Pap Smear Practices among Female Healthcare Professionals in Indonesia and Their Associated Factors

Richelle Ramli, Angelina

Faculty of Medicine, University of Pelita Harapan, Jendral Sudirman Boulevard, Lippo Karawaci, Tangerang, Indonesia 15811

Citation : Ramli Richelle, Angelina. Pap Smear Practice among Female Healthcare Professionals in Indonesia and Its Associated Factors. Medicinus. 2024 October; 14(1): 18-25.
Keywords : Pap Smear; Cervical Cancer; Healthcare Professional.
Correspondance : Angelina
E-mail : angelina.fk@uph.edu
Online First : October 2024

Abstract

Introduction : Cervical cancer is the fourth most frequent disease in women worldwide. However, pap smear coverage in Indonesia remains below the target. The purpose of this study was to describe pap smear practice among female healthcare professionals and its associated factors.

Methods : This cross-sectional study was conducted from August 2022 to June 2023 among married female healthcare professionals of reproductive age who worked in Kelapa Dua district, Tangerang, Banten, Indonesia. Three general hospitals, two primary clinics, and one community health center were involved in this study. Data was collected using a self-administered questionnaire and analyzed using a chi-square test.

Results : From 236 respondents, only 80 respondents (33.9%) had pap smear tests. The most common reasons for not doing the test were lack of time and having not experienced any of the symptoms. Those who were doing the pap smear tests were likely to be more than 40 years old (OR 29.900; 95% CI 9.595 – 93.172; p<0.001), married for more than 10 years (OR 28.737; 95% CI 9.955 – 82.955; p<0.001), multiparous (OR 6.941; 95% CI 2.706 – 17.805; p<0.001), and have higher economic income (OR 7.333; 95% CI 1.443 – 37.274; p=0.020). Female healthcare professionals other than medical practitioners, nurses, or midwives were less likely to do the pap smear tests (OR 0.370; 95% CI 0.167 – 0.823; p=0.02).

Conclusion: Pap smear practice among female healthcare professionals in Indonesia was inadequate. Age, marriage duration, parity status, types of healthcare professionals, and socioeconomic status were significantly associated with pap smear practice.

Introduction

Cervical cancer is the fourth most frequent disease in women worldwide with an estimated incidence of 604.000 cases and 342.000 deaths in 2020. In Indonesia, cervical cancer reached an estimated number of 36.600 new cases and 21.000 deaths in 2020, thus becoming one of the most common types of cancer in that year.[1] One of the global strategies to prevent the fatality of cervical cancer is early detection. Papanicolaou smear, shortened as pap smear, is an effective screening exam done by collecting samples of cervical cells using a brush or a spatula to identify cellular changes that

may lead to cervical cancer.[2] Based on a study by Najib et al., the sensitivity and specificity of pap smear tests in detecting premalignant cervical lesions were 47.19% and 64.79% respectively, while the sensitivity and specificity of pap smear tests in detecting high-grade lesions of the cervical intraepithelial neoplasia were 55.40% and 96.8% respectively. This reliable screening tool has been used since the 1940s and has been beneficial in detecting precancerous and cancerous cervical cells around the world.[3]

Pap smear tests have contributed to a decline in cervical cancer cases worldwide. The mortality rate of cervical cancer in some developed countries has been decreasing since the implementation of the pap smear national screening program. For instance, cervical cancer mortality rate in the United States of America and South Korea had decreased from 2.8 to 2.3 deaths per 100.000 women,[4] and 2.8 to 2.0 deaths per 100.000 women respectively in the span of 12 to 15 years.[5]

The Indonesian Ministry of Health recommends screening every 3 to 5 years if pap smear test results are normal and primarily targets married women between the ages of 30 and 50 years old.[6] However, pap smear coverage in Indonesia remains low. In 2018, only 7.34% of Indonesian women underwent cervical cancer screening including pap smear tests.[7] It underlines the urgency to implement national effective strategies to increase the uptake of pap smear screening. Female healthcare professionals have important roles in promoting pap smear tests and raising awareness among other women in their communities. They are more well-informed about pap smear tests and have more awareness about the screening. Studies assessing pap smear practice among female healthcare professionals in Indonesia are limited. Thus, the purpose of this study is to describe pap smear uptake among female healthcare professionals in Kelapa Dua District, Tangerang, as well as to investigate the associated factors.

Methods

This was a descriptive-analytical cross-sectional study conducted from August 2022 to June 2023. There were 236 married female healthcare professionals working at Siloam Hospital Lippo Village, Siloam General Hospital Lippo Village, Siloam Clinic Lippo Village, Siloam Hospital Kelapa Dua, Siloam Clinic Kelapa Dua, and Kelapa Dua Community Health Center included in this study. All healthcare facilities were in the district of Kelapa Dua, Tangerang regency, Banten, West Indonesia. Respondents with a history of abnormal pap smear test results or any other malignancies, those who were divorced, widowed, or already had menopause, were excluded from the study. Only those who provided consent

and filled out questionnaires completely were analyzed.

