ORIGINAL RESEARCH

The performance of midwives in early detection of cervical cancer using visual inspection test with acetic acid

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ABSTRACT

Objective: This study examined the association between service period, knowledge, and attitudes toward the performance of midwives in the early detection of cervical cancer using the Visual Inspection with Acetic Acid (VIA) method in Banjarmasin, Indonesia.

Materials and Methods: This is a cross-sectional study done in 26 Public Health Centers in Banjarmasin, Indonesia, from March to November 2020 involving 172 respondents. Samples were purposively selected using a non-probability sampling technique. Data collection instruments were questionnaire and Health Service reports. Data analysis was done computerized.

Results: Out of 172 respondents, 67.4% of which had > 10 years of service period, 67.4% had inadequate knowledge and 86% showed a positive attitude about early detection of cervical cancer using the IVA method, and 79.9% had poor performance in conducting early detection of cervical cancer using the IVA method. Results of Chi-square test showed the associations between the service period (P = 0.005), knowledge (P = 0.0001), and attitude (P = 0.005) with the performance of midwives in early detection of cervical cancer using the VIA method.

Conclusion: Service period, knowledge, and attitudes were associated with the performance of midwives in the early detection of cervical cancer using the VIA method in Banjarmasin, Indonesia. Professional training programs should be taken into consideration in improving the performance of midwives in cervical cancer detection.

Keywords: Cervical cancer; early detection; performance of midwives; VIA

ABSTRAK

Tujuan: Penelitian ini menganalisis hubungan antara lama kerja, pengetahuan, dan sikap dengan kinerja bidan dalam deteksi dini kanker serviks menggunakan metode Inspeksi Visual Asam Asetat (IVA) di Banjarmasin, Indonesia.

Bahan dan Metode: Penelitian ini menggunakan pendekatan *cross-sectional* yang dilaksanakan di 26 Puskesmas di Kota Banjarmasin, Indonesia, pada bulan Maret – November 2020 dengan jumlah sampel sebanyak 172 responden. Pengambilan sampel secara purposive sampling menggunakan teknik non-probability sampling. Instrumen penelitian berupa kuesioner dan laporan Dinas Kesehatan. Analisis data dilakukan secara komputerisasi.

Hasil: Hasil penelitian menunjukkan bahwa dari 172 responden didapatkan 67.4% memiliki lama kerja > 10 tahun, 67.4% memiliki pengetahuan kurang dan 86% memiliki sikap positif tentang deteksi dini kanker serviks dengan menggunakan IVA, dan 79.9% memiliki kinerja tidak baik dalam melakukan deteksi dini kanker serviks dengan menggunakan metode IVA. Hasil analisis statistik Chi-square menyatakan ada hubungan antara lama kerja (P = 0.005), pengetahuan (P = 0.0001), dan sikap (P = 0.005) dengan kinerja bidan dalam deteksi dini kanker serviks dengan menggunakan metode IVA.

Simpulan: Terdapat hubungan antara lama kerja, pengetahuan dan sikap dengan kinerja bidan dalam deteksi dini kanker serviks menggunakan metode IVA di Kota Banjarmasin, Indonesia. Pelatihan merupakan salah satu langkah yang menjadi pertimbangan dalam meningkatkan kinerja bidan dalam deteksi kanker serviks.

Kata kunci: Kanker serviks; deteksi dini; kinerja bidan; IVA

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INTRODUCTION

Cervical cancer has the highest prevalence and it is the fourth leading cause of death from all cancers, as well as the leading cause of death for women from cancer in 42 countries.[1-3] The Global Burden Cancer (GLOBOCAN) reported that there were approximately 32,469 cervical cancer cases in Indonesia in 2018, cervical cancer prevalence ranked second in Indonesia after breast cancer.[3] The Health Office of South Kalimantan Province reported in 2019 that the number of women experiencing cervical cancer symptoms or pre-cervical cancer reached 461 people or 1.9% of the 33,000 women who had undergone VIA screening. Furthermore, the Maternity report of Ulin Regional Hospital of Banjarmasin, Indonesia, mentioned that 128 women were positively diagnosed with cervical cancer and most of them were in stage II and III.

Cervical cancer generally does not show symptoms at early stage, making it difficult to detect without performing screening or early detection.[4] VIA (Visual Inspection of Acetic Acid) is a cervical cancer screening method that is widely used in Indonesia as an early detection of pre-cervical cancer lesions through visual observation by applying 3-5% acetic acid in the cervix to see any presence of thickened white plaque (acetowhite epithelium). This procedure can be carried out by general practitioner, trained midwife or paramedic.[5]

Unfortunately, as mentioned in Basic Health Research of Indonesia in 2013 the high prevalence of cervical and breast cancer in Indonesia is not yet followed by higher number of healthcare providers (general practitioners and midwives) to conduct the screening.[6] Banjarmasin City currently had a team of trainer consisting of one general practitioner and 21 providers consisting of 10 general practitioners and 11 midwives from 10 Health Centers. There were 26 Public Health Centers in Banjarmasin City that were required to carry out VIA services on daily basis. The number of trained midwife providers was still lacking as it is equal to 5.9% of the total number of midwives (185 people in 2019), whereas midwives were front liners in providing VIA services.

