions to adjust for all the confounding factors simultaneously to examine the associations of these factors with the practice of Pap test. The statistical significance level was fixed at $p=0.05$.

Results

Total number of study subjects above 30yrs of age who were eligible for the study was 191 of which 155 study subjects participated in the study; the response rate was 81%. Among the 155 participants 57 (36.7%) were doctors and 98 (63.3%) were nurses. Among the doctors 19 (25%) and 17 (15%) of nurses were non responders. The mean age among the doctors was 41yrs as compared to 36.6 yrs among nurses, mean duration of married life among doctors was 13.26 years. (S.D+10.0) and for nurses was 10.18 years (SD+7.0) and mean work experience of 13.9 years (SD+9.0) among doctors and 12.85 years (SD+5.37) among nurses. Mean age of subjects between the two occupations was found to be

Table 1. Distribution of Study Subject According to Grading of Knowledge and by Their Occupation

Grading of knowledge (% of correct response)	Occupation		Total n (%)
	Doctors n (%)	Nurses n (%)	
Poor knowledge (<25%)	0 (0)	3 (3.1)	3 (1.9)
Average knowledge (26-50%)	0 (0)	13 (13.3)	13 (8.4)
Good knowledge (51-75%)	12 (21.1)	69 (70.4)	81 (52.3)
Very good knowledge (76-100%)	45 (78.9)	13 (13.3)	58 (37.4)
Total	57 (100)	98 (100)	155 (100)

Table 2. Practice of the study subjects with respect to Pap test

Pap test	Occupation		Total n(%)
	Doctors n (%)	Nurses n (%)	
Ever done	30 (52.6)	11 (11.2)	41 (26.4)
Never done	27 (47.4)	87 (88.8)	114 (73.6)
Total	57 (100)	98 (100)	155 (100)

$\chi^2 = 34.9$, $df = 1$ $p = 0.001$

Table 3. Multiple logistic regression analysis showing independent predictors for not undergoing Pap test

Variables	Levels	Never had Pap Test (n)	Univariate odds Ratio	P Value	Multiple logistic Odds ratio	P value	95% CI
Occupation	Nurses	87	8.7	0.001	8.66	0.001	3.5-20.9
	Doctors	27	1				
Married	<9yrs	82	6.1	0.001	6.08	0.001	2.5-14.6
	>9yrs	32	1				

statistically significant ($p=0.001$), while the other two parameters i.e mean duration of married life ($p=0.10$) and work experience ($P= 0.60$) were found to be statistically not significant.

Among the study group 81 (52.3%) had good knowledge followed by 58 (37.4%) had very good knowledge about risk factors for cancer cervix, Pap test and vaccination for carcinoma cervix. Among doctors 45 (78.9%) had very good knowledge while 69 (70.4%) of nurses had good knowledge ($p=0.004$) (Table 1).

Findings of the study revealed 138 (89.6%) of the study subjects had favorable attitude towards Pap test and vaccination against carcinoma cervix. (Data not shown). The differences in the attitudes of two occupational groups was found to be statistically not significant ($p=0.62$).

It was observed that 114 (73.6%) of the study subjects had never had a Pap test and only 41 (26.4%) had ever had Pap test in their life time. Higher proportion of doctors 30 (52.6%) had ever got done their Pap test compared to 11 (11.2%) of the nurses the differences was found to be statistically significant ($p=0.001$) (Table 2). Most common reason for not practicing Pap test was absence of any gynecological symptoms 35(31%) second common reason was the subjects felt they were not at risk 33(29%). As revealed by the study none of the study subjects ever had received vaccination for carcinoma cervix.

Univariate logistic regression analysis revealed that Age, occupation, work experience, duration of married life and knowledge about cancer cervix were found to be associated with practice of Pap test. The multiple logistic regression analysis confirmed the association with only occupation and duration of married life with the practice of Pap test with the same values of Odds ratio. This shows that the two factors are independently associated.