Respondents were given self-administered questionnaires through quota sampling. Questionnaires were distributed to each healthcare facility until the quota number of samples specified for each location was met. The questionnaire was used to obtain information on pap smear practice and socio-demographic data. Pap smear practice information was obtained through a dichotomous question with a “yes” or “no” answer. The socio-demographic data obtained were comprised of age, marriage duration, parity status, type of healthcare professionals, workplace, and socioeconomic status. The profession of respondents was classified into nurses, doctors, midwives, and others. Medical practitioners, specialists, and dentists were inserted into the ‘doctors’ group. Respondents in the ‘others’ group consisted of pharmacists, psychologists, physiotherapists, nutritionists, radiographers, medical laboratory analysts, medical record technicians, and health promotion staff. The workplace in this study refers to where the sample was taken of the respondent at the time or the place where the respondent works, this variable is classified into hospital and clinic/community health center. Socioeconomic status is classified into the lower, middle, and upper class. This classification is based on the 2022 Tangerang Regency minimum wage.

The data was then analyzed using the Statistical Package for Social Sciences (SPSS) version 27. The chi-square test was performed to determine the association between age, duration of marriage, parity status, type of healthcare professionals, workplace, and socioeconomic status with pap smear practice. If the p-value is less than 0.05, the association is considered significant. The odds ratio was also calculated to measure the likelihood of undergoing Pap smear tests from each variable. This study had been approved by the Ethics Committee of Pelita Harapan University and received ethical clearance with approval number 035/K-LKJ/ETIK/I/2023.

Results

Table 1 shows the demographic characteristics of respondents. Most of the respondents were more than 30 years old, married for 5 – 10 years, and multiparous. More than 50% of the respondents were nurses. Other types of healthcare professionals who participated in this study were pharmacists, psychologists, physiotherapists, nutritionists, radiographers, medical laboratory analysts, medical record technicians, and health promotion staff. More than 90% of the respondents worked at hospitals. There were only 80 respondents (33.9%) who had done pap smear tests, while the remaining 156 (66.1%) had never done pap smear tests before.

Table 1. Distribution of demographic characteristics

Variable	N = 236	
	n	Percentage (%)
Age		
20 – 30 years	74	31.4
31 – 40 years	124	52.5
41 – 50 years	38	16.1
Duration of Marriage		
< 5 years	75	31.8
5 – 10 years	103	43.6
> 10 years	58	24.6
Parity		
Nullipara	42	17.8
Primipara	84	35.6
Multipara	110	46.6
Type of Healthcare Professionals		
Nurse	132	55.9
Midwive	18	7.6
Doctor	30	12.7
Others	56	23.7
Workplace		
Hospital	214	90.7
Clinic / Community Health Center	22	9.3
Socioeconomic Status		
Lower Class	13	5.5
Middle Class	181	76.7
Upper Class	42	17.8

The most common reasons for not doing the test were lack of time and having not experienced any of the symptoms. Other reasons were listed in Table 2.

Table 2. Reasons for no pap smear tests

Variable	N = 156	
	n	Percentage (%)
Time constraints	50	32.1
Have not experienced cervical cancer symptoms	37	23.7
No interest to be tested at this time	25	16.0
Feels embarassed / scared to get tested	15	9.6
Have been vaccinated against HPV	7	4.5
Recently married	5	3.2
Pap smear tests are costly	4	2.6
Will get tested in due time	3	1.9
In a long-distance relationship	2	1.3
Lack of pap smear knowledge	1	0.6

Bivariate analysis shown in Table 3 revealed significant associations between pap smear practice and age of respondents, duration of marriage, parity status, types of healthcare professionals, and socioeconomic status. Female healthcare professionals performing pap smear tests were likely to be older, married for a longer duration, multiparous, working in a hospital, and belonging to the upper class. Midwives were more likely to perform pap smear tests compared to other types of healthcare professionals.

Table 3. Bivariate analysis results

Variable	N = 236		Odds Ratio (95% CI)	P Value
	No n (%)	Yes n (%)		
Age				
20 - 30 years	69 (93.2%)	5 (6.8%)		
31 - 40 years	75 (60.5%)	49 (39.5%)	9.016 (3.396 – 23.939)	<0.001
41 - 50 years	12 (31.6%)	26 (68.4%)	29.900 (9.595 – 93.172)	<0.001
Duration of Marriage				
< 5 years	70 (93.3%)	5 (6.7%)		
5 – 10 years	67 (65.0%)	36 (35.0%)	7.522 (2.785 – 20.317)	<0.001
> 10 years	19 (32.8%)	39 (67.2%)	28.737 (9.955 – 82.955)	<0.001
Parity				
Nullipara	36 (85.7%)	6 (14.3%)		
Primipara	69 (82.1%)	15 (17.9%)	1.304 (0.466 – 3.650)	0.800
Multipara	51 (46.4%)	59 (53.6%)	6.941 (2.706 – 17.805)	<0.001
Type of Healthcare Professionals				
Nurse	87 (65.9%)	45 (34.1%)		
Midwive	7 (38.9%)	11 (61.1%)	3.038 (1.102 – 8.372)	0.050
Doctor	15 (50.0%)	15 (50.0%)	1.933 (0.868 – 4.307)	0.156