Interviews done in the preliminary study with VIA and BSE coordinators at two Public Health Centers in Banjarmasin, Indonesia, revealed that the implementation of the IVA program at the Public Health Centers was mostly delegated to midwives whose duties were concurrently as providers of maternal, child and family planning health services at the Maternal and Child Health Polyclinic (KIA) with only 1-2 midwives on duty per day. This condition has made the IVA services to WUS (women of childbearing age) less optimal. In addition, they also lacked confidence to carry out VIA examinations independently because they had never attended VIA examination training.

The target for early detection of cervical cancer using the VIA method and breast cancer using the Breast Self-Examination (BSE) method set by the Ministry of Health of the Republic of Indonesia includes women aged 20 years and older, but the priority target of the program from 2015 to 2019 is set for women aged 30-50 who make up to 50% of the total target.[7] As reported by the Health Office of Banjarmasin, Indonesia (2019), the number of women who tested for VIA in five years from 2015 - 2019 only reached 16,295 people (15.5%) which is far below the target of 105,346 people.[8]

The performance of a midwife is defined as the extent to which she carries out the duties and functions, including main duties as well as administrative, development, and others activities at work. Several variables affect the performance of a midwife, including personal variables (training, knowledge, and length of work), organizational variables (leadership and rewards), and psychological variables (attitudes and motivation). Midwives play an important role in providing clear information to the community, particularly to women. Better performance of midwives is associated with better knowledge and attitudes of the community which eventually results in better behavior of the community.[9]

Tran et al. (2011), Kress et al. (2015) and Cham (2018) stated that the problem that hinders cervical cancer screening is the inadequate knowledge of health workers (midwives) in providing services or facilities regarding VIA screening.[10–12] According to Tchounga et al. (2014), midwives who have previously screened for cervical cancer either through pap smears or IVA will recommend routine cervical cancer screening to patients.[13]

The increase in the coverage rate for early detection of cervical cancer is also influenced by the performance of health workers, especially midwives as the front-line service providers of maternal reproductive healthcare for women. The result of this study is expected to provide an insight for the advocacy and government planning, especially in Banjarmasin, in order to improve midwives' competence and capacity in performing early detection of cervical cancer using the VIA method. Based on this description, the study was performed to examine the association between service period, knowledge, and attitudes of midwives with their performance in performing early detection of cervical cancer using the VIA method in Banjarmasin.

MATERIALS AND METHODS

This observational analytic study was performed using a cross-sectional approach. This study took place in 26 Public Health Centers in Banjarmasin, Indonesia, from March to November 2020. The population in this study consisted of all 190 midwives at the health centers from which 172 samples were selected using a non-probability and purposive sampling techniques based on predetermined inclusion criteria; midwives in Public Health Centers in Banjarmasin, Indonesia, midwives are civil servants/non-civil servants, and willing to participate in this study as respondent.

The independent variables included midwives' service period, knowledge, and attitudes toward early detection of cervical cancer using the VIA method, while the dependent variable was the performance of midwives on early detection of cervical cancer using the VIA method. Midwives' attitude reflects their readiness which includes their thoughts, feelings, and attention to the early detection of cervical cancer using the VIA method,[14] while the performance of the midwife is the result of the work of the midwife which is a combination of personal characteristics and organization which was measured based on the applicable standards for carrying out early detection of cervical cancer using the VIA method.[9]

A set of questionnaires was employed to obtain primary data, while Health Office reports of Banjarmasin were used to obtain secondary data. All data were then analyzed to measure the distribution of frequency and percentage of each variable. The association between the independent variable and the dependent variable was measured in the Chi-square statistics test with a significance level of 95 % ($\alpha = 0.05$).

RESULTS AND DISCUSSIONS

The data distribution and the percentage of each variable are shown in Table 1. Most of the respondents had service period 10 years (67.4%), and 67.4% of them had inadequate knowledge on VIA, while only 2.3% of them had adequate knowledge in this matter. The results showed that the majority of the respondents had positive attitudes about early detection of cervical cancer using the VIA method with 86%, yet most of them showed poor performance in early detection of cervical cancer using the VIA method (79.7%).

Table 1. Data on midwives' service period, knowledge, attitudes, and performance in early detection of cervical cancer using the VIA method at 26 public health centers in Banjarmasin, Indonesia.

Variable	Category	Frequency (person)	Percentage (%)
Work Period of Services	< 10 years	56	32.6
	≥ 10 years	116	67.4
Knowledge	Poor	116	67.4
	Sufficient	52	30.2
	Good	4	2.3
Attitude	Negative	24	14.0
	Positive	148	86.0
Performance	Poor	137	79.7
	Good	35	20.3

Table 2. The association between midwives' service period, knowledge, and attitudes with their performance in early detection of cervical cancer using the VIA method at 26 health centers in Banjarmasin, Indonesia.