The independent predictors for never having a Pap test done in their life time were occupation (OR= 8.66, CI 3.5-20.9) and duration of married life less than or equal to 9 years (OR= 6.1, CI 2.5-14.6) (Table 3).

Discussion

Study was conducted with an objective to find out practice of Pap test among the health care professionals themselves, a majority of participants knowledge about cervical cancer was good and they considered its prevention and control to be important. The present study has identified a number of critical gaps with regard to health care practitioner awareness of cervical cancer and practice of Pap smear. A study carried out by Urasa et al (2011), reported that <50% of the nurses had adequate knowledge regarding cervical cancer; majority did not know screening intervals and a few were aware of HPV vaccine. Most nurses (84.6%) had never undergone Pap

test, (Urasa, 2011) which is similar to our findings and can be explained by the fact that the aetiology, clinical symptoms, pathology, treatment and early detection methods of cervical cancer is part the curriculum for the medical professionals and is mandated for them to possess adequate knowledge about cervical cancer.

However study by Ertem 2009 has reported a lower proportion (53.6%) of the nurses had not undergone Pap test. The reasons for not undergoing Pap test were virginity (67.3%), forgetting (21.2%) and feeling embarrassed (11.5%). A study by Tran et al revealed that 98% of health care practitioners were aware of Cancer cervix and Pap test and only 13% of them had ever had a Pap test (Tran, 2011). Another study reported that, 85.3% of female health care professional had a good knowledge of cervical cancer and Pap test and only 12.0 to 58.3% had some knowledge of HPV and <50% of them had knowledge of HPV vaccination, 60.7% of them had good attitudes towards vaccination (Thanappapasr, 2010). A study (Coskun, 2013) reported majority of the participants to have knowledge of cervical cancer and Pap test, more than half of these people did not undergo Pap test.

One of the possible reasons why only 26% of the study subjects had ever had a cervical cytology smear could be that they were aware of the risk factors and symptoms for cervical cancer but it was their perceived notion that they do not possess any such risk factors or symptoms. This low level of acceptance for undergoing of cervical cytology testing is consistent with findings in other low-income countries, where less than 20% of female health workers reported ever having undergone such test.(Mutyaba et al., 2006; Gharoro, 2006; Addah 2012). In this study, the absence of symptoms was the most common reason reported by the respondents for not undergoing screening test, which illustrates how cervical screening is conceptualized and understood health care professionals.

A study by Addahet al. reported that 92.2% respondents had knowledge of Pap test as a screening tool for cervical cancer, 72.2% respondents recognized early sexual debut as a risk factor and 70% of them were willing to have Pap test. Only 17 (12.8%) had performed a Pap test previously (Addah et al., 2012), similar findings were also reported by (Oranratanaphan, 2010; Thippeveranna, 2014).

A study by Shekhar et al 2013, reported that 26.7% of the respondents were judged as having adequate knowledge based on scores allotted for questions evaluating knowledge about cervical cancer and screening and only 7% of the staff nurses had themselves been screened by Pap test (Shekhar et al., 2013).

The study has several strengths the study instrument was validated for content and face validity by the subject experts; it was modified based on the results of the

pilot study. The response rate was more than 80% it is unlikely that the findings have any selection bias. The first author herself has met all the study participants and requested them to provide the appropriate information. Since information related to personal identifiers were not elicited the findings of the study may not be influenced by information bias. Lack of particulars of the characteristics of the non responders, hindered us to make any comparisons between responders and non-responders.

Health care practitioners need to be sensitized first for undergoing cervical cancer screening because of their essential role in the implementation of any future screening programs and in their educative role with patients. The government of India has recently initiated the national program for control and prevention of non-communicable diseases that includes cancers amenable for primary and secondary prevention measures (NPCDCS, 2010). A program is envisaged for early diagnosis of cancer of cervix at the doorsteps of the rural population in the selected districts and likely to be expanded to the entire nation hence it is necessary that the health care professionals should have adequate knowledge and also motivate the public to undergo Pap test.

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