Others	47 (83.9%)	9 (16.1%)	0.370 (0.167 – 0.823)	0.020
Workplace				
Hospital	140 (65.4%)	74 (34.6%)		
Clinic / Community Health Center	16 (72.2%)	6 (27.3%)	0.709 (0.266 – 1.890)	0.651
Socioeconomic Status				
Lower Class	11 (84.6%)	2 (15.4%)		
Middle Class	127 (70.2%)	54 (29.8%)	2.339 (0.501 – 10.908)	0.009
Upper Class	18 (42.9%)	24 (57.1%)	7.333 (1.443 – 37.274)	0.020

Discussion

The results of the study showed a low prevalence of pap smear uptake among the respondents. Female healthcare professionals are assumed to have a higher level of awareness to receive pap smear tests due to being more knowledgeable and working in an environment which often promotes cervical cancer prevention efforts. Therefore, the low pap smear uptake results obtained from the respondents do not correspond to what is expected.

The reason for the low pap smear uptake can be attributed to one of the elements in the Health Belief Model, which is perceived barriers. The most common barriers obtained for not undergoing pap smear exams were time constraints and having not experienced any of the symptoms. The findings of this study were similar to studies done by Sari et al. and Suantika et al. where both studies also reported time constraints and feeling embarassed as some of the reasons hindering their willingness to receive pap smear tests.[8,9]

This study implied that there were many barriers to someone's willingness to receive pap smear tests, besides a lack of knowledge or facilities. Although healthcare professionals are considered to have higher knoweledge and attitudes regarding pap smear programs than the general population, it appears that pap smear tests are still not a health priority for them. Various reasons obtained from the respondents who did not perform the test indicated a lack of self-awareness regarding the importance of pap smear tests in cervical cancer prevention. The results acquired from this study and previous studies mentioned above concludes a lack of awareness among female healthcare professionals being a common issue.

Age and duration of marriage among the respondents were significantly associated with pap smear practice, these findings were also reported in a study by Sari et al [8]. Respondents who were older and in a longer marriage were also found to be more likely to receive pap smear tests. This is because older people are more likely to engange in beneficial practices, such as getting screened for cervical cancer. This behavior reflects how, as a person ages, their mindset matures, allowing them to make more informed decisions.[9] As for the correlation between duration of marriage and pap

smear practice, the reason is unclear, but it appears that female healthcare professionals who had been married for a longer period had greater awareness to influence their decision to receive a pap smear test.

Multiparous respondents were the most likely to perform pap smear tests. The reason for this finding could be attributed to women with lower parity perceiving themselves as having a low risk for cervical cancer and thus preferring not to get screened. Types of healthcare professionals among the respondents except for midwives and doctors were also significantly associated with pap smear practice. Other types of healthcare professionals (pharmacists, psychologists, physiotherapists, nutritionists, radiographers, medical laboratory analysts, medical record technicians, and health promotion staff) had lower odds than nurses, midwives, and doctors. This is due to other types of healthcare professions being less exposed to cervical cancer and pap smear-related information, causing them to be less aware.

Socioeconomic status among the respondents was found to be significantly associated with pap smear practice, respondents in the middle and upper class were found to be more likely to receive pap smear tests. These findings were in line with a study conducted by Rayhana et al. which shows respondents in the middle-upper class having higher odds than the respondents in the lower class.[10] The results might be attributed to the respondents in the middle and upper classes having more financial freedom, leading to a lower financial burden for pap smear test expenses. However, the workplace was not found to be significantly associated with pap smear practice. Although it was found that respondents working in the hospital were more likely to receive pap smear tests. This suggests that other factors such as age, duration of marriage, parity status, types of healthcare professionals, and socioeconomic status are more likely to influence pap smear practice than workplace.

Conclusion

The results of this study showed a higher number of respondents had not had pap smear tests performed, which was indicative of Indonesia's low pap smear coverage. The two most common reasons obtained from the respondents were time constraints and not having experienced cervical cancer symptoms, hence medical facilities are advised to make pap smear tests more accesible for female health care professionals by providing a designated time to get tested with no cost. Taking pap smear tests could also be made an obligatory requirement for work.

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Angelina