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A SECONDARY ANALYSIS OF PEER SUPPORT AND FAMILY ACCEPTANCE AMONG HOMOSEXUAL LIVING WITH HIV AND ANTIRETROVIRAL THERAPY: QUALITY OF LIFE PERSPECTIVES

Ina Martiana[1], Agung Waluyo[2*], Sri Yona[2], Edianto[3]

1. Nursing Study Program, STIKes Dr. Soebandi, Jember 68111, Indonesia
2. Faculty of Nursing, Universitas Indonesia, Depok 16424, Indonesia
3. H. Adam Malik Central General Hospital, Medan 20136, Indonesia

*E-mail: agungwss@ui.ac.id

Abstract

Men who have sex with men (MSM) comprise a population at risk for HIV infection. Assessing the Quality of Life (QOL) in MSM might be different than other populations. This study showed a secondary analysis from our previous research. It was needed to understand whether peer support and family acceptance had an impact on QOL of MSM living with HIV and ART (Antiretroviral Therapy). A total of 175 respondents were involved in this cross-sectional study that was carried out with purposive sampling. The questionnaires were translated to Bahasa and tested for validity and reliability. Data questionnaires completed were analyzed. Results showed that peer support was positively correlated with QOL (p= 0.023; OR= 2.070), and also, family acceptance was significantly related to QOL (p= 0.001; OR= 2.766). Thus, peer support and family acceptance are important factors affecting the well-being and QOL of MSM living with HIV and ART. This finding can be used for the improvement of QOL in people living with HIV.

Keywords: family acceptance, HIV, peer support, quality of life

Abstrak

Dukungan Sebaya dan Penerimaan Keluarga terhadap Kualitas Hidup Homoseksual dengan HIV dan Terapi Antiretroviral*. Laki-laki yang berhubungan seks dengan laki-laki (LSL) merupakan populasi yang berisiko terinfeksi HIV. Menilai kualitas hidup (QOL) pada LSL mungkin berbeda dari populasi lainnya. Penelitian ini merupakan analisis sekunder dari penelitian sebelumnya. Kami menguji apakah dukungan sebaya dan penerimaan keluarga berdampak pada kualitas hidup pada LSL dengan HIV dan ART (terapi antiretroviral). Sebanyak 175 responden dilibatkan dalam studi cross-sectional yang dilakukan melalui purposive sampling. Data kuesioner yang sudah terisi komplit, akan dilakukan analisa. Hasil penelitian menunjukkan bahwa dukungan sebaya berhubungan positif dengan kualitas hidup (p= 0,023; OR= 2,070) dan juga penerimaan keluarga secara signifikan berhubungan dengan kualitas hidup (p= 0,001; OR= 2,766). Dengan demikian, dukungan sebaya dan penerimaan keluarga merupakan variabel penting yang mempengaruhi kesejahteraan dan kualitas hidup LSL yang hidup dengan HIV dan ART. Temuan ini dapat digunakan untuk peningkatan QOL pada orang dengan HIV.*

Kata Kunci*: dukungan sebaya, HIV, kualitas hidup, penerimaan keluarga*

Introduction

Men who have sex with men (MSM) comprise the population most at risk for HIV. The data from 2008 to 2010, of the Centers for Disease Control and Prevention showed that the number of MSM has increased to 12% of the population. The factors that increase the risk for HIV include high HIV prevalence among MSM, lack of HIV status knowledge, experience of social discrimination and cultural issues, and substance abuse (Centers for Disease Control and Prevention, 2015).

Globally, new HIV cases in MSM increased to 13% in 2015. MSM are 24 times more likely to

develop HIV because of their risky behavior in sexual activity (UNAIDS, 2017). Positive HIV case between MSM are increased from 2012 to 2016 by 25.8% (HIV and AIDS Data Hub for Asia-Pacific, 2018). The MSM population has become the second highest population at risk for HIV, with heterosexuals coming first (Ministry of Health Republic of Indonesia, 2016). Until 2019, WHO estimated number people living with HIV reached 38 million, and the number of new infections was 1.8 million. The number of deaths was high at 1.7 million people (WHO, 2020). The new infection number increased in Indonesia by 68%; Indonesia ranks third after India and China in Asia-Pasific Region (UNAIDS, 2017). The number of deaths needs to be treated with anti-retroviral therapy (ART) to reduce it. ART is one of the most effective treatment modalities given to patients with HIV. ART can increase the lifespan of PLWHA. However, the use of ART also leads to negative side effects on the patients (Beard et al., 2009). These side effects may occur like vomiting, headache, or any other sympthoms which can affect QOL (AVERT, 2020). Besides, the experience of social stigma, discrimination, and lack of support may worsen their condition.

Quality of Life (QOL) is defined as general well-being from individuals or society to restrict negative and positive things in life. Researchers have also connected QOL to happiness and satisfaction in life (Zubaran et al., 2014). QOL in the health field is applied more specifically in life and determined by health or disease called "health-related quality of life (HRQOL)." ARV treatment contributes in reducing the mortality rate and extending life span. However, ART can caused side-effects which affect physical, psychological, social, and environment. Quality of life is a way to get a normal life with individual goals, expectations, and life experienced, related to that four aspects. People with HIV and ART who were experiencing side effects then choose to use a replacement therapy, shows improvement in quality of life (Sari et al., 2019).

Peer groups provide healthy vibes in terms of social relation and strengthen people with the same sexual behavior or people with the same HIV-positive status of HIV to understand their condition and other information regarding their health. Peer group support can help individuals seek health care services, remember the treatment schedule, develop a network to reach others, and support them that they are not alone (Monroe et al., 2017; Edianto et al., 2019). Peer support increase in confidence, coping skills, reduce risk of self-isolation, promoting health behavior, engaging in health services. Peer support also reducing the activity of sexual risk behavior and being adherence in taking the treatment. Peer support was associated with behavior change. People with HIV had increased to disclose their HIV status to their sex partner and reducing number of sex partner (Peterson, et al., 2012; Charania, et al., 2014; Prestage et al., 2016).

Lack of family acceptance can cause stress, anxiety, and depression due to family rejection. Individuals with HIV are afraid of being rejected due to their risky sexual behavior and fear of letting their HIV-positive status be known. The society and family often reject such individuals because of the culture and social norms. Family with close-minded members will experience difficulty in accepting another member's beliefs sincerely. The stress of all that pressure can lead to worsening health condition (Carter, 2013; Edianto et al., 2019). Refusal from the family can lead to high-risk sexual behavior, alcoholism, transmission of HIV, and drug abuse (Katz-Wise et al., 2016; Edianto et al., 2019).

The disclosure of HIV status by MSM to their partner or family is important. The type of support they will achieve can improve HIV treatment and care (Przybyla et al., 2013; Kroeger et al., 2011; Xu, et al., 2017). Thus, increasing support may become an effective strategy to encourage patients to access public healthcare and initiate testing and treatment. Lack of support from peers and family acceptance are the main concerns toward improvement of QOL.

Lack of support can influence the irregularity of ARV administration, low self-esteem, worsening condition, and poor social relations. Therefore, peer support and family acceptance may be related to a good QOL in patients with HIV/ AIDS.

Methods

Setting and study design. The previous study was conducted in two hospitals and two public health centers in Medan, Indonesia that aimed to explore associated factors in MSM with ART. Then, this study measured other variables namely quality of life of MSM, peer support and family acceptance. The health facilities included counseling and testing services to reach more respondents. This study used a cross-sectional method with the following inclusion criteria people with HIV, MSM, age above 18, and use of ART. MSM living with HIV and ART were eligible to participate in this study. The selected patients gave their informed consent if they agreed to join this study. A total of 175 of 180 respondents were according to the criteria had participated in this study.

Data collection. The instruments used in this study were Perceived Acceptance Scale to assess family acceptance, Peer Group Caring Interaction Scale to assess peer support, and WHOQOL-HIV BREF to assess QOL. The questionnaire was translated to Indonesian with back translation method by an expert. All questionnaires were retested then declared valid and reliable for each (r= 0.8; r= 0.9; r= 0.6). Chi-square test were used for bivariate analysis.

Ethical consideration. Ethical considerations are important in research related to HIV. The ethical approval was granted by Universitas Indonesia. Respondents were asked to fill out the questionnaires after agreeing to participate in this study through their informed consent form.

Table 1. Demography and Characteristic

Variable	Mean	SD
Age	29.39	6.459
Length of diagnosis	19.10	15.923
Duration of ART	17.99	15.897
	n	%
Education		
Elementary	2	1.1
Junior high	6	3.4
Senior high	103	58.9
College	64	36.6
Occupation		
Unemployed	14	8
Employed	161	92
Income		
Low	89	50.9
High	86	49.1
Quality of Life		
High	85	48.6
Low	90	51.4
Peer Support		
High	93	53.1
Low	82	46.9
Family Acceptance		
High	93	53.1
Low	82	46.9

Table 2. Variables

Variables	Quality of Life				X^2	p	OR (Odd Ratio)
	High		Low				
	n	%	n	%			
Peer Support							
High	53	57.0	40	43.0	5.630	0.023	2.070
Low	32	39.0	50	61.0			
Family Acceptance							
High	56	60.2	37	39.8	10.772	0.001	2.766
Low	29	35.4	53	64.6			

Respondents also filled the questionnaire in a private room to safeguard their privacy.

Results

Respondents' characteristics. Table 1 shows, the average age of the respondents was 29 years old. The level of transmission by sexual activity might be high at this age. The majority of the respondents is still in their early diagnosed as HIV-positive. The average of length of diagnosis was 19 months and the duration of using ART was 18 months. However, respondents who were employed were found to belong to the low-income bracket based on North Sumatera's Provincial Minimum Wage (PMW).

Factors Associated with Quality of Life. Peer support was significantly associated with QOL (p= 0.001; α= 0.05; OR: 2.070; CI: 1.131–3.789), and family acceptance was significantly associated with QOL (p= 0.023; α= 0.05; OR: 2.766; CI: 1.497–5.113). People with high peer support were 2.070 times more likely to have higher QOL than those with low peer support. People with high family acceptance were 2.766 times more likely to have higher QOL than those with low family acceptance (Table 2).

Discussion

Most of the respondents in this study were have high peer support (53.1%), which was significantly related to QOL (p= 0.023; α= 0.05). Peer support group provided education and knowledge, gave positive motivation, and taught them how to stop risky behavior. However, the level of the risk of HIV transmission showed contrary results. The importance of a peer is to reach people with the same status to know how patients can access peer group support, how to provide opportunities in clinical settings, and how to increase openness for support and information. High peer support can reduce HIV transmission after diagnosis. Receiving support from peer which HIV positive likely decrease to engaged with non-HIV positive person (Prestage et al., 2016).

MSM are at high risk of HIV infection because of their sexual behavior. Various HIV prevention techniques have attempted to reach all segments of the society, including the MSM community. Peer support has been identified as an important element to mediate stigma and discrimination in the social relationship. Peer support can help and increase knowledge and acceptance from the same perspective in the same community to improve their psychosocial well-being (Tomori et al., 2016). QOL can improve with the help of physical touch and support from people within the same community and change one's risky behavior (Demartoto et al., 2016). Other studies also demonstrated that peer group support very helpful to remind about medicine administration or treatment due to inpatient or outpatient. Peer group support also provide mental and spiritual support for each other. In addition, peer group support has been motivating each other to do physical activities according to

their abilities (Rasyiid et al., 2016).

As many as 53.1% respondents were have high family acceptance. This result was similar to the findings of a previous study, which 90.4% patients had strong family support, and most were satisfied with disclosing their HIV status (Xu et al., 2017). MSM who have higher family acceptance can demonstrate better emotional responses than their counterparts, but this factor does not significantly affect one's risky sexual behavior (Bidaki et al., 2017; Mitrani et al., 2017). MSM who receive high family acceptance typically demonstrate increased self-esteem, good health condition, and good social interaction. MSM who have been rejected from their family are highly likely to have mental health issues, suicidal tendencies, depression, and highrisk sexual behavior (Katz-Wise et al., 2016; Ryan et al., 2010; Woodward & Pantalone, 2016; Bidaki et al., 2017). However, MSM who have strong social support seems to have fear of rejection into their family (Bilardi et al., 2019).

Family acceptance which was significantly related to QOL ($p= 0.001$; $\alpha= 0.05$). To improve QOL in people living with HIV/AIDS and ART in MSM, health practitioners need to provide counseling to encourage them to disclose their HIV status to close peers and families (Zhou & Ki, 2011). Family acceptance were closely associated with quality of life. Whether the effect comes from a feeling of satisfaction with the decision to disclose their HIV status, whether the family gives support and acceptance (Xu et al., 2017). Health practitioners also need to educate the families about HIV and suggest ways on how the family may provide support to those living with HIV/AIDS. This strategy will encourage people with HIV to disclose their status to the family. It might also decreases discrimination and stigma issues.

MSM infected with HIV have unique characteristics compared with other populations. This study had some limitations. The respondents were those who sought care from health services. Simple random sampling might be a better technique to obtain samples from many kinds of specific criteria. The study was conducted during Ramadhan, so many were unable to visit health services. The patients involved in this study asked their peers to take their medicine and bring it to their homes, which were far from the center of the city. Many respondents also did not visit health services because they had already been taking ARV for 2 months prior due to the great distance.

Conclusion

Peer support and family acceptance were found to be significantly related to the QOL of MSM living with HIV and ART. Thus, any intervention to support this social relation is needed. The treatment management needs to include medical treatment such as ARV and social relation to increase QOL in HIV-positive MSM. Peer support and family acceptance can decrease stress and support any treatment, so the concept of well-being can be achieved by the patients.

