

Cervical cytology screening: Knowledge Attitudes and Behaviour of Public Health Midwives in an urban district in Sri Lanka

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Abstract

Objective: To assess the knowledge, attitudes and behaviour of PHMM on cervical cytology screening.

Method: It is a descriptive cross-sectional study. PHMM attached to the all the MOH Divisions in Galle district were interviewed using a self-administered questionnaire on knowledge on cervical carcinoma screening, their attitudes and screening behaviour.

Results: Out of a total of 314 PHMM attached to MOH divisions in Galle only 274 participated in the study. 90% had an above average knowledge on cervical cytology screening and 94% identified cervical cytology as a screening method for cervical carcinoma. Awareness on Human Papilloma Virus DNA (HPV DNA) testing was low (26%). Correct identification of the target group, recommended interval of screening and benefits of screening by the PHMM were 90%, 98% and 83% respectively, and 94% had a favourable attitude on their role and capacity in cervical cytology screening. PHMM who are over 35-year age group 36 % had not undergone cervical cytology screening. There was a significant increase of overall knowledge with higher levels of education ($r^2= 0.025$, $p=0.004$).

Conclusion: A vast majority of the PHMM had an above average overall knowledge and positive attitude towards cervical cytology screening and identified it as a screening method. Their awareness regarding HPV DNA as a screening tool for cervical carcinoma was not satisfactory. More than one third of PHMM had not undergone cervical cytology screening themselves.

Key words: Cervical carcinoma screening, cervical cytology, Public Health Midwife, Knowledge, Attitudes, Behaviour

INTRODUCTION

Cervical cancer is the fourth commonest cancer among females in the world and is the second commonest among females in Sri Lanka. 12% of the newly diagnosed cancers are cervical carcinoma and the age standardized incidence rate is around 10/100,000 population¹. According to the current estimates, every year 1721 females are diagnosed as having cervical

carcinoma and 690 females die of the disease in Sri Lanka².

The main aim of screening for cervical carcinoma is to reduce the incidence of cervical carcinoma by detecting and treating pre-cancerous lesions. A secondary aim is to detect the invasive carcinomas at an early stage, which might improve the prognosis.

Schiller introduced the first method of cervical cancer screening in 1930s. He visually inspected the cervix after application of Lugol's iodine and it was described as the Schiller's test³.

The present day practice is to combine cervical cytology with HPV DNA testing in the screening of cervical carcinoma and it generates good results compared to cervical cytology alone. Visual inspection

of the cervix has re-emerged as a screening tool for low resource settings, despite its limited specificity, it is economical and provides immediate results^{4, 5}. Visual inspection can be done with the application of acetic acid or Lugol's iodine and it is referred to as Visual Inspection with Acetic Acid (VIA) or Visual Inspection with Lugol's Iodine (VILI).

The National Health Service Cervical Screening Program (NHSCSP) of United Kingdom (UK) is widely recognized as one of the successful cancer prevention programs in the world⁶. The 20–65 year age group is screened at 3–5 yearly intervals. Nearly four million females are screened per year and from 2001 to 2002, the screening coverage is reported as 71% for 3-yearly screening and 82% for 5-yearly screening⁷.

In Sri Lanka cervical cytology screening is the established method for screening of cervical carcinoma, and is mainly carried out through the well woman clinics (WWC) based at Medical Officer of Health (MOH) clinics.

Females of 35-year age cohort are the special target population for cervical cancer screening at these clinics and women with negative test results are re-screened at 5-year intervals. The 35-year age cohort coverage with Pap smear testing is 25.5, 28.9 and 33.9 percent for the years 2011, 2012 and 2013 respectively⁸.

PHMM (Public Health Midwives) play a major role at the grass root level of the primary health care system in Sri Lanka. Traditionally these health workers focused only on midwifery, but now they have evolved into a professional cadre, playing a role in preventive health covering many aspects other than midwifery. Their services are immensely valued in rural settings where health resources are scarce⁹. Therefore their knowledge, attitudes and behavior on cervical cytology screening was assessed in order to improve their

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services as well as to make improvements in health policies.