Variables	Category	Performance		Total	p value
		Poor	Good		
		f (%)	f (%)	f (%)	
Work Period of Services	< 10 years	52 (92.9)	4 (7.1)	56 (100)	0.005
	≥ 10 years	85 (73.3)	31 (26.7)	116 (100)	
Knowledge	Poor	110 (94.8)	6 (5.2)	116 (100)	0.0001
	Sufficient + Good	27 (48.2)	29 (51.8)	56 (100)	
Attitude	Negative	24 (100)	0 (0)	24 (100)	0.005
	Positive	113 (76.4)	35 (23.6)	148 (100)	

Table 2 presents the relationship between midwives' service period and their performance. Most of the respondents with service period < 10 years mostly show poor performance (92.2%). The results of this study go in line with research on the evaluation of the quality of the VIA screening examination for officers in Kediri City which stated that the length of work > 10 years correlated to higher experience in performing examination, performance level and compliance with procedures compared to those who had worked less than 10 years.[15] The Chi-square analysis indicated an association between the service period and midwives' performance in the early detection of cervical cancer using the VIA method (P = 0.005). Similar results were found in several studies on the practice of VIA screening by midwives in West Kalimantan Province, Indonesia, and Cote d'Ivoire, West Africa, where service period correlated with the performance of midwives in conducting VIA screening using the VIA method.[13,16]

Table 2 also describes the relationship between midwives' knowledge and performance. The results show that inadequate knowledge associates with poor performance (94.8%). A person's compliance with standard procedures is also influenced by the individual's knowledge; therefore, higher knowledge is likely followed by higher the adherence to the applicable standard procedures.[17] Research on VIA screening practices by midwives in West Kalimantan Province, Indonesia, stated that the lack of knowledge and skills of midwives and nurses as health service providers associated with the low performance of midwives and nurses in performing clinical practice.[16] The Chi-square statistical tests indicated an association between knowledge and performance of midwives in the early detection of cervical cancer using the VIA method (P = 0.0001). Similar results were also found in prior studies involving female health workers in conducting cervical cancer screening in Iran which asserted that there was a correlation between the level of knowledge and occupation of health care providers and there was a correlation between knowledge and attitude, in which adequate knowledge would affect the attitude of midwives in providing cervical cancer screening recommendations. Health service providers in this context include doctors and midwives.[18]

In addition, obstacles in cervical cancer management programs include the negative attitudes of service providers due to lack of competence in carrying out screening for cervical cancer, leading to dependencies in providing services.[19] The results of the study show that knowledge is one of the factors that can affect the performance of a midwife in conducting early detection of cervical cancer using the IVA method.

Table 2 also presents the relationship between midwives' attitude and performance. The results showed that most of the respondents had negative attitudes and all respondents (100%) showed poor performance. The Chi-square analysis indicated that there was a relationship between attitudes and the performance of midwives in the early detection of cervical cancer using the VIA method (P = 0.005). Similarly, at Public Health Centers in Kendal Regency, Indonesia, midwives' attitudes affected their practical skills in VIA counseling. Better attitudes lead to better practice and counseling skills.[20]

Cervical cancer prevention programs should consider the issues regarding patients, health service providers, and health system. An important step to significantly increase the achievement of prevention programs and reduce the incidence of cervical cancer is to improve the knowledge, shift the negative attitudes, address socio-cultural challenges, enhance cross-sector collaboration and coordination, and improve the cross-program management, financing, and competence of healthcare workers, especially midwives.[19]

Ease of access to good information needs to be provided through seminars and or training for midwives in all types of health facilities in order to increase the proportion of midwives with adequate knowledge and good attitudes about cervical cancer screening.[13] Midwives who had good knowledge and positive attitudes showed better performance in carrying out early detection of cervical cancer using the IVA method compared to midwives who had a negative attitude. Hence, more trainings are required to change negative attitude of midwives toward the IVA program.

Midwives affect the behavior of women of childbearing age in carrying out VIA examinations.[21] Support and positive attitudes of health workers will affect the behavior and visits of women of childbearing age in carrying out screening for VIA examinations in health services.[21–23] The support and positive attitude of the midwife can be in the form of providing information, invitations, and motivation personally or in groups (counseling) in promoting VIA examinations.[23,24]

CONCLUSION

The results of this research showed that most respondents had service period of 10 years, poor knowledge and negative attitudes regarding early detection of cervical cancer using the VIA method which then associated to their poor performance in early detection of cervical cancer using the VIA method. The service period, knowledge, and attitudes were found

correlated to the performance of midwives in early detection of cervical cancer using the VIA method in Banjarmasin, Indonesia. The importance of increasing the capacity and competence of midwives in early detection of cervical cancer. Providing training for midwives in this program is an important step to take in order to improve midwives' knowledge, attitude and performance in conducting cervical cancer detection.

DISCLOSURE

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Conflict of Interest

All authors have no conflict of interest.

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Author Contribution

All authors have contributed to all process in this research, including preparation, data gathering and analysis, drafting and approval for publication of this manuscript.

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