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FACTORS RELATED TO DOCTORS' AND NURSES' PERCEPTIONS OF EVIDENCE-BASED PRACTICE AND INFORMATION - COMMUNICATION TECHNOLOGY

Melati Fajarini[1], Sri Rahayu[2], Ebaa M. Felemban[3], Agus Setiawan[4*]

1. Faculty of Nursing, Universitas Muhammadiyah Jakarta, Jakarta 10510, Indonesia
2. School of Health Sciences Jayakarta, Jakarta 13730, Indonesia
3. College of Applied Medical Sciences, Taif University, Saudi Arabia
4. Faculty of Nursing, Universitas Indonesia, Depok 16424, Indonesia

*E-mail: a-setiawan@ui.ac.id

Abstract

Evidence-based practice (EBP) that is supported by the availability of the best literature can improve the quality of health services. Information and communication technology (ICT) usage may provide the evidence in timely-manner. However, literature on the factors related to EBP and ICT of doctors and nurses in Indonesia is scant. This study aimed to describe the factors related to the doctors' and nurses' EBP perception and ICT. This survey was conducted in November 2017–January 2018 at one general hospital, five private hospitals, eleven public health centers, and five private clinics. A total of 85 doctors and 271 nurses selected by proportional probability sampling were given online questionnaires. Each questionnaire consisted of 12 items about access to information and 24 items about perception of EBP adopted from the evidence-based practice questionnaire Upton & Upton. Pearson correlation, independent t-test analysis, and one-way ANOVA results found education and role were related to the doctors' EBP. Education, role, age, and experience were related to the doctors' ICT. There was a relationship between age and education with the nurses EBP. These two factors and working experience were related to the nurses' ICT. EBP intervention through ICT may take into account the nature of experienced senior doctors and young inexperience nurses with higher education in the ICT platform. Advocacy is needed to increase the use of ICTs for EBP and professional development. Further research related to the need of knowledge translation through ICT should be conducted.

Keywords: doctors, evidence-based practice, information communications technology, nurses, perception

Abstrak

Faktor-faktor yang Berhubungan dengan Persepsi Dokter dan Perawat terhadap Praktik Klinis Berbasis Bukti dan Teknologi Informasi dan Komunikasi*. Praktik klinis berbasis bukti (PKBB) yang ditunjang dengan ketersediaan literatur terbaik dapat meningkatkan kualitas pelayanan kesehatan. Penggunaan Teknologi Informasi dan Komunikasi (TIK) menyediakan bukti ilmiah dalam waktu yang singkat. Namun, literature tentang faktor-faktor yang berhubungan dengan PKBB dan TIK dokter dan perawat di Indonesia masih sedikit. Penelitian ini bertujuan untuk mengidentifikasi faktor-faktor yang berhubungan dengan persepsi PKBB dan TIK dokter dan perawat. Survei ini dilaksanakan pada November 2017–Januari 2018 di satu rumah sakit umum, lima rumah sakit swasta, sebelas puskesmas, dan lima klinik swasta. Sebanyak 85 dokter dan 271 perawat yang dipilih dengan sampel proportional probability diberikan kuesioner daring. Kuesioner terdiri dari 12 pertanyaan tentang akses informasi dan 24 pernyataan tentang persepsi PKBB yang diadopsi dari evidence-based practice questionnaire Upton & Upton. Hasil analisis Pearson correlation, independent T-test dan one-way ANOVA menemukan hubungan antara pendidikan dan peran dengan PKBB dokter, serta pendidikan, peran, usia dan pengalaman kerja berhubungan dengan TIK dokter. Ada hubungan antara umur dan pendidikan dengan PPKB perawat. Kedua faktor dan pengalaman kerja ini terkait dengan TIK perawat. Intervensi PPKB melalui TIK dapat mempertimbangkan karakter dokter senior berpengalaman dan perawat muda yang pendidikan tinggi namun belum berpengalaman dengan platform TIK. Advokasi diperlukan untuk meningkatkan pemanfaatan TIK untuk PPKB dan pengembangan profesional. Penelitian lebih lanjut terkait kebutuhan penerjemahan pengetahuan melalui TIK harus dilakukan.*

Kata Kunci*: dokter, perawat, persepsi, praktik klinis berbasis ilmiah, teknologi informasi komunikasi*

Introduction

The quality of health service is determined by a comprehensive initiative in its delivery. The World Health Organization, Organisation for Economic Cooperation and Development, and The World Bank (2018) acknowledged that health care workers should use "current professional knowledge" which emphasizes the implementation of Evidence-based Practice (EBP). EBP has been proven to improve patient outcomes (Moreno-Poyato et al., 2020), to decrease financial expenditure (Staffileno et al., 2013), to accelerate knowledge into practice (Rushmer et al., 2019), and to assist decision-making (Rushmer et al., 2019; WHO) 2015). However, EBP faced challenges to its application in clinical practice.

Extensive reports on barriers to the implementation of EBP were reported. Globally and in low-middle income countries, both doctors and nurses agreed on common barriers which are the lack of time, research or EBP skills and knowledge, and interprofessional collaboration (Sadeghi-Bazargani et al., 2014; Shayan et al., 2019; Swennen et al., 2013). Although, interprofessional collaboration problems were no longer experienced by the doctors in recent years (Barzkar et al., 2018). They also reported other barriers such as inadequate facilities, access, fund, and organizational support. Evidence-related skills difficulties, from finding to translating evidence were reported as well. Several countries such as China, Ghaza, Iran, and Saudi Arabia confirmed the same barriers (Albarqouni & Elessi, 2017; Alqahtani et al., 2020; Fu et al., 2020; Nader-khah et al., 2016). Language was also noted as a problem to understand evidence (Sadeghi-Bazargani et al., 2014; Shayan et al., 2019; Turner & Short, 2013). Indonesia is a middle income country, therefore, similar barriers were also noted (Novrianda & Hermalinda, 2019).

Barriers in facilitation of EBP was elaborated further. The world organizations recommended more extensive access to health care information to enhance EBP (United Nations, 2015; WHO-SEARO, 2016). However, it is still insufficient (United Nations, 2015), and retrieving information through information and communications technology (ICT) is difficult for the majority of doctors and nurses in South East Asia (Turner & Short, 2013). A national survey proved the majority of Indonesian people use the internet (64.8%) with West Java people ranked first (Asosiasi Penyelenggara Jasa Internet Indonesia, 2018). However, only a small number of people use it for work-related information (11.5%). This number is similar to the global survey result held in the Asia Pacific region (CIGI-Ipsos, 2017).

Despite the challenges faced by nurses and doctors, their EBP perception was positive and the factors influencing their EBP were recognized. Nurses have positive EBP perception, especially their attitude in most studies (AbuRuz et al., 2017; Al-Busaidi et al., 2019; Alqahtani et al., 2020; Kalhor et al., 2017; Naderkhah et al., 2016; Novrianda & Hermalinda, 2019; Zhou et al., 2016). Some of these studies reported various relationships or influencing factors such as age, gender, education, working experience, and role. However, the results vary from no relationship to significant relationship. Furthermore, there is a scar-city in the EBP and ICT literature of nurses in Indonesia. Various instruments were also used in studies exploring evidence-based medicine (EBM), and most found attitude ranked first. However, literature on the relationship between the doctors characteristics with their EBP and ICT is still scant (Al-barqouni & Elessi, 2017; Barzkar et al., 2018).

Little is known about the relationship between Indonesian nurses' and doctors' characteristics with their EBP perception and ICT, especially in Depok West Java. This data may contribute to the development of EBP and to overcome its barriers in Indonesia. Therefore, this paper aimed to reports the relationship between the perception of doctors and nurses on EBP and ICT.

Methods

A quantitative research method with correlational study design was used in this study. It was conducted between November 2017 and January 2018. Population in this study were doctors and nurses work in Depok City, West Java, Indonesia. Proportional probability sampling was assigned to select the health care providers based on the number of doctor and nurses worked in the research settings including five private hospitals, five private clinics, and eleven public health centers. Thus, each respondent who were selected randomly had the same opportunity to involved in this study according to the number of proportions for each setting. The government city hospital was purposely selected because it was the only government hospital in Depok City. The inclusion criteria were doctors and nurses who worked in Depok City, and had 1 year working experience. Accordingly, 85 doctors and 271 nurses with minimum 1 year working experience were determined proportionally and randomly for each provider and unit. The more nurses or doctors worked in a unit, the higher number of nurses or doctors would be selected to participate in the study.

The questionnaires employed were developed from the WHO's building blocks of health systems (WHO, 2010, 2017). Five WHO health system components were set as a framework for this study: service delivery, health workforce, health information, fund, and leadership and governance in the context of ICT and EBP. Covering this framework, a self-designed ICT-based health information access and an adoption from the Upton and Upton's EBP Questionnaire (EBPQ) (Upton et al., 2017) were assigned. Twelve questions about information and ICT's availability and access were asked in the ICT questionnaire (Table 1). ICT questionnaire used Gutman's scale "Yes" and "No" for question number 1 to 9, four points Likert scale from "Never" to "Always" for question number 11 and 12, and especially for question number 10 used the answer option. Twenty-four statements were included to identify the doctors and nurses' practice (6 items), attitude (4 items), and knowledge (14 items) on their EBP. EBP Questionnaire also used Likert scale. The Content Validity Index (CVI) of three experts in health rated mean Item CVI (I-CVI) as 1.00 and Scale-CVI (S-CVI) Average 1.00, which indicate that the EBPQ is acceptable. Internal consistency was also secured with Cronbach's alpha (0.92), which means the questionnaire is reliable.

Online self-completed questionnaires were shared to all nurses and doctors. The nurses in three hospitals were gathered by the nurse and hospital managers in a room at the same time for the survey. Participants were given verbal explanation about the study and an informed consent was obtained prior to the data collection. Then, the questionnaire links were given and completed by the nurses. For doctors, the data were collected face to face in the wards. All questionnaires were completed and analyzed. Ethical approval was obtained from Faculty of Nursing, Universitas Indonesia. Privacy was ensured with anonymity of the response.

Frequency distribution with mean, standard deviation, and percentage was applied to describe univariate data. Subsequently, Pearson's correlation analysis, independent t-test analysis and oneway ANOVA was assigned to determine the relationship between numerical data and ICT and each EBP subscale (practice, attitude, and knowledge). The relationship's strength and direction were determined by correlation coefficient *r* at its critical values (Plichta & Kelvin, 2013).

Results

Characteristics of Participants. The participants pants were 85 doctors and 271 nurses. As illustrated in table 1, the average age of doctors was 36 years old and with 7 years of experience, mostly female (78.8%), having bachelor degree (72.9%), and working as a general doctor (75. 3%). The average age of nurses was 31 years old and with 8 years of experience, mostly female (90.0%), having diploma degree (84.1%), and working as nurse associate (77.1%).

Table 1. Characteristics of doctors and nurses in Depok City, Indonesia

Variables	Doctors (85) M ± SD or N (%)	Nurses (271) M ± SD or N (%)
Age	36.40 ± 8.34	30.76 ± 6.46
Working experience	7.09 ± 6.48	7.75 ± 6.02
Gender		
Male	18 (21.2%)	27 (10%)
Female	67 (78.8%)	244 (90%)
Education degree		
Diploma	-	228 (84.1%)
Bachelor	62 (72.9%)	42 (15.5%)
Specialist	23 (27.1%)	1 (0.4%)
Role		
Nurse associate	-	209 (77.1%)
Team leader	-	17 (6.3%)
Head nurse		45 (16.6%)
General doctor	64 (75.3%)	
Medical doctor in charge	19 (22.4%)	
Consultant Doctor	1 (1.2%)	
Chief doctor	1 (1.2%)	

Table 2. Associated Variables with Evidence-based Practice (EBP) Among Nurses in Depok City, Indonesia (n= 271)

Characteristics	Evidence-based Practice (EBP)						Information and Communication Technology (ICT)	
	Practice Mean±SD	p	Attitude Mean±SD	p	Knowledge Mean±SD	p	Mean±SD	p
Age		r= -0.02 p= 0.69		r= -0.01 p= 0.92		r= -0.13 p= 0.04*		r= -0.15 p= 0.02*
Working Experience		r= 0.01 p= 0.88		r= 0.01 p= 0.90		r= -0.11** p= 0.06		r= -0.14 p= 0.02*
Gender								
Male	8.19 ± 2.60	t= -1.48	6.88 ± 1.18	t= -1.08	19.11 ± 5.31	t= -0.56	1.52 ± 1.60	t= -1.31
Female	8.99 ± 2.68	p= 0.14	7.12 ± 1.12	p= 0.28	19.85 ± 6.61	p= 0.57	2.03 ± 1.95	p= 0.19
Education								
Diploma	8.84 ± 2.46	F= 3.78	6.99 ± 1.01	F= 6.51	19.90 ± 6.14	F= 0.26	2.10 ± 1.99	F= 2.99
Bachelor	9.12 ± 3.53	p= 0.02*	7.64 ± 1.30	p= 0.00*	19.17 ± 8.25	p= 0.77	1.33 ± 1.14	p= 0.05*
Master	16.00 ± 0.00		8.00 ± 0.00		18.00 ± 0.00		1.00 ± 0.00	
Role								
Nurse Associate	8.99 ± 2.67	F= 0.46	7.09 ± 1.16	F= 0.13	19.96 ± 6.45	F= 0.77	1.94 ± 1.93	F= 0.17
Team Leader	8.65 ± 2.81	p= 0.63	7.24 ± 1.09	p= 0.88	17.94 ± 5.26	p= 0.46	2.18 ± 1.88	p= 0.84
Head Nurse	8.61 ± 2.70		7.09 ± 0.97		19.62 ± 7.06		2.07 ± 1.97	

Note: Pearson's correlations, independent t-test, ANOVA
*p < 0.05

Associated Variables with Evidence-based Practice (EBP) and Information Communication and Technology (ICT) of Nurses. Several factors related to the nurses' EBP and ICT (Table 2). The nurses' practice and attitude was related to education (p< 0.05), while knowledge was related to their age also at p< 0.05. The nurses' ICT was related to the nurses' age, working

experience, and education at $p < 0.05$.

Associated Variables with Evidence-based Practice (EBP) and Information Communication and Technology (ICT) of Doctors. The Pearson's correlation analysis showed that several factors related to EBP and ICT. There was a relationship between the doctors' age and working experience with ICT but none with EBP. Education and role of doctors were related to their EBP and ICT, both at $p < 0.00$ (Table 3). ICT was related to age, and working experience at $p < 0.01$.

Discussion

This study aimed to measure factors associated with the nurses' and doctors' EBP and ICT. Our findings confirm those relationships with the nurses' and doctors' characteristics. Three characteristics are related to the nurses' EBP, as well as ICT. They were age, working experience, and education. Meanwhile, there were two factors related to the doctors' EBP and four factors related to ICT.

Several characteristics were related to the nurses' EBP. This study showed that younger nurses tend to have better EBP knowledge. On the other hand, nurses in Saudi Arabia and Iran reported no relationship between EBP and the nurses' age (Alqahtani et al., 2020; Kalhor et al., 2017). However, in terms of gender, Alqahtani et al. (2020), Kalhor et al. (2017), and this study agreed that it has no relationship with EBP. Interestingly, male nurses in Jordan have more positive EBP than female nurses (AbuRuz et al., 2017). Also, the higher education the nurses' hold, the better their attitude and practice towards EBP. This result corresponds with nurses

Table 3. Associated Variables with Evidence-based Practice (EBP) and *Information Communication and Technology (ICT)* Among Doctors in Depok City, Indonesia (n= 85)

Characteristics	Evidence-based Practice (EBP)						Information and Communication Technology (ICT)	
	Practice Mean±SD	p	Attitude Mean±SD	p	Knowledge Mean±SD	p	Mean±SD	p
Age		r= 0.14 p= 0.20		r= 0.15 p= 0.17		r= -0.12 p= 0.28		r= 0.50 p= 0.00**
Working Experience		r= 0.07 p= 0.52		r= 0.01 p= 0.96		r= -0.11 p= 0.31		r= 0.53 p= 0.00**
Gender								
Male	10.50 ± 3.60	t= 0.04	7.39 ± 1.04	t= -0.77	22.61 ± 5.32	t= 0.95	2.06 ± 1.89	t= 1.45
Female	10.46 ± 3.28	p= 0.97	7.61 ± 1.10	p= 0.44	20.81 ± 7.58	p= 0.35	1.40 ± 1.64	p= 0.15
Education								
Bachelor	9.50 ± 2.93	t = -5.01	7.45 ± 1.00	t = -1.59	20.34 ± 6.69	t = -1.82	1.15 ± 1.29	t= -3.78
Master	13.09 ± 2.94	p= 0.00*	7.87 ± 1.25	p= 0.12	23.48 ± 8.05	p= 0.07	2.61 ± 2.21	p= 0.00**
Role								
General Practitioner	9.53 ± 2.90	F= 9.97 p= 0.00*	7.47 ± 1.023	F= 0.89 p= 0.45	20.25 ± 6.88	F= 1.77 p= 0.16	1.19 ± 1.32	F= 5.46 p= 0.00**
Medical Doctor in Charge	13.47 ± 2.88		7.89 ± 1.29		23.74 ± 7.80		2.68 ± 2.29	
Consultant Doctor	15.00 ± 0.00		8.00 ± 0.00		30.00 ± 0.00		4.00 ± 0.00	
Chief doctor	9.00 ± 0.00		7.00 ± 0.00		24.00 ± 0.00		0.00 ± 0.00	

Note: Pearson's correlations, independent t-test, ANOVA
*p< 0.05; **p< 0.01

in Jordan (AbuRuz et al., 2017) but in contrast with nurses in Saudi Arabia (Al-qahtani et al., 2020). Working experience and role have no relationship to EBP. Similar results found in Iran and Saudi Arabia (Alqahtani et al., 2020; Kalhor et al., 2017) but differ from in China and Oman where nurses with better working experience have a better attitude towards EBP (Al-Busaidi et al., 2019; Zhou et al., 2016).

Age, working experience, and education were related to the nurses' ICT. These data show that the younger and the less experienced the nurses, the more likely they will use ICT for evidence purposes. This is in accordance with the national survey where younger people used the internet more than older people (Asosiasi Penyelenggara Jasa Internet Indonesia, 2018). Education was related to ICT, as well. Higher degree nurses tend to utilize ICT more than others.

Given that ICT facilities for evidence are available and accessible through most providers, their usage to maximize EBP and meet the UN and WHO's recommendation is highly potential. Measures to improve EBP knowledge should target young and less experienced but with higher degree nurses in the ICT platform. Professional development in higher degree education should also be supported to improve both EBP and ICT usage.

There is a relationship between the doctors' education and role with EBP. This study showed doctors with a higher degree of education tend to practice less EBP. There has not been a recent study result similar to this finding. However, inadequate training was one of the reasons EBP was not well implemented (Sadeghi-Bazargani et al., 2014). Swennen et al. (2013) implied that role was an advantage in EBP, although also become a barrier in transferring knowledge because they relied on their seniors to obtain and applying evidence. This was also confirmed by Barzkar et al. (2018). Moreover, Albarqouni and Elessi (2017) found that EBP was unwelcomed among senior doctors.

Education, role, age, and working experience were also related to doctors' ICT. The relationship between ICT and both age, working experience, and role were substantial and positively inline. The more age, experience, and role gained, the more likely ICT was used and potentially used for evidence purposes. Enhancing EBP through ICT may target older and experienced with important role doctors as their juniors rely on them for information.

Conclusion

The doctors' education and role were related to their EBP perception. Adding to these factors, age and years of experience also related to their ICT skill. Similarly, education and age were related to the nurses EBP. Age, working experience, and education were related to the nurses' ICT, as well. EBP intervention through ICT may take into account experienced senior doctors and young inexperience with higher education nurses generation in the platform. Future research and efforts to improve information systems to maximize EBP practices through user-friendly ICT and education need to be conducted.

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MOTHERS' BREASTFEEDING PRACTICES AND SELF-EFFICACY

Agrina*, Febriana Sabrian, Oswati Hasanah, Erika, Yesi Hasneli

Faculty of Nursing, Universitas Riau, Pekanbaru 28127, Indonesia

*E-mail: agrina@lecturer.unri.ac.id

Abstract

This study examined breastfeeding practices and self-efficacy among mothers residing in rural areas. A cross-sectional study was conducted for 104 mothers via purposeful sampling in a Posyandu (maternal and child health service) in Kampar district, one of the rural areas in Riau, Indonesia. The Breastfeeding Self-Efficacy Scale Short Form (BSES-SF) was used in the questionnaires to collect data. Chi-square test was used for bivariate analysis. Majority of the respondents (71.2%) were 20–35 years old; 69.3% of the respondents' level of education were low (such as junior and senior high school levels). Approximately 91.3% of them were housewives. Exclusive breastfeeding prevalence was only 30.8%, with insufficient milk being the most common reasons cited by the mothers as failure to breastfeed exclusively. Porridge and mineral water were the most commonly supplied food given to babies under 6 months among 31.7% and 36.5% mothers, respectively. The respondents faced some breast problems, where 72.1% mothers did not have good breastfeeding skills. Approximately 59.6% mothers had higher breastfeeding self-efficacy than the mean score for BSES-SF, which was 58.58 (11.58 standard deviation [SD]). Mothers' age was significantly correlated with the BSES among mothers ($p < 0.01$). Increasing young mother's breastfeeding self-efficacy during the antenatal care period is important to lower these young mothers' perception of having insufficient milk.

Keywords: breastfeeding practice, mothers, breastfeeding self-efficacy

Abstrak

Praktik Menyusui dan Efikasi Diri Ibu. *Penelitian ini bertujuan untuk menggambarkan tentang praktik pemberian air susu ibu (ASI) dan efikasi diri ibu menyusui di daerah pedesaan. Penelitian ini menggunakan pendekatan cross sectional pada 104 ibu yang berkunjung ke Posyandu sebagai tempat pos kesehatan untuk ibu dan anak yang diambil menggunakan teknik purposeful sampling. Alat penggumpulan data menggunakan kuisioner breastfeeding self-efficacy Scale Short Form (BSES -SF) yang telah valid dan realiabel pada penelitian sebelumnya. Analisis Chi square digunakan pada analisa bivariate. Mayoritas usia responden adalah berada pada rentang 20-35 tahun (71,2%) dengan pendidikan yang terbanyak adalah sekolah menengah pertama dan atas (69,3%). Hampir seluruh responden tidak memiliki pekerjaan diluar rumah (91,3%). Hanya 30,8% ibu memberikan ASI saja dengan alasan utama ASI yang tidak cukup sebagai alasan utama. Sebagai alternatif maka ibu memberikan bubur dan air putih sebagai makanan utama kepada bayi sebelum berusia 6 bulan. Kebanyakan ibu mengalami masalah dalam menyusui dan hanya 27,9% ibu memiliki kemampuan yang tepat dalam menyusui. 59,6% efikasi diri ibu menyusui di atas mean efikasi diri responden (58,58, SD 11,58). Usia ibu signifikan berhubungan dengan efikasi diri ibu menyusui (p< 0,01). Perlu ditingkatkan efikasi diri pada ibu muda selama masa kehamilan agar persepsi ibu tentang kecukupan ASI menjadi lebih baik.*

Kata Kunci*: efikasi diri, ibu, praktik nenyusui*

Introduction

Breast milk is considered the best food for babies and provided many short- and long-term benefits for the growth and development of baby. Breast milk increases the immune system of a baby, which can protect the baby from various diseases, reduce the infant mortality rate, and accelerate illness recovery (Maryunani, 2015; Duijts, 2010).

Breastfeeding prevent gastrointestinal diseases (Kramer & Kakuma, 2012), including young children allergies, reduces the infant mortality

incidence, and overweight and obesity risk from early period until adolescents (Bernardo et al., 2013). WHO suggests exclusive breastfeeding (EBF) from infancy to 6 months old and to continue breastfeeding until 2 years old and beyond (WHO, 2011). EBF means that a baby is breastfed as early as possible after delivery without schedule and given no other food even water until the baby is 6 months old. Providing additional food before the first 6 months of baby age is 1.94 times more likely to lead to an underweight toddler than EBF (Agrina et al., 2017). Although breast milk is the appropriate food for babies, EBF practices before 6 months of life are not popular among mothers, and WHO recommendation has yet to be realized.

The WHO is targeting an EBF coverage of 60% until 2030 (WHO, 2017). EBF coverage is globally low; it is only 40% and the EBF rate is also still low in several nations including developing countries. In these countries, only 38% of infants are exclusively breastfed during the first 6 months of age, and most of these mothers provide complementary food for their babies during this period (UNICEF, 2015).

Several factors are correlated with these issues as reported in some studies, such as mothers assuming that their breast milk is insufficient, mothers thinking that their infants might not be satisfied by EBF, and mothers feeling that their babies are still hungry (Lou et al., 2014; Robert et al., 2014). These perceptions contribute to premature supplementation of breastfeeding before 6 months. Breastfeeding self-efficacy (BSE) is defined as a mother's confidence in her ability to breastfeed her babies (Dennis & Faux, 1999). BSE is a mother's belief in her ability to decide on certain actions and achieve certain results (Meedya, Fahy, & Kable, 2010). Self-efficacy is useful to predict initiation and behavior of breastfeeding, and it can be the deciding factor in breastfeeding success (Tuthill et al., 2016).

Indonesia as a developing country also has the same concerns where its EBF rate is still lower than the target set by the Ministry of Health (Ministry of Health Republic of Indonesia, 2013). In developing countries, breastfeeding practices among mothers are influenced by sociodemographic characteristics, culture, and factors of health. Most mothers discontinue practicing EBF because of insufficient breast milk perceptions (Vygen et al., 2013; Balogun et al., 2015). In a previous study in Pekanbaru, an urban area in Indonesia, by Agrina et al. (2015) showed that most of mothers provide complementary foods for their babies before 6 months because the mothers think their breast milk is not enough for their baby. Non-EBF mothers tend to have the perception that breastfeeding alone is not enough to meet the needs of infants. Breastfeeding mothers with this perception typically lack knowledge on breastfeeding, so these mothers think their babies are still hungry. Their wrong perception about breastfeeding contributes to their lack of confidence to give breast milk. These studies proved that BSE is a significant variable correlated with positive breastfeeding effects among breastfeeding mothers. BSE indicates confidence to breastfeed. It is also a person's belief in her ability to decide on certain actions and do something to achieve certain results (Meedya et al., 2010). However, studies on BSE among rural mothers in Indonesia are lacking. Thus, this study aimed to examine sociodemographic characteristics, breastfeeding practices, and BSE among mothers in rural areas in Riau, Indonesia.

Methods

This research was a cross-sectional study carried out in June 2018 in East Kampar, a rural area in Riau, Indonesia. East Kampar is an agricultural area of Kampar district. A total of 104 eligible mothers were selected as samples via purposeful sampling technique; these women visited Posyandu as a health post for maternity and child health care in Indonesia. The sample size in this study was estimated using 95% confidence interval.

Questionnaires on sociodemographic characteristics, breastfeeding practices, and BSE as study

instruments were used in this study. BSE is interpreted as a mother's perceived breastfeeding ability and was measured by the Breastfeeding Self-Efficacy Scale Short Form (BSES-SF) (Dennis, 2003). Fourteen items as a self-reported instrument from the original BSES (Dennis & Faux, 1999) and Bandura's Social Cognitive Theory (Bandura, 1997) guided the development of the BSES using a Likert scale (1–5). A score of 1 was for "not at all confident" and a score of 5 was for "very confident." The total score ranged from 14 until 70. High scores indicated high levels of BSE. This scale includes technique and interpersonal thought dimension. In this study, Cronbach's alpha for the Indonesian translated BSES-SF was 0.94 with mean of 55.8 (standard deviation [SD] = 10.85), which was adapted from Wardani's study (2012).

Prior to collecting data, nursing research staff members were trained as data surveyors to help in data collection. After obtaining consent, data surveyors guided mothers to fill out the questionnaires. Mothers returned the questionnaires to the data surveyors for a final check. Data were analyzed using frequency distribution with central tendency. The data are expressed as the mean, SD, and percentage. Normality of distribution for all variables was checked. For categorical data, the Chi-square test was used to compare self-efficacy and demography. Statistical significance was defined as $p< 0.05$. All data were analyzed using SPSS-PC version 22 (Chicago IL, USA).

Results

Table 1, which presents the sociodemographic characteristics of mothers, shows that majority of the respondents were 20–35 years old (71. 2%), and the percentage of mothers aged above 35 years old was high (23.1%). Moreover, the majority of mothers were senior or junior high school graduates and unemployed (69.3% and 91.3%, respectively). Most mothers had two or more children (52.9%) and lived with their husband (60.6%).

Table 2 describes the breastfeeding practices during the first 6 months of a baby's life. EBF prevalence was only 30.8%. Common reasons reported by mothers included breast milk not being sufficient for the infant, their babies being fussy, not having enough production of milk, and other reasons such as family and health suggestions and breast problems. This study also found several breastfeeding problems, amounting to 71.5%. This table showed that mothers

Table 1. Sociodemographic Characteristics of Respondents

Characteristics	Category (n= 104)	Number	Percent
Age of mothers (years)	Under 20 y.o.	6	5.8
	20–35 y.o.	74	71.2
	More than 35 y.o.	24	23.1
Education of mothers	Elementary school	17	16.3
	Junior high school	37	35.6
	Senior high school	35	33.7
	University	15	14.4
Employment status of mother	Unemployed	95	91.3
	Employed	9	8.7
Number of children	1 child	34	32.7
	2–3 children	55	52.9
	≥4 children	15	14.5
Living with	Husband	63	60.6
	Parent	14	13.5
	Husband and parent	27	26.0

Table 2. Mothers' Breastfeeding Practice During the First Six Months of a Baby's Life

Variables	Category (n= 104)	Number	Percent
Complementary Food	No	65	62.5
	Porridge	33	31.7
	Rice	3	2.9
	Biscuit	2	2.9
	Fruit	1	1.9
Extra Drink	No	38	36.5
	Mineral water	38	36.5
	Formula milk	26	25.0
	Honey	2	1.9
Exclusive Breastfeeding (EBF)	Yes	32	30.8
	No	72	69.2
Breast Feeding Skill	Good	29	27.9
	Not Good	75	72.1
Number of Breast Problems	No problem	30	28.8
	1 problem	36	34.6
	2 problems	19	18.3
	3 problems and more	19	18.3
Non-EBF Reasons	Not sufficient	15	14.4
	Fussy baby	10	9.6
	Less breast milk produce	10	9.6
	Infant thirsty	8	7.7
	Mothers desire	7	6.7
	Mothers work	5	4.8
	Others	17	16.4
Breastfeeding Support	High	49	47.1
	Low	55	52.9

Table 3. Mothers' Breastfeeding Self-Efficacy (BSE)

Variable	Mean	Min-Max	95% CI	SD
Breastfeeding Self-Efficacy	58.58	18–70	56.32, 60.83	11.58
Technique Dimension	37.77	13–45	36.34, 39.20	7.37
Interpersonal Thought Dimension	20.81	5–25	19.91, 21.71	4.62

did not have sufficient breastfeeding skills (72. 1%). The majority of the mothers provided their infants with early complementary foods and extra drinks. Porridge was the most favorite complementary food (31.7%), and additional beverages such as mineral water and formula milk were commonly given to 6-month-old babies (36.5%). Approximately 52.9% of the respondents received minimal support from their family and surrounding people.

BSE among the mothers in this study was based on the BSES-SF score. Table 3 shows that the mean score for BSES was 58.58 with SD of 11.58. The minimum and maximum scores were 18 and 70, respectively. Majority of the respondents' scores were between 56.32 and 60. 83. Moreover, the mean score of BSES for technique dimension was 37.77 from nine questions with 45 as maximal score and 7.37 as SD. The respondents' scores were between 36.34 and 39.2

39.20 with 90.5% CI. In terms of interpersonal thought dimension of BSES (five questions), the score mean was 20.81 (4.62 SD). The minimum and maximum scores were 5 and 25, respectively. Majority of respondents' scores were in the range of 19.91–21.71.

On the basis of the bivariate analysis in Table 4, mothers who were older than 30 years old were more likely to have better BSES than those who were under 30 years old. The BSES is significantly correlated with a mother's age (p= 0.01) based on Table 4. Among the mothers, the multipara percentage was higher than the primipara percentage. However, paritas status was not significantly associated with BSES-SF. Although educated mothers and unemployed mothers are more likely to have better BSES than their counterparts, a mother's education and occupation were not significantly correlated with BSES in this study. The mothers living with their husbands possessed good mother breastfeeding self-efficacy than those who did not, but no significant correlation was found between those mothers and BSES in this study.

Discussion

This study revealed that breastfeeding is not a popular practice among mothers in rural area in Indonesia. Approximately, 69.2% of mothers fed their babies with complementary foods before their babies were 6 months old. These results were similar to another study in Indonesia, where only less than half of infants younger than 6 months old have been exclusively breastfed (Agrina et al., 2015; Afiyanti & Juliastuti, 2012). The national target for EBF in Indonesia is around 70% (Health Office of Riau, 2012), which shows that mothers discontinue to exclusively provide breast milk for their babies before 6 months of age.

The main reason for early provision of food supplementation during breastfeeding in this study was the perception of insufficient milk, and

Table 4. Bivariate Mother Breastfeeding Self-Efficacy (BSES) Analysis

Variables	BSES[a]			p
	Total	Low	High	
	104 (100)	42 (40,4)	62 (59,6)	
Age				
≤30 y.o	56 (53.8)	29 (27.9)	27 (26.0)	0.01
>30 y.o	48 (46.2)	13 (12.5)	35 (33.7)	
Education [b]				
Low	89 (85.6)	34 (32.7)	55 (52.9)	0.26
High	15 (14.4)	8 (7.7)	7 (6.7)	
Occupation				
Unemployed	95 (91.3)	37 (35.6)	58 (55.8)	0.33
Employed	9 (8.7)	5 (4.8)	4 (3.8)	
Parity				
Primipara	34 (32.7)	18 (17.3)	16 (15.4)	0.06
Multipara	70 (67.3)	24 (23.1)	46 (44.2)	
Living with				
Husband	63 (60.6)	27 (26.0)	36 (34.6)	0.36
Parent	14 (13.5)	7 (6.7)	7 (6.7)	
Both	27 (26.0)	8 (7.7)	19 (18.3)	

[a]based on BSES-SF score
[b]low: no school until senior high school; high: diploma or university

a crying infant was considered a sign that strengthened this perception. In this case, mothers perceive crying as the main indicator of insufficient breast milk (Lou et al., 2014). Perceived insufficient milk (PIM) is often experienced by breastfeeding mothers and is still being reported to date. PIM is the cause of early infant feeding and ultimately reduces EBF rates. These findings are in line with several studies that involved different samples (Hauck et al., 2011; Galipeau et al., 2018). Previous studies also reported that intervention of mothers' perceptions of milk insufficient is an important way to reduce early breastfeeding supplementation and discontinuation rates.

Several studies showed that mothers' perception of insufficient milk is significantly related to BSE. Self-efficacy is used for breastfeeding initiation and breastfeeding behavior prediction; it can be the strongest factor of successful breastfeeding (Tuthill et al., 2016). The majority of mothers with PIM in this study had higher BSE than those reported by other studies (Gokceoglu, 2017; Istikomah et al., 2020). Given that BSE measures mother's belief for breastfeeding ability of their baby, it is a reliable indicator of a mother's breastfeeding skills.

In this study, breastfeeding mothers faced various breastfeeding problems such as lack of breast milk, swollen breasts, and blisters on nipples. Breastfeeding problems that arise due to improper breastfeeding techniques in this study were mainly caused by insufficient breastfeeding skills. Mothers who do not properly breastfeed will experience reduced milk production, as mentioned in previous studies (Pertiwi, 2012). Breastfeeding failure is caused by an error in positioning and attaching the baby. This condition makes the mother's nipples suffer from blisters, which can make the mothers reluctant to breastfeed, result in reduced milk production, and cause the baby to hesitate to suckle. Furthermore, this lack of breastfeeding skills results from the low access of breastfeeding-related information and guidance from breastfeeding mothers' surroundings. In this study, more than half of the support received by breastfeeding mothers was categorized as low. A study by Agrina et al. (2019) revealed differences in breastfeeding skills between the intervention and the control group after receiving breastfeeding skill guidance.

In another study, Aprilia and Fitriah (2017) found that participants in the experimental group in breastfeeding classes who received formal training about breastfeeding have higher self-efficacy than respondents in the control group who did not benefit from breastfeeding formal training. A research conducted by Isyti'aroh and Rofiqoh (2017) showed a significant correlation between BSE and breastfeeding activities. High confidence about breastfeeding among mothers encourages them to practice correct activities or breastfeeding techniques. These studies have shown that self-efficacy influences breastfeeding. Breastfeeding mothers who have good knowledge about proper breastfeeding techniquees mothers feel more confident about breastfeeding than those with poor knowledge.

In this study, bivariate analysis revealed that a mother's age was significant in the BSES-SF score. Compared with young mothers, adult mothers are more mature in thinking and ready to play a role as a parent, especially in terms of caring for the baby such as breastfeeding. Mothers who are above 30 years old are more experienced in breastfeeding their babies than their younger counterparts. Women who are breastfeeding for the first time are more likely to have lower BSE than women who have previously breastfed (Hauck et al., 2011). Breastfeeding experiences increase mothers' BSES-SF scores.

Conclusion

This study showed that self-efficacy among rural breastfeeding mothers is high. However, maternal perceptions of insufficient milk are the main reason for breastfeeding supplementation in rural areas. Interventions to increase breastfeeding skills and follow-up studies on BSE in antenatal care for young mothers are necessary

in the future. Using local languages was a limitation in this study even though the majority of the respondents could speak Indonesian.

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PATIENT CHARACTERISTICS RELATED TO PHLEBITIS IN THE EAST COAST OF PENINSULAR MALAYSIA HOSPITAL

Azlina Daud*, Fatimah Mohamad

Kulliyyah of Nursing, International Islamic University Malaysia, Bandar Indera Mahkota, Pahang, Malaysia

*E-mail: damia@iium.edu.my

Abstract

The insertion of peripheral intravenous catheters (PIVCs) is common for treatment among hospitalized patients. However, this procedure usually fails before the end of therapy because of several complications, including phlebitis. Therefore, this study aimed to determine the incidence and associated factors of phlebitis among patients with PIVC. A prospective cohort study was conducted in one of the hospitals located in East Coast Malaysia. The presence of phlebitis was assessed using the visual infusion phlebitis score checklist. The patients were followed until PIVC removal. A total of 321 data were collected among patients who received a new PIVC in the medical, gynecology, and orthopedic wards. The incidence of phlebitis was 36.1% (n= 116), and 96.6% of which were grade II. Patients aged 60 years (51.5%), men (42.2%), no known phlebitis history (47.4%), and with chronic disease record (46.8%) were determined as the highest percentage with phlebitis. This study demonstrated that age, gender, and chronic diseases were risk factors of developing phlebitis.

Keywords: adult patient, peripheral intravenous catheter, phlebitis

Abstrak

Karakteristik Pasien yang Berhubungan dengan Flebitis di Rumah Sakit Pantai Timur Semenanjung Malayía. *Di antara pasien yang dirawat di rumah sakit, penyisipan kateter intravena perifer (PIVC) umum untuk pengobatan. Namun, prosedur ini seringkali gagal sebelum terapi selesai karena beberapa komplikasi. Salah satu komplikasi yang terjadi adalah flebitis. Oleh karena itu, penelitian ini bertujuan untuk menentukan kejadian dan faktor-faktor terkait flebitis di antara pasien dengan PIVC. Sebuah studi kohort prospektif dilakukan di salah satu rumah sakit yang berlokasi di Pantai Timur Malaysia. Kejadian flebitis dinilai menggunakan daftar periksa skor Visual Infusion Phlebitis (VIP). Para pasien ditindaklanjuti sampai pengangkatan PIVC. Terdapat 321 data yang dikumpulkan di antara pasien yang menerima PIVC baru di bangsal medis, ginekologi, dan ortopedi. Insiden flebitis ditemukan 36,1% (n= 116), 96,6% di antaranya adalah grade II. Pasien berusia 60 tahun (51,5%), pria (42,2%), pasien tidak memiliki riwayat flebitis (47,4%) dan pasien dengan catatan penyakit kronis (46,8%) tercatat sebagai persentase tertinggi dengan flebitis. Studi ini menunjukkan bahwa usia, jenis kelamin, dan pasien dengan penyakit kronis kemungkinan besar mengalami flebitis.*

Kata Kunci*: flebitis, kateter intravena peripheral, pasien dewasa*

Introduction

The indispensable usage of peripheral intravenous catheters (PIVCs) plays a significant aid in administering non-oral fluids, nutrition, and medications. It poses an essential risk to the health and safety of millions of hospitalized patients (Ho & Cheung, 2012; Tee et al., 2015). However, up to 75% of hospitalized patients developed phlebitis, which is a common PIVC complication (Enes et al., 2016). Phlebitis is an issue that influences patients with PIVC and impacts hospital cost and treatment process, which may lead to further complications such as catheter-related infection (Wallis et al., 2014). This issue is also notable among low-middle countries. Nobre and da Silva Martins (2018) defined phlebitis as inflammation of the vein wall and can be accompanied by symptoms such as pain, edema, and erythema near the catheter insertion site or along the affected vein, sometimes progressing to a palpable venous cord, in-

tense redness, tenderness, and fever.

In Malaysia, there is a lack of study regarding phlebitis and its risk factors, and only a few studies regarding thrombophlebitis or an advanced stage of phlebitis and its risk factor were conducted. Tan et al. (2012) reported a 32.5% incidence of thrombophlebitis among patients with PIVC in tertiary hospitals in Malaysia. The significant risk factors that contributed to the high incidence were dwelling time, infusate type, and gender. In Indonesia, the incidence rate of phlebitis was 40%, and a relationship between nurses' knowledge about infusion therapy and phlebitis percentage was found (Wayunah et al., 2013). A study in South Korea identified four significant predictive factors (six categories) of PIVC-related phlebitis for orthopedic patients, namely, vein quality, contrast agent use, hand hygiene, and nursing experience (Lee et al., 2019).

More evidence is needed to explore and identify the significant risk factors that contribute to phlebitis among patients with PIVC. Therefore, this study aimed to determine phlebitis incidence and the contributing factors among patients with PIVCs. One of the main objectives of the Ministry of Health (MOH) of Malaysia is to reduce the incidence of PIVC-related infection. The study findings will support the revision of the guidelines of PIVC management by the MOH to minimize the risk of phlebitis and subsequently reduce infections on the ward, provide safer hospital environments, and reduce costs to hospitals in infection control management (Choong et al., 2010). Phlebitis leads to increased discomfort in patients, more extended hospital stay, and higher healthcare costs (Wallis et al, 2014), and these risks can be minimized with risk factor modifications.

Methods

A prospective cohort study was conducted in one of the hospitals in East Coast Malaysia. The data were collected for 5 months. Approval from the Institutional Research Committee Board was obtained before data collection. A consecutive sampling method was used to recruit 321 respondents, and the participants were among patients who had PIVC in the medical, gynecology, and orthopedic wards. The inclusion criteria for this study were patients who received a new PIVC upon assessment, voluntarily agreed to participate in the study, and signed the written informed consent, which consists of the study details and participants' rights. The study excluded patients who were critical, on IV chemotherapy drugs, and with current infection.

The PIVC assessment of eligible participants was performed daily, starting from the first day of PIVC insertion to the day of PIVC removal. The assessment continued for 3 days post-PIVC removal. A data collection sheet was used to collect data on patient-related and outcome (phlebitis) characteristics. The incidence of phlebitis was evaluated using a modified visual infusion phlebitis (VIP) score checklist adapted from the Royal College of Nursing (2010). The VIP score checklist measures the presence, location, and severity of phlebitis. A score of 0 implies no signs of phlebitis; 1, possible first signs of phlebitis; 2, early stage of phlebitis; 3, medium stage of phlebitis; 4, advanced stage of phlebitis/start of thrombophlebitis; 5, advanced stage of thrombophlebitis. The phlebitis score was recorded for each PIVC.

SPSS software version 25.0 was used for data entry and analysis. Descriptive statistics were used to analyze the data. The associated factors of phlebitis were analyzed using the Pearson Chi-square test.

Results

The mean age of the patients in this study was 47 (±17.9) years, with most of the patients aged 60 years and above (30.2%). Most participants were women (52.0%), from the medical ward (55.5%), and have no phlebitis history (50.5%). In this study, 43.3% of patients were diagnosed with chronic diseases, such as diabetes mellitus, hypertension, chronic kidney disease, and heart

disease. Table 1 shows detailed information on patient characteristics.

Of patients with PIVCs, 36.1% (116/321) experienced phlebitis. The reason for PIVC removal was discharged, dislodged, treatment completion, leakage, and patient request. Most phlebitis patients had a VIP score of two (96.6%), and the rest had three (3.4%). The details of the results are shown in Table 2.

The incidence of phlebitis, according to patient characteristics, is exhibited in Table 3. Patients aged 60 years and above recorded the highest

Table 1. Patient Characteristics (n= 321)

Characteristics	Patients with PIVC	
	N (%)	Mean (SD)
Age (years)	321 (100)	
Age (categorical), years		47 (±17.9)
18–29	72 (22.4)	
30–39	63 (19.6)	
40–49	32 (10.0)	
50–59	57 (17.8)	
≥60	97 (30.2)	
Gender		
Male	154 (48.0)	
Female	167 (52.0)	
History of phlebitis		
Yes	64 (19)	
No	162 (50.5)	
Unknown	95 (29.6)	
Type of admission		
Medical	178 (55.5)	
Orthopedic	54 (16.8)	
Gynecology	89 (27.7)	
Presence of chronic disease		
Yes	139 (43.3)	
No	182 (56.7)	

*PIVC, peripheral intravenous catheter; SD, standard deviation.

Table 2. The Incidence Rate of Phlebitis, Reasons of PIVC Removal, and Score of Phlebitis (n= 321)

Variables	Frequency (n)	Percentage (%)
Phlebitis		
Yes	116	36.1
No	205	63.9
Reasons of PIVC removal		
Phlebitis	116	36.1
Discharged	121	37.7
Dislodged	44	13.7
Treatment completion	3	9.0
Leakage	19	5.9
Patient request	5	1.5
Not removed/not changed	13	4.0
Phlebitis score (n =116)		
2	112	96.6
3	4	3.4

Table 3. The Incidence of Phlebitis Related to Patient Characteristics (n= 116)

Variables	Phlebitis			
	Yes		No	
	N	(%)	N	(%)
Age (categorical), years				
18–29	13	18.1	59	81.9
30–39	19	30.2	44	69.8
40–49	12	37.5	20	62.5
50–59	22	38.6	35	61.4
≥60	50	51.5	47	48.5
Gender				
Male	65	42.2	89	57.8
Female	51	30.5	116	69.5
History of phlebitis				
Yes	29	45.3	35	54.7
No	42	25.9	120	74.1
Unknown	45	47.4	50	52.6
Type of admission				
Medical	69	38.8	109	61.2
Orthopedic	21	38.9	33	61.1
Gynecology	26	29.2	63	70.8
Presence of chronic disease				
Yes	65	46.8	74	53.2
No	51	28.0	131	72.0

Table 4. Associated Factors of Phlebitis Related to Patients Characteristics (n= 116)

Variables	Phlebitis				p
	Yes		No		
	N	(%)	N	(%)	
Age (categorical), years					< 0.001*
18–29	13	18.1	59	81.9	
30–39	19	30.2	44	69.8	
40–49	12	37.5	20	62.5	
50–59	22	38.6	35	61.4	
≥60	50	51.5	47	48.5	
Gender					0.03*
Male	65	42.2	89	57.8	
Female	51	30.5	116	69.5	
History of phlebitis					< 0.001*
Yes	29	45.3	35	54.7	
No	42	25.9	120	74.1	
Unknown	45	47.4	50	52.6	
Type of admission					0.28*
Medical	69	38.8	109	61.2	
Orthopedic	21	38.9	33	61.1	
Gynecology	26	29.2	63	70.8	
Presence of chronic disease					< 0.001*
Yes	65	46.8	74	53.2	
No	51	28.0	131	72.0	

*Pearson Chi-square test, p< 0.05 is significant at 95% confidence interval

phlebitis percentage (51.5%) and the largest population with PIVCs in this study. Besides, of 116 phlebitis patients, 42.2% were men and had a higher incidence rate of phlebitis than women, and 47.4% of patients had no known history of phlebitis but developed the condition later on. Most of the patients with phlebitis were admitted to the orthopedic ward (38.9%). Meanwhile, patients with a chronic disease record had the highest incidence of phlebitis (46.8%).

Table 4 shows the associated factors of phlebitis related to patient characteristics. The findings determined that patients' age (χ^2= 21.33; p< 0.001), gender (χ^2= 4.73; p= 0.03), history of phlebitis (χ^2= 14.85; p< 0.001), and presence of chronic diseases (χ^2= 11.99; p< 0.001) gave a significant association in the development of phlebitis.

Discussion

This current study underlined a 36.1% incidence of phlebitis among patients with PIVC. Globally, the incidence rate was reported between 0.5 % and 59.1%. Danski, Oliveira, Johann, Pedrolo, and Vayego (2015) and Enes et al. (2016) identified a 36.5% and 31.1% incidence rates of phlebitis in Spain and Brazil, respectively, which support the rate reported in the current study. However, both studies had a smaller sample size of 92 and 122, respectively, compared with this study.

As previously explained, the difference in the incidence of phlebitis between studies may be related to differences in sample size. However, the reasons can also be the different printing tools to identify the level of phlebitis and the slightly different definition and grade of phlebitis. In line with this study, phlebitis was defined as grade two and above based on the VIP scores by Arias-Fernández et al. (2017). In their study, they calculated 5.6% (*n*= 10) incidence of phlebitis, which is lower than this study. Another study by Kaur et al. (2011) found a higher incidence of phlebitis (56%; *n*= 112/200) by applying a similar VIP score tool. Also, the Infusion Nursing Society proposes the use of phlebitis scale by including grade one as phlebitis, whereas Enes et al. (2016) reported phlebitis as the most frequent complication (31.1%). Summarizing the results of some of these studies agrees with this research, including varying phlebitis levels from 5.6% to 56%. However, in this study, the incidence of phlebitis was considered high compared with that in previous studies by Arias-Fernández et al. (2017), Danski et al. (2015), and Enes et al. (2016).

A significant relationship was found between age groups and phlebitis incidence in this study. The age group of 40 years and above was a predictor factor for developing phlebitis. This finding was compatible with the results of Wallis et al. (2014) in which they reported a p-value of 0.05. Wallis et al. (2014) reported that the mean age of patients with the highest incidence rate of phlebitis in their study was 51.6 years, but it was 52.8 years in our study. In this study, the significant relationship between age and phlebitis incidence may be because most of the participants were from the advanced age group, who have fragile skin and are more vulnerable to phlebitis compared with younger patients (Pagán, 2016). However, many previous studies did not determine a significant relationship between age and phlebitis incidence, which could indicate that the high prevalence of phlebitis among the advanced age group could be reduced and prevented.

In this study, a significant relationship was found between gender and phlebitis development, which agrees with the studies of Abolfotouh, Salam, Bani Mustafa, White, and Balkhy (2014), Roca et al. (2012), and Wallis et al. (2014). In these previous studies, the portion of male participants was more significant than female participants, but in the current study, male patients had a higher incidence rate of phlebitis than female patients. It may be because there were more male patients in the orthopedic and medical wards, which were categorized as busy and hectic wards, compared with female patients who were more often from the gynecology

wards (Wallis et al., 2014). However, some studies by Kaur et al. (2011) and Saini et al. (2011) determined that the percentage of phlebitis among male patients was higher than among female patients, which was similar to this study. Nevertheless, the p-value showed no significant relationship between gender and phlebitis incidence in these studies (Kaur et al., 2011; Saini et al., 2011).

This study revealed that patients with phlebitis history significantly contributed to phlebitis incidence (45.3%). In comparison with other studies, Wallis et al. (2014) found no significant relationship between the history and incidence of phlebitis, with only 0.53% reported. In this study, the data were assessed by directly interviewing patients, which may also have contributed to bias due to overreporting or underreporting issues. However, it may be necessary to record patients' history of phlebitis on a PIVC-related form in the hospital to make nurses aware that that these patients are prone to develop phlebitis quickly and to encourage nurses to take precautionary steps to minimize the risk of phlebitis.

Patients with chronic disease conditions showed a significant association with the incidence of phlebitis. This study finding corroborates another study by Enes et al. (2016), which determined that patients with chronic diseases had a significantly higher risk of developing phlebitis. Nevertheless, few studies found a contradictory result to the current study findings, in which the presence of chronic disease does not give significant results regarding the development of phlebitis. However, Danski et al. (2015) suggested that patients without comorbidities or chronic diseases quickly recovered during hospitalization, which resulted in a lower occurrence of phlebitis. Therefore, it has been reported that patients with chronic disease conditions were at higher risk of phlebitis compared with patients without chronic diseases (Karina et al., 2014).

Conclusion

The high incidence rate of phlebitis acknowledged in this study indicated a worrying result for our healthcare system. It can also be concluded that the most significant risk factors for phlebitis are men, aged 40 years and above, and chronic disease history. These findings demonstrate that patients' characteristics also contribute to the development of phlebitis, although catheters and intravenous therapy cause phlebitis.

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PHENOMENOLOGICAL STUDY ON THE EXPERIENCE OF MALE NURSES IN CARING FOR FEMALE PATIENTS

Anik Maryunani[1*], Rr. Tutik Sri Hariyati[2], Enie Novieastari[2]

1. Regional General Hospital Depok, Depok 16435, Indonesia
2. Faculty of Nursing, Universitas Indonesia, Depok 16424, Indonesia

*E-mail: anikyunan@yahoo.co.id

Abstract

Nurses provide care equally and do not discriminate between men and women. However, male nurses face challenges and obstacles, especially when they take care of female patients. This study aimed to explore the experiences of male nurses who look after female patients by using a descriptive qualitative design with a phenomenological approach. Ten male nurse participants aged 26–43 years and having an experience of caring for female patients for at least 2 years were included in this study. Seven themes were identified: the discomfort of female patients and male nurses; patient's trust and privacy; the identification of factors affected by body image, age, and types of sensitive areas and actions; attention to the religion, personal beliefs, ethics, and culture of patients; professionalism, role, and competencies of nurses; communication strategies and asking for female nurses for assistance based on team methods; and the view of males in the nursing profession. This study focused on two of the main themes: attention to the religion, personal beliefs, ethics, and cultures of patients and communication strategies and asking female nurses on the team for help. Results suggest that nursing facilities need to improve their patient-focused services by considering a patient's ethical and cultural concerns, using communication strategies, and seeking team assistance when needed in accordance with a hospital's national accreditation standards.

Keywords: care, ethics, female patient, male nurse, patient culture

Abstrak

Studi Fenomenologi Pengalaman Perawat Laki-Laki dalam Merawat Pasien Perempuan*. Perawat memberikan asuhan yang setara dan tidak membeda-bedakan antara laki-laki dan perempuan. Namun perawat laki-laki menghadapi tantangan dan kendala, terutama saat merawat pasien perempuan. Penelitian ini bertujuan untuk mengetahui pengalaman perawat laki-laki yang merawat pasien perempuan dengan menggunakan desain deskriptif kualitatif dengan pendekatan fenomenologi. Sepuluh peserta perawat laki-laki berusia 26–43 tahun dan memiliki pengalaman merawat pasien perempuan setidaknya selama 2 tahun dilibatkan dalam penelitian ini. Tujuh tema diidentifikasi, yaitu ketidaknyamanan pasien wanita dan perawat pria; kepercayaan dan privasi pasien; identifikasi faktor yang dipengaruhi oleh citra tubuh, usia, dan jenis area dan tindakan sensitif; perhatian pada agama, keyakinan pribadi, etika, dan budaya pasien; profesionalisme, peran, dan kompetensi perawat; strategi komunikasi dan meminta bantuan perawat wanita berdasarkan metode tim; dan pandangan laki-laki dalam profesi perawat. Studi ini berfokus pada dua tema utama, yaitu perhatian pada agama, keyakinan pribadi, etika, dan budaya pasien serta strategi komunikasi dan meminta bantuan perawat wanita dalam tim. Hasil menunjukkan bahwa fasilitas keperawatan perlu meningkatkan layanan yang berfokus pada pasien dengan mempertimbangkan masalah etika dan budaya pasien, menggunakan strategi komunikasi, dan mencari bantuan tim bila diperlukan sesuai dengan standar akreditasi nasional rumah sakit.*

Kata kunci*: budaya pasien, etika, pasien perempuan, perawat laki-laki, perawatan*

Introduction

When providing health care services, nurses do not discriminate patients in terms of nationality, ethnicity, color, age, sex, political or religious affiliation, and position (Central Board of the Indonesian National Nurses Association, 2017). However, male nurses face various challenges and obstacles when they take care of female patients. These challenges and obstacles have

been felt by male nurses after the news regarding the alleged sexual abuse of female patients by male nurses broke out in early 2018.

Every provision of nursing care involves a proximity of a nurse to a patient, i.e., they are so close to each other that the Central Board of the Indonesian National Nurses Association (2017) described it as being like a mother close to her child. Aranda et al. (2015) and Bouret (2016) indicated that nursing has been traditionally considered a woman's profession, and this field is not for men. Nevertheless, some men still choose nursing as a profession, and the number of men choosing nursing as a career has increased (Tzeng et al., 2009).

Studies on male nurses treating female patients have generated different results. For example, Nipuli and Salmon (2015) conducted a qualitative research that involves five themes regarding male nurses and intimate care: (1) definitions, (2) experiences, (3) personal feelings, (4) strategies, and (5) professional support. They demonstrated that participants use two main strategies, namely, self-comfort and patient comfort. Zhang and Liu (2016) showed that stereotypical beliefs still exist in nursing, so nursing faculty members should create an atmosphere that encourages male students and nurses by ensuring that they believe that nursing is a profession suitable for both men and women.

A physical touch that is involved with nursing care can be felt at the start of a treatment, during treatment, and after hospital discharge. Although providing nursing care is essential, physically touching a patient's body can lead to feelings of discomfort, anxiety, or fear among patients, especially those from the opposite sex of nurses. Nurses who provide direct care to patients should be more aware of a patient's attitude toward physical touch.

In connection with touching, news about improper sexual behavior by male nurses toward female patients in hospitals in Surabaya have spread; as a consequence, a large number of opinions have disseminated in this community. This news has been a cause of concern for male nurses in hospitals throughout Indonesia. This study aims to explore the experiences of male nurses when they look after female patients.

Methods

A qualitative method with a descriptive phenomenological approach was used (Streubert & Carpenter, 2011). The participants were 10 male nurses who provided care to female patients at the X Regional Government Hospital in Indonesia and who were selected through a purposive sampling technique. These 10 participants were included because they reflected the phenomenon being studied.

Data were collected in three locations: an emergency ward, a theater ward, and medical and surgical wards, where male nurses might treat female patients. All of the participants had D3 nursing education; among them, three had a bachelor's degree in nursing and did not take Ners professional education. Data were collected via in-depth interview techniques with semi-structured open questions by using recording devices. The results of the recorded interviews were transcribed verbatim, and data analysis was performed.

The male nurses involved in this study were protected by strictly adhering to research ethics, including anonymity, confidentiality, privacy, dignity, autonomy, beneficence, non-maleficence, and justice. This study passed the ethical review of the Research Ethics Committee, Faculty of Nursing Universitas Indonesia (No. 102/UN2.F12.D/HKP.02.04/2018).

Results

Seven themes are identified and depicted by the participants,

Both female patients and male nurses experience a feeling of discomfort. An example of a patient's discomfort is described,

> *"The patient does not feel comfortable in situations like being treated for a wound in the breast area." (P1)*

An example of a nurse's discomfort is as follows:

> *"If a patient feels uncomfortable, then we feel uncomfortable as well." (P7)*

Nurses must maintain patients' trust and privacy. The importance of maintaining trust is demonstrated in the following example,

> *"I think to myself, 'does she lack faith in me because I am a male nurse?'" As nurses, we must maintain their trust by acting in accordance with our duties." (P10)*

The importance of maintaining privacy is revealed by the following:

> *"If a female patient refuses to accept our service, we must respect her privacy." (P9)*

Many factors are affected by body image, age, and types of sensitive areas and actions in female patients. For example, some factors interfere with body image:

> *"A patient might be upset because male nurses would be the one looking after her, and we could see her body, including her genitals." (P7)*

The identification of age sensitivity is shown in the example below:

> *"I have never had a female patient who is still young, but if she is over 40 years old, I have." (P6)*

In addition, the identification of the sensitive area of the body is revealed,

> *"Similar to the news in the media, sensitive areas, specifically around the breasts and genitals, must be carefully treated." (P4)*

An example of sensitive actions is revealed below:

> *"Actions such as catheter insertion are sensitive." (P1)*

The religion, personal beliefs, ethics, and culture of patients should be considered. The impact of religion is presented in the following example:

> *"Religion has an influence. If patients are fanatics, they do not want to be treated by male nurses." (P5)*

The effect of beliefs is described below:

> *"If the patient is a female patient, she is more concerned with her beliefs." (P10)*

The impact of ethics can be seen in the following example:

> *"I have to respect the patients whom I care for in accordance with our work ethics as a nurse." (P9)*

The influence of cultural factors is demonstrated below:

> *"In our country with an Eastern culture, it is not unusual to be like that—to rarely open up like that." (P6)*

The professionalism, role, and competencies of nurses in caring for female patients are important factors, as revealed by the following example:

> *"In my view, male nurses can care for female patients, i.e., in my opinion, it is okay as long as you are working professionally." (P6)*

The importance of the nurses' role is revealed by the following:

> *"I really enjoy my role as a nurse because I can help people and know about health." (P10)*

In addition, the significance of the competencies of nurses is shown below:

> *"That is what my actions have, my competence." (P8)*

Several communication strategies are provided, and the importance of asking for help from the female nurses on the team is highlighted. The first strategy, i.e., communicating, is demonstrated as follows:

> *"Until now, Alhamdulillah, I have no problems because I communicate first with my patients and their families." (P10)*

The second strategy of giving an explanation is described below:

> *"Before an action is taken, we have to clearly explain it to a patient." (P1)*

The third strategy of asking for approval is shown in the following:

> *"If I want to install a catheter, I ask for approval, if I am a male nurse who will install it; if they do not want me to, I call a female nurse who will install it instead." (P5)*

The fourth strategy of requesting permission is revealed below:

> *"If a patient is in postoperative care, before inserting the suppository cathrofen, I get permission from her family." (P1)*

The fifth strategy of making a contract is described below:

> *"The point is that we have a contract with patients first, what kind of contract should we do, what is its purpose, keeping the time of the contract." (P6)*

The sixth strategy of establishing relationships is revealed in the following:

> *"If I go further into this approach, it is related to nurse-patient trust." (P7)*

The seventh strategy of using humor is observed in the following:

> *"We make the atmosphere more intimate. For example, we try to be humorous so that she feels less awkward." (P7)*

A strategy to ask for help from female nurses on the team is presented below:

> *"As long as we have a limitation on what we can do, we must know when we should ask for help from our female colleagues." (P3)*

The view of male involvement in the nursing profession is also described. This theme includes three categories, namely, the motivation of male nurses to enter the nursing profession, their views on the nursing profession, and the label of a male nurse. The motivation for becoming a male nurse is revealed by the following:

> *"I chose to work as a nurse myself because in the past it was easy to get a job as a nurse. Also I got advice from my uncle if I wanted to work quickly better nursing school…" (P4)*

The views on the nursing profession are revealed below:

> *"I disagree that nursing should be considered a woman's profession because the action that we do is a professional one, not because of being a man or a woman." (P6)*

Patients call male nurses with the following terms:

> *"We are often called mas, while we are called brothers, sisters, or doctors in other instances." (P3)*

Discussion

Seven themes were obtained in this study, and

the results were interpreted and discussed on the basis of a literature review.

Uncomfortable Feeling between Female Patients and Male Nurses. The need for comfort is one of the most basic human needs. In this study, the participants believed that some female patients felt uncomfortable when they were receiving treatment from male nurses. Chan (2014) stated that a majority of patients prefer female nurses, because they feel more comfortable with them. Female patients who feel the most uncomfortable are the young ones.

This study also considered the uncomfortable feelings of male nurses. Nipuli (2015) indicated that the first feeling of discomfort can be felt when a urine catheter is inserted into a female patient's body. This procedure is a challenge for male nurses.

The characteristics of the participants included a variety of ages and ethnic groups. Roussel et al. (2016) stated that different labor forces are advantageous for an organization because they allow variations in opinions and experiences that can lead to innovation. A share of nursing managers acting as leaders is necessary to manage a diverse workforce.

Feelings of discomfort in both female patients and male nurses should not occur if a hospital implements the Patient and Family Rights Standard (PFR) of the Hospital Accreditation Standards (KARS, 2018). In other words, hospital regulations are in place to support the rights of patients/families during care. Male nurses likely experience conflicts, and the head of a room is expected to facilitate conflict resolution so that a conducive work environment can be established (Sitorus & Panjaitan, 2011).

Maintaining of Patients' Trust and Privacy. This study also noted the importance of maintaining trust. According to the PFR, a hospital builds trust and open communication with patients to understand and protect their cultural, psychosocial, and spiritual values. Trusting that one is being told the truth is the basis for fostering a relationship of mutual trust between patients and nurses.

This study also noted the relevance of maintaining privacy. According to PFR standards, information about patients must be kept confidential, and hospitals must maintain the confidentiality of patient information and respect the privacy needs of patients. Privacy involves preventing the leakage of information about the health status of a patient.

Maintaining patient privacy according to Hospital Governance/TKRS involves the following; managers create and support a safety culture in hospitals. Healthcare professionals avoid inappropriate behaviors, such as using words or body language to demean or offend, cursing, disruptive or improper verbal and nonverbal behavior, and harassment related to race, religion, or ethnicity, including gender and sexual harassment (Hospital Accreditation Commission/ KARS, 2018).

Nursing managers should focus on their staff to ensure that they are maintaining patients' trust and privacy. Huber (2014) mentioned that staff co-managers should meet the demands of patient-focused care to improve quality and safety and to develop an organizational culture that enhances innovation and evidence-based practice.

Identification of Factors Affected by Body Image, Age, and Types of Areas and Actions that are Sensitive to Female Patients. These factors should be identified at the initial assessment of a patient. A patient's assessment standard (AP) indicates that a hospital determines the content, number, and type of initial assessments made for patients based on medical and nursing disciplines, including a physical examination, analysis of the medical history, and assessment of the biological, psychological, social, economic, cultural, and spiritual traits of patients. The concept of patient-focused service is the basis for providing patient care in hospitals. Grogan (2018) indicated that body image refers

to the perception, thoughts, and feelings of individuals about their own body. Nurses should realize how a patient's body image can lead to feelings of discomfort because of the beliefs and values that they have about sensitive body parts.

This study revealed that the participants referred to their sensitive areas as "intimate areas" and related actions in these areas as "intimate care" (Nipuli & Salmon, 2015). Some kinds of sensitive care can be carried out by patients/families/trained caregivers, but their implementation must be coordinated among all care providers (PPA) in accordance with Patient Care and Care (PAP). Nursing managers play an important role in optimizing managerial functions, especially in providing direction and considering all operations.

Attention to the Religion, Personal Beliefs, Ethics, and Culture of Patients. This study focused on the religion, personal beliefs, ethics, and culture of patients. Hospitals provide care in accordance with the standards of the PFR by respecting the religion, beliefs, and personal values of patients and by responding to requests related to spiritual guidance. Every religion offers a moral teaching that influences the behavior of followers (Bertens, 2013). In everyday life, our most important and strongest motivation is found in religion.

Respecting patients through nursing ethics aims to support other ethics-related subjects (Central Board of the Indonesian National Nurses Association, 2017). In this study, the related subjects were male nurses with female patients. According to the TKRS, the hospital framework for ethical management supports ethical decision-making in clinical and nonclinical services. A hospital can establish a committee or a team that manages hospital ethics. The ethics and professional discipline subcommittees of the nursing committee are described in the Minister of Health Regulation No. 49 of 2013.

The cultural factors identified by participants are generally associated with the Eastern culture and conservative ideas about interactions between the sexes. Culture is related to a patient's habits. Similarly, Hart and Mareno (2014) stated that nursing care must overcome the challenges of caring for culturally diverse groups.

Nursing managers should have strong team leadership skills. Roussel et al. (2016) indicated that managers working with teams should consider the thoughts and needs of the staff by focusing on patients. The aims of the Communication and Education Management Standards state that hospitals should determine the population that they serve in terms of the demographics of age, ethnicity, religion, education level, and language used. They should also assess communication barriers and provide translators as needed on the basis of the MKE assessment.

Professionalism, Role, and Competencies of Nurses when Caring for Female Patients. The results of this study were in accordance with the Standards of Competency and Staff Authority. In particular, hospitals should ensure that they have a competent nursing staff in accordance with the mission, resources, and needs of patients; nurses must be competent to provide care and be specific to the type of nursing care. Professionalism must always be maintained by every nurse.

Alligood (2017) defined a nurse's role as a set of behaviors expected from people who have a social system, rights, and obligations. The nurses who participated in this study are devoted professional or vocational members of a staff in accordance with Law No. 38 of 2014. In addition, the related topic of nurse competencies is in accordance with Article 18 of Law No. 38 of 2014. Practicing nurses must have an STR, including a competency certificate or professional certificate (Ministry of Law and Human Rights, Republic of Indonesia, 2014). Competence is needed to distinguish competent nurses from incompetent ones.

To protect patients and keep them safe under nursing care, nurses must perform interventions

in accordance with their competencies (Central Board of the Indonesian National Nurses Association, 2017). Advocacies should be performed to ensure that interventions provided by male nurses are always safe. According to the Ministry of Health, Republic of Indonesia, Regulation No. 40 (2017), nurse competencies have four types, namely, clinical nurses, nurse managers, educator nurses, and research nurses. All of the participants were clinical nurses. The majority had a diploma education, but they did not take NERS. Nurses need to undergo continuing education to improve the quality of care. Hariyati (2014) stated that nurses are obliged to have an awareness of competencies, careers, and organizations that have policies in career development.

Nursing managers contribute to the professionalism, role, and competencies of nurses. The researcher believed that the organization related to the professionalism, role, and competencies of nurses w the field of nursing. Hariyati (2014) stated that one of the nursing tasks is nurse mapping, and researchers argued that this mapping should include setting shift schedules so that an equitable composition of male and female nurses would be available in each team in consideration of work distribution. Mapping should also consider the physical and psychological conditions of nurses.

Some Communication Strategies and Asking for Help from Female Nurses on the Team. This study showed that several communication strategies could be implemented to communicate with patients and ask for help from female nurses on the team. Communication is the process of directly or indirectly spreading information from one person to another (Alligood, 2017). It is a component of information developed through interactions.

The first strategy is maintaining direct communication. Nurses must speak softly and use polite words when they begin to communicate with patients. The Central of Board of the Indonesian National Nurses Association (2017) indicated that nurses must show a professional behavior and speak softly; they must always be friendly and courteous in accordance with the nurses' code of ethics.

The second communication strategy is providing an explanation to patients. According to Article 37 of Law No. 38 of 2014, nurses are obliged to provide complete, honest, correct, clear, and comprehensible information regarding nursing actions to patients and families within the limits of their authority (Ministry of Law and Human Rights, Republic of Indonesia, 2014). This communication strategy can be carried out by nurses when they are performing and explaining procedures and when they are obtaining a patient's approval.

The third communication strategy is asking for approval. According to Article 38 of Law No. 38 of 2014, patients have the right to give consent or reject nursing actions to be received (Ministry of Law and Human Rights, Republic of Indonesia, 2014). Nurses must respect their patients and their autonomy to decide on a nursing action.

The fourth communication strategy is asking for a permission. Menendez (2013) stated that nurses must ensure that legal, voluntary, and informed permission is given by competent people. Before taking an action, a nurse must ask permission from patients/families.

The fifth communication strategy is creating a contract. A nurse's contract is exemplified when a nurse begins work by telling a patient about working hours and says goodbye when the working hours end.

The sixth communication strategy is establishing a relationship. According to PFR standards, when a patient is admitted and registered for outpatient/ inpatient care, he or she is asked to sign a general consent form. Introducing oneself creates a close relationship with patients.

The seventh communication strategy is using

humor. Sheldon (2009) mentioned that humor can help create a calm environment, relieve tension, and become a useful communication tool for patients.

Asking for help from female nurses on the team was included among the strategies male nurses used when they were caring for female patients. Male nurses are working for the welfare of their patients in accordance with the Central Board of the Indonesian National Nurses Association (2017), which stated that asking for assistance meets the beneficence principle. In other words, an activity is beneficial to patients. Fisher (2009) also indicated that the presence of a companion is important for counteracting the occurrence of sexual abuse between patients and nurses from the opposite sexes. This study further found that treatments were more efficiently given by nurses who have the same sex as their patients. The TKRS standards are intended to ensure nondiscriminatory practices in employment relationships and provisions of patient care by remembering the legal and cultural norms of the Indonesian state.

In response to the results of this study, nursing managers must improve the effectiveness of their communication with their staff in accordance with the SKP standard. According to this standard, hospitals should establish regulations to implement processes that increase the effectiveness of verbal and telephone communication between PPAs.

View of Male Involvement in the Nursing Profession. This study focused on increasing male involvement in the nursing profession by exploring the motivation of the participants before they chose the nursing profession, the views of male nurses on nursing, and what male nurses are called by patients. The results were consistent with those of Blair (2016), who described the main themes and subthemes of motivational factors (job opportunities, work flexibility, and financial stability) and eliminated gender barriers. Male nurses various motivations about choosing the nursing profession.

This study related the views of male nurses on the stigma of the nursing profession. Frimpong (2016) stated that men consider the stereotypes to be caused by the stigma that nursing is a female profession, not a male profession, with white clothes and stamps.

This study also found that the nursing profession requires great energy for male nurses who conduct various procedures, such as resuscitation and referring. O'Lynn and Krautscheid (2011) mentioned that male nurses are suitable for physical tasks. Male nurses often serve in the ED, ICU, and areas with a large amount of medical equipment. Roth and Coleman (2008) mentioned that many men in nursing are drawn to emergency rooms and mental health facilities because these places are not historically perceived as areas requiring feminine roles.

This study found that the number of men pursuing nursing increased, but the number of women was still greater than that of men. Blair (2016) stated that the number of men in the nursing profession has significantly increased, but the proportion is still predominantly composed of women. Barrett-Landau and Henle (2014) revealed that the demand for male nurses in the labor market is high although male nurses in hospitals are considered as "scarce human resources."

This study included data on what male nurses were called: including brothers, mas, fathers, rarely *mantri*, sometimes doctors in white uniforms, and even mas nuns. Male nurses are often mistaken for doctors. Considering the results of this study on the views about the involvement of men in the nursing profession, nursing managers need to focus on this condition. Huber (2014) and Roussel et al. (2016) indicated that changes in the role of work and gender differences occur, and nursing managers must be able to create a work environment based on specific needs and responses to different workforce requirements.

Conclusion

This study obtained seven research themes that supported the experiences of male nurses when they took care of female patients. Two main factors based on these themes were mainly observed: (1) focusing on the religion, personal beliefs, ethics, and culture of patients and (2) using several communication strategies and asking for help from female nurses on the team. This study suggested that nursing services should improve patient-focused services by paying close attention to ethical factors and patient culture and by implementing communication strategies and asking for team assistance in accordance with a hospital's national accreditation standards.

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PURSUING THE NEED FOR PHYSICAL ACTIVITY IN RECURRENT CVA PATIENTS DURING HOSPITALIZATION: A CASE REPORT

Stepanus Maman Hermawan[1*], Hany Wihardja[2]

1. Department of Nursing, Faculty of Medicine and Health Science, Universitas Kristen Krida Wacana, Jakarta 11470, Indonesia
2. Department of Nursing, Sint Carolus School of Health Science, Jakarta 10440, Indonesia

*E-mail: stepanus.hermawan@ukrida.ac.id

Abstract

Cerebrovascular accident (CVA) is a neurological deficit condition caused by an acute focal injury of the central nervous system by cerebral infarction or intracerebral hemorrhage. CVA patients who do not reduce risk factors after the first attack have an 8.7 times higher risk of CVA recurrence. The effect of a recurrent CVA is six times greater than the risk of a first CVA in the general population of the same age and sex, and nearly half of them remain alive but are physically disabled. This case report illustrates the process of recurrent CVA and disability experienced by a 69-year-old Malay woman, a patient at a private hospital in West Kalimantan. The nursing strategy of two post-CVA physical rehabilitation exercise programs for patients during hospitalization will be explained according to the stages in nursing theory.

Keywords: hospitalization, physical activity, recurrent cerebrovascular accident

Abstrak

Mengejar Kebutuhan Aktivitas Fisik Pasien CVA Berulang Selama Hospitalisasi: Laporan Kasus. *Cerebrovaskuler Accident (CVA) adalah kondisi defisit neurologis karena cedera akut pada sistem saraf pusat disebabkan infark serebral atau perdarahan intraserebral. Pasien CVA yang tidak menurunkan faktor risikonya secara optimal setelah serangan pertama memiliki risiko CVA berulang sebesar 8,7 kali lebih tinggi. Efek dari CVA berulang adalah 6 kali lebih besar dari episode CVA pertama pada populasi umum, dengan usia dan jenis kelamin yang sama, hampir setengah dari mereka tetap hidup tetapi mengalami cacat secara fisik. Laporan kasus ini menggambarkan penyakit CVA berulang dan kecacatan yang dialami seorang wanita Melayu berusia 69 tahun, seorang pasien di Rumah Sakit Swasta, Kalimantan Barat. Strategi keperawatan untuk dua program latihan rehabilitasi fisik pasca-CVA bagi pasien selama hospitalisasi akan dijelaskan sesuai dengan tahapan pada teori keperawatan.*

Kata Kunci*: aktivitas fisik, CVA berulang, hospitalisasi*

Introduction

According to the American Stroke Association (2018), cerebrovascular accident (CVA) is the fifth cause of death and disability in adults. More than 4 million CVA survivors survived with varying degrees of disability. The severity of paresis after a CVA is related to functional capabilities, neurological disorders, and mortality (American Stroke Association, 2018). The most common residual effect after CVA is hemiparesis in the contralateral upper limb, with more than 80% of CVA patients experiencing this condition acutely and becoming permanently disabled for life (Hatem et al., 2016).

In 2015, the incidence of CVA sufferers in America reached 142,142 deaths, and there was an increase of 5.8% in 2016, and the rest were permanently disabled (American Stroke Association, 2018). In the same year in England, CVA was the second leading cause of death after cancer, heart disease, and respiratory problems and caused nearly 50,000 deaths (Donkor, 2018). In 2018, the prevalence of CVA in Indonesia in a population of 1000 aged over 15

years reached 10.9% (Ministry of Health Republic of Indonesia, 2018).

The main factor in CVA patients being unable to perform daily activities is because their body experiences weakness, decreased muscular endurance, decreased range of motion, sensory disturbance, and body balance problems. Motor impairment is the most common deficit after CVA, which happens as either a direct consequence of the lack of signal transmission from the cerebral cortex or a slowly accumulating process of cerebral injuries or muscle atrophy due to learned disuse (Lui & Nguyen, 2018). Some studies also argue that the above conditions can trigger recurring CVAs due to falls or severe stiffness (Park et al., 2016). The most frequently disrupted physical activity in CVA patients is activities of daily living, such as the ability to eat, bathe, dress up, and move their upper and lower limbs (Whitiana et al., 2017).

CVA patients, families, and medical teams can prevent a permanent motor disability that may occur with post-CVA rehabilitation. The golden time to start post-CVA therapy is 24–48 h after the attack if the condition of the sufferer is stable.

Nurses have an important role as educators, motivators, and promoters of patient health when hospitalized (Theofanidis, 2016). This role can support the patient to have motivation for recovery and have a high quality of life. Patients with recurrent CVAs often face situations of despair and depression due to the disability experienced. The hospitalization period is the right time for nurses to combine their roles to improve patients' physical function to increase their desire to have a better lifestyle with repetitive exercises (Hillis & Tippett, 2014).

This case report aimed to describe the application of nursing knowledge and practice on a recurrent CVA patient. Care must prioritize holistic care in terms of the biological, psychological, and spiritual aspects of the patient. Interventions conducted in the case of patients with recurrent CVAs are focused on an interpersonal approach so that commitment can be formed in exercises to be guided by nurses. Nurses also become a support system by helping fulfill basic human needs during hospitalization.

Case Illustrations

Mrs. B, a 69-year-old Malay woman, was diagnosed with ischemic CVA. She has a high cholesterol level and hypertension for more than 13 years. Her computed tomography brain scan on February 11, 2019, showed evidence of infarct recurrence in the left occipital-parietal region. She presented with a progressive right upper and lower limb weakness, slurred speech, and right-sided facial weakness. Further history revealed that she had one previous episode of CVA in the past 3 years with similar findings, although she had fully recovered from this episode and had no disabilities.

The results of further investigation with her son found that Mrs. B likes to eat salty foods and rarely exercises, and this lifestyle continued after the first CVA episode. She was discharged on Captopril 5 mg daily, but sometimes, she forgot to take her medication when she went out for a day.

On February 10, Mrs. B came to the hospital after experiencing difficulty in lifting a spoon and swallowing food at breakfast. She immediately cried and called her son to drive her to the hospital. The patient was treated quickly in the emergency department because she already had a previous medical record. The patient was then referred to the inpatient unit for recovery. In the emergency department, the patient was given antihypertensive medication, antiplatelet therapy, Ringer's lactate fluid infusion, and a urine catheter was inserted to solve urinary incontinence.

Existing Condition. On examination, she could not walk independently. She was oriented to time, place, and person but had slurred speech.

Her body mass index was 30 kg/m^2, blood pressure 150/80 mmHg, and pulse rate 74 beats per minute with regular rhythm and good volume. Her lower limb reflexes were brisk, but foot sensation was not intact with motoric power of 4/5 in the right upper and lower limbs. There were no signs of peripheral neuropathy.

This hospitalization had made Mrs. B depressed. She had poor sleep at night and had loss of appetite due to swallowing difficulties. Mrs. B repeatedly complained that she was sad because she was unable to move her right hand independently. She sometimes cannot feel the sensation if someone touched her right hand. Mrs. B also coughed more frequently when drinking or eating biscuits. She said that she did not experience any of these in the first CVA episode, so the recurring CVA made her depressed.

An interview with family found that Mrs. B became more reserved and closed. She seemed to cry when she was alone or when bathed by nurses. She only wanted to talk to her son and the nurse who cared for her from the beginning in the inpatient room.

Assessment. Her laboratory tests are shown in Table 1. Her electrocardiogram result was normal.

Implementation. For 3 weeks, from February 14 to March 6, 2019, the nursing team did two post-CVA exercises, namely, strengthening and shaker exercises. The goal of the nursing team was to maximize the physical activity abilities of post-CVA patients. This improvement in physical function was crucial because it supports the quality of life and emotional status of patients after a CVA episode. The intervention phase was divided into two, namely, the preparation and implementation stages.

In the preparation phase, nurses provided health education about the function of the exercise and the objectives to be achieved. The nurse team then built patients' commitment to do the exercises regularly. In the implementation stage, Mrs. B did strengthening exercises three times a day for a week for 5 to 10 min combined with shaker exercises 5 days a week for 5 min.

Outcome. After 3 weeks, the review showed that the muscle stiffness was better. Mrs. B can move her right upper and lower limbs when instructed by the nurse, but she was still unable to resist pressure when applied to the right lower limb. The patient also showed improved swallowing function so that she never experienced a cough or aspiration while eating.

Discussion

Mrs. B was diagnosed with ischemic CVA, and she had a high cholesterol level and hypertension for more than 13 years. She presented with a progressive right upper and lower limb weakness, slurred speech, and right-sided facial weakness. Further history revealed that she had a prior CVA episode in the past 3 years with similar findings, although she had fully recovered from this episode and had no disabilities. CVA is the leading cause of disability in adults and has the highest diagnostic rate in long-term care (Johnson et al., 2016). High mortality due to CVA causes significant morbidity in patients who survived a CVA due to a post-CVA parlaysis condition. The most impacted disability is a

Table 1. Laboratory Results of the Respondent in February 2019

Investigation	Result
Total cholesterol	220 mg/dL
HDL cholesterol	98 mg/dL
LDL cholesterol	159 mg/dL
ECG	Normal

HDL, high-density lipoprotein; LDL, low-density lipoprotein; ECG, electrocardiogram.

decrease in functional ability and muscle strength. The case of Mrs. B shows that the patient had a recurrent CVA, and in this second CVA episode, there is a right hemiparesis. Cahyati et al. (2013) argued that hemiparesis in the upper limb can make patients experience various limitations so patients become dependent on others for activity. This caused the sadness and depression experienced by Mrs. B.

For many individuals who have experienced a CVA, muscle weakness is the most prominent impairment. The intervention used by the nursing team to optimize hemiparesis recovery experienced by Mrs. B was muscle and physical exercise. This exercise is done to prevent stiffness, deformity, and permanent disability. Approximately 20% of all post-CVA patients in America use walking aids because post-CVA rehabilitation is not optimal (Maguire et al., 2012). Mrs. B's strengthening exercise was performed for 5 to 10 min, as many as 3 days a week for 3 weeks, and conducted according to her condition, whether she can be on her own or with the help of a nurse.

Strengthening exercises aim to reduce pain and maintain muscle strength, and they include two core exercises, namely, hamstring and quadriceps (Ada et al, 2013). The results of repetitive exercises can also increase muscle strength and confidence in dealing with the weaknesses experienced. Muscle strength and limb blood flow will increase because of the increase in the amount of oxygen delivered to the capillary extremities through hemoglobin and red blood cells (Ada et al., 2013).

After 3 weeks of training, Mrs. B showed better muscle strength of the right hand and leg. She can move her right upper and lower limbs when instructed by the nurse, but she was still unable to withstand pressure when applied to the lower limbs. A study explained that optimal results can be obtained after 6 months of repetitive training (Ada et al., 2013). In addition to muscle strength, the quality of patients' daily activities can also improve.

Another disability experienced by Mrs. B was right-sided facial weakness due to speech slurring and swallowing difficulties. A Mayo Clinic study showed that 60% of CVA patients with long-term home care experience dysphagia (Rudberg et al., 2015). Central nervous system deficits, local structural lesions, or CVAs can cause dysphagia. Patients with dysphagia can usually only be identified after the patient has aspiration (Shaker & Geenen, 2011).

The appropriate treatment of dysphagia can be determined by the type of aspiration in the patient. There are three types of aspirations, namely, predeglutitive aspiration, which occurs when a patient is chewing in preparation to swallow food; intradeglutitive aspiration, which occurs when food traverses to the pharynx; and postdeglutitive aspiration, which occurs after a swallow is finished (Shaker & Geenen, 2011). Mrs. B's case experienced predeglutitive aspiration characterized by coughing at the beginning of the entry of food or drink. She also had difficulty swallowing food.

The intervention of nurses to improve the patient's swallowing ability was oropharyngeal exercise, namely, shaker exercise or shaker maneuver. This exercise significantly strengthens the suprahyoid muscles that experienced weakness. The movements practiced in this exercise are repetitive movements of raising the head to look at the toes, lowering the head back to the bed, and repeating the steps 30 times in 60 s (Shaker & Geenen, 2011). This exercise must also be adapted to the patient's condition and can be evaluated using the swallowing performance scale so that the changes in the swallowing force of the patient can be assessed (Rudberg et al., 2015).

In the case of Mrs. B, the shaker exercise was performed within 3 weeks, and a decrease in the frequency of coughing during eating and drinking indicated an increase in swallowing ability. The shaker exercise is easy to learn and possible to perform, but a relationship of trust is needed because the patient and trainer must have the

same goals and motivation so that the exercise is done with commitment (Kang et al., 2012).

Another risk factor for CVA in Mrs. B's case is hypercholesterolemia. Nurses should play the role of a health educator for patients and families to overcome this. Drug and non-drug treatments can reduce hypercholesterolemia. Nurses must provide education about the risk factors for hypercholesterolemia that can and cannot be controlled for effective management (Feldman et al., 2015).

Eating patterns and physical activity can determine the body's cholesterol levels. Food consumed undergoes a metabolic process and produces adenosine triphosphate (ATP), which is the energy source for physical activity. ATP formation is adjusted based on the body's needs so not all food is directly converted into ATP, and some are stored in the form of cholesterol. More physical activities performed increase ATP needs and will cause the least cholesterol formation. Mrs. B has several risk factors that cannot be controlled such as the age of 69 years and the gender of women who are more prone to increase LDL compared with men after menopause. Nurses can work closely with nutritionists to determine fatty foods that should be avoided to reduce patients' LDL cholesterol levels.

More than 30% of CVA patients require assistance with daily living, and approximately 15% require care in assisted-living facilities such as a nursing home. Strengthening exercise and shaker maneuver were performed to speed up the rehabilitation process of Mrs. B and prevent permanent disability. Disabilities can inhibit patients from performing physical activities that can ultimately make them more stressed to the condition after a recurrent CVA (Duncan, et al., 2011).

The rehabilitation time is crucial for nurses to avoid decreased muscle strength and progres-s ive nerve sensations in the limbs. Therapeutic programs for CVA cases are usually divided into three: the acute, subacute, and chronic phases (Department of Health & Human Services USA, 2014). In ischemic CVA, rehabilitation in the acute phase is the best choice because the rehabilitation program is simple and prevents permanent body disability.

Physical activity is essential to improve and maintain physical fitness. In the case of Mrs. B, muscle rehabilitation and oropharyngeal strength training are important so that the patient has a high quality of life despite having had a CVA. Disability in patients can also trigger stress and depression, which are risk factors for CVA recurrence (Willey et al., 2010). Physical inactivity contributes to low physical fitness observed after CVA, so the role of nurses in the rehabilitation process is essential for patients.

Nurses caring for CVA patients involve multitasking as the condition itself is complex and challenging (Theofanidis, 2016). The role of the nursing profession simultaneously for 24 h with patients is critical because it can be a key relationship that is trusted by the patient. Rehabilitation should start as early as possible after CVA, and nurses in CVA rehabilitation should be reassured of the importance of their therapeutic role in encouraging and assisting patients to persevere activating their affected sides as nurses are with the patient longer than any other healthcare professionals.

Conclusion

Mrs. B was a patient who had a recurrent CVA, a type of ischemic CVA caused by hypercholesterolemia. The patient had a history of hypertension and risky lifestyle such as eating salty food. The physical finding obtained from the patient was paralysis in the right body including her face. The patient also experienced slurred speech, asymmetrical mouth, frequent coughing when eating, and difficulty swallowing so her appetite decreased.

Nurses are recommended to pay attention to the most appropriate time and practice for patients' rehabilitation period during hospitalization. The

key to improving the quality of life of post-CVA patients is to maintain their ability to perform physical activities, so nurses must play their roles as educators, motivators, and promoters. The nursing management in the acute phase of CVA patients is useful so that CVA does not progress and disability is limited.

Therefore, nurses must consider the golden hour and essential aspects of care for CVA patients to promote faster recovery and improve long-term prospects. However, nurses in CVA recovery, in particular, are key players in the wider rehabilitation team. Caring and motivating patients to achieve optimal recovery are the important things of rehabilitation programs.

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RELATIONSHIP BETWEEN NURSES' READINESS AND INSTITUTIONAL READINESS IN DEVELOPING NURSING CAREER PATHS IN PUBLIC HEALTH CENTERS

Tuti Afriani[1*], Rr. Tutik Sri Hariyati[1], Dyah Fitri Wulandari[2]

1. Faculty of Nursing Universitas Indonesia, Depok 16424, Indonesia
2. Regional General Hospital Depok, Depok 16511, Indonesia

*E-mail: tutiafriani@ui.ac.id

Abstract

Nursing career paths in public health centers have not been well established compared with nurses in hospitals. It is because the nursing career path has a different organizing system, which then becomes an obstacle in implementing the career path for nurses in primary health care. Therefore, this study aimed to identify the relationship between institutional and nurses' readiness in implementing nursing career paths within public health centers. A cross-sectional study design with questionnaire as instrument was used in this research. A consecutive sampling technique was used to select 93 nurses from 13 public health centers. Furthermore, to identify the objective of this research, the Spearman's correlation coefficient was used to determine the relationship between paired data. The results found that institutional readiness was 64 or 71.9% of maximum values, yet nurses' readiness was 112 or 74.5% of maximum values. Thus, it can be concluded that there was a meaningful relationship between institutional and nurses' readiness with career path implementation ($p< 0.001$), indicating a strong positive relationship ($r= 0.521$). The results of this study are expected to become a baseline data for public health centers and public health offices to establish a professional nursing career path in public health centers.

Keywords: career path, implementation, nurses, public health center, readiness

Abstrak

Kesiapan Individu Berhubungan dengan Kesiapan Institusi dalam Penerapan Jenjang Karir Perawat di Puskesmas. *Implementasi jenjang karir perawat di puskesmas belum terbentuk seperti pelaksanaan jenjang karir perawat di rumah sakit. Pengorganisasi jenjang karir yang berbeda pada pelayanan primer menjadi kendala dalam implementasi jenjang karir perawat di puskesmas. Tujuan dari penelitian ini adalah untuk mengidentifikasi hubungan kesiapan institusi dan kesiapan perawat dalam penerapan jenjang karir perawat di puskesmas. Desain penelitian menggunakan cross sectional menggunakan kuesioner kepada 93 perawat pada 13 puskesmas. Teknik pengambilan sampel adalah convenience sampling. Data dianalisis menggunakan uji korelasi Spearman yang melihat hubungan kesiapan perawat dengan kesiapan intitusi dalam pengembangan jenjang karir perawat di puskesmas. Hasil didapatkan rerata kesiapan insitusi 64 (71,9% dari nilai maksimal), sedangkan kesiapan perawat didapatkan hasil lebih tinggi yaitu 112 (74,5%). Terdapat hubungan secara bermakna kesiapan institusi dengan kesiapan perawat dalam penerapan jenjang karir di puskesmas dengan p< 0,001, arah hubungan positif, dan kekuatan hubungan cukup kuat yaitu r= 0,521. Penelitian ini menjadi data dasar agar puskesmas dan dinas kesehatan dapat menerapkan jenjang karir perawat profesional di puskesmas.*

Kata Kunci*:implementasi, jenjang karir, kesiapan, perawat, puskesmas*

Introduction

A nurse as a decision maker in providing nursing care is heavily affected by competence, clinical experience, and knowledge (Holt et al., 2010; Melnyk et al., 2014). Moreover, a competent nurse must be capable of giving good quality nursing care to ensure patient's safety. One study found a correlation between nurses' knowledge level in taking action and patient safety practices and revealed that the higher the knowledge level of nurses, the better the nursing care

provided to enhance patient safety (Cahyono, 2015).

Developing nursing career paths is one of the methods to improve nurse's competence. The nursing career path is a system that provides and improves nurses' performance and professionalism in the workplace in accordance with the nurses' competence and specialization (American Nurses Association, 2015). Also, the career path is established as a system to improve nurses' career through their competence in providing and delivering nursing care (Hariyati, 2014).

As mentioned in Decree No. 40 of 2017 of the Ministry of Health, a public health center, as a part of primary healthcare service, should establish a well-planned nursing career path. The nursing career path preparations in hospitals or other institutions begin with nurses' mapping based on their formal education, length of work experience, and competency assessment (Sandehang et al., 2019). In addition, institutional readiness to change is also important in developing nursing career paths. Institutional readiness includes the institutions' heads and nursing board committees. The preparation should also involve the public health centers' heads, district or city public health offices' nursing committees, and other units (Ministry of Health Republic of Indonesia, 2017).

Besides institutional readiness, nurses' readiness in implementing nursing career paths is important as well. The readiness can be determined through individual knowledge, communication, desire, emotional readiness, and career path perceptions. A study by Hariyati et al. (2017) stated that nurses' perceptions of career paths can directly affect their satisfaction. Likewise, the role of institutional stakeholders, organization, and career development affects the improvement of nurses' performance and satisfaction (Djestawana, 2012). Another study found that support from ward head nurses was meaningfully related to the readiness of registered nurses (RNs) to improve their career (Artnarong et al., 2020).

Nursing career paths need to be implemented in hospitals and public health centers because then nurses' performance can get a better recognition, which can later increase nurses' satisfaction. An integrative review study of Moore et al. (2019), getting important factors in the implementation of career paths, is an important factor in providing staff satisfaction and retention. In addition, if nursing career paths are not implemented, nurses may have an intention of turnover or desire of moving to another institution because of dissatisfaction (Muchtar, 2013). This issue certainly causes great losses to institutions, such as losing institutions' performance affecting to the decline of patient safety practices (Djestawana, 2012).

Nowadays, nursing career development is merely a structural and functional position. Meanwhile, according to Decree No. 40 of 2017 of the Ministry of Health, the implementation of professional career development based on the competence of public health nurses is also important. Currently, not a single public health center has implemented a nursing career path, so researchers were intrigued to conduct this study. This study aimed to identify the readiness of institutions and nurses in implementing nursing career paths within public health centers.

Methods

A cross-sectional design with a convenience sampling technique was used in this study. The questionnaire instrument was adapted from Weiner et al. (2008) and Boukenooghe et al. (2009). Questionnaire A was used to measure the readiness of nurses and consisted of the following: (1) the development process (communication and participation quality and institution heads' attitude toward development), (2) development context (institution heads' support, trust, politics, and cohesion), and (3) attitude (