MATERIALS AND METHODS

A descriptive cross-sectional study was carried out in 274 PHMM, attached to the MOH offices in Galle district. A total of 40 PHMM those who did not give consent for the study and those who were on leave on the date of data collection were excluded from the study.

PHMM were approached at the monthly conferences of each MOH office and were invited to participate in the study. The objectives of the study were explained and informed written consent was obtained. Data were collected using a pre-tested self-administered questionnaire. The content of the questionnaire was based on the recommendations of the family health bureau of Sri Lanka. The knowledge on screening methods for cervical cancer and knowledge on various aspects of cervical cytology screening (target group, interval of screening and benefits of screening) were assessed. The question assessing knowledge on screening methods was given a score of 40 and the questions assessing target group, interval of screening and benefits of screening were assigned a score of 20 per each question (total score=100). PHMM were categorized into above average, average and below average levels of overall knowledge if their score is >60, between 40 and 60 and <40 respectively.

Results were assessed for significant associations between overall knowledge and age category of the participant, educational level, total years of service, years of service in the field and additional training.

Responses to each attitudinal statement were assigned a score from 1 to 5 with those with favourable attitudes being assigned a higher score. Considering the scores for all attitudinal statements the PHMM were categorized into having 'favourable' (score 10 and above) and 'unfavourable' (score less than 10) attitudes towards cervical cytology screening program.

Ethical clearance was obtained from the Ethics Review Committee of the Faculty of Medicine, University of Ruhuna, Sri Lanka.

Data analysis done with calculating proportions, interquartile ranges and

mean.t-test was used to test quantitative data with normal distribution. Chi-squared tests were used to determine whether there is a significant difference between the expected frequencies and the observed frequencies.

RESULTS

Three hundred and fourteen PHMM were approached and only 274 of them participated the study. Hence the response rate was 87%.

years of service of more than 10 years as well as field service of >10 years. Only 36 (31.4%) had additional training on cervical cytology screening other than their basic training as a PHM.

Majority (90.2%, n=247) had above average overall knowledge, while 8.0 had average and only 1.8% had poor knowledge on screening methods for cervical carcinoma. There was a significant increase of overall knowledge with higher

Table 01 – Socio-demographic data (n=274)

Variable		Number	Percentage
Age	< 35 years	74	27.0
	≥ 35 years	200	73.0
Ethnicity	Sinhala	273	99.6
	Muslim	1	0.4
Religion	Buddhist	272	99.3
	Catholic	1	0.4
	Islam	1	0.4
Highest educational level	Passed GCE O/L	35	12.8
	Passed GCE A/L	211	77.0
	Holds a diploma/degree	28	10.2

Majority of the PHMM (73.0%, n=200) were above 35 years old and 211 of them (77.0%) have passed GCE A/L and 28 of them (10.2%) hold a diploma or a degree. Majority (99.3%, n=272) were Buddhists and Sinhalese (99.6%, n=273).

The mean years of service as a PHM was 17.2 years and mean years of service in the field of 15.7. The service in the field of the PHMM ranges from 1-34 years. Majority of the participants had total

levels of education ($r^2 = 0.025$, $p=0.004$).

Almost two thirds of PHMM strongly agreed on their key role and were satisfied on their knowledge regarding cervical cytology screening. Approximately one third of PHMM did not agree that there is a positive trend in the community for cervical cytology screening. Majority (n=238, 87%) had overall favourable attitudes towards cervical cytology screening.

Table 02 - Knowledge on screening methods for cervical carcinoma and on cervical cytology screening

Knowledge category	Number (%)
Knowledge about HPV DNA as a screening method	71 (25.9%)
Knowledge about VIA as a screening method	35 (12.8%)
Knowledge about cervical cytology as a screening method	257 (93.8%)
Knowledge about all three above screening methods	3 (1.1%)
Knowledge about the target group	247 (90.1%)
Knowledge about the interval of screening	268 (97.8%)
Knowledge about benefits	218 (82.9%)

Table 03 - Attitudes of PHMM regarding cervical cytology screening.

Statement	Attitude				
	Strongly agree	Agree	No idea	Disagree	Strongly disagree
PHM plays a key role in identifying and referring of the target group	168 (61.3%)	102 (37.2%)	01 (0.4%)	02 (0.7%)	01 (0.4%)
PHM possess sufficient knowledge in educating community on cervical cytology screening	183 (67.3%)	04 (1.5%)	34 (12.5%)	04 (1.5%)	47 (17.3%)
There is a positive trend in the community for cervical cytology screening	12 (4.4%)	156 (57.4%)	10 (3.7%)	89 (32.7%)	5 (1.8%)

More than 60 % of the PHMM who are 35 years or above, they themselves have not undergone cervical cytology screening, mainly due to lack of interest, not feeling at risk and carelessness. Almost all of those who have undergone the procedure were satisfied with it (98.5%, n=130).

Table 04 - Screening behaviour of the PHMM on cervical cytology screening

Undergone cervical cytology screening	Number (%)
Age < 35 years	7 (9.6%)
Age ≥35 years	128 (64.3%)

DISCUSSION

Knowledge of the medical workers about cervical cytology as a screening method for cervical cancer varies in different studies. Study done in West Africa reported about 55.7%¹⁰ and a previous study carried out in six districts of Sri Lanka reported 76.3%¹¹. We have reported much higher value.

There is a significant increase in knowledge with the educational level of the PHMM. Awareness regarding HPV typing as a cervical screening tool is generally poor among the PHMM. There is overall positive attitude towards cervical cytology screening among the PHMM. A significant number of PHMM had not undergone cervical cytology screening themselves.

As the cervical cytology is the established method of screening for nearly thirty years and PHMM being the key persons involved in recruiting individuals for cervical cytology screening they are expected to possess 100% knowledge in this aspect.

Knowledge on other tests used in cervical cancer screening i.e. testing for HPV DNA and VIA is low but it is expected to have much more knowledge on HPV DNA as an emerging method in screening for cervical cancer.

In comparison to a study done in Uganda among medical workers where less than 40% knew about the eligibility for Pap smear and screening interval¹², our study population, the knowledge on interval of screening was closer to 100% but the knowledge on target group and benefits of screening is not very satisfactory.

Few had the misbelief that cervical cytology screening itself cures cervical cancers, which result in a false reassurance for those who undergo the procedure.

There was a positive attitude on their part in recruiting individuals for cervical cancer screening.

Incidence of cervical cancer screening among health workers varies, study done in West Africa¹⁰ reported 18.4% and in Uganda, 19%¹². In a study done in Sri Lanka in 2012 revealed that, 73.4% of healthcare workers have never had a Pap smear¹¹. In our study only one third of the health workers who are more than 35 years age group (35.7%) has not undergone cervical cytology screening. Lack of interest, not feeling at risk, carelessness and being unmarried are some of the reasons.

Almost all of those who had undergone cervical cytology screening were satisfied with the procedure, which may indicate the high quality of care and the standards of the procedure.

There was no significant associations between overall knowledge and the age,

total years of service, years of field service or the additional training they had. There was a significant increase in knowledge with higher levels of education of the participant.

CONCLUSION AND RECOMMENDATIONS

A vast majority of the PHMM had an above average overall knowledge on cervical cytology screening and identified it as a screening method. Their awareness of HPV DNA testing as a cervical carcinoma-screening tool was not satisfactory. Therefore, there is a need to update the curricula of PHMM and regular in-service training programs is necessary to update their knowledge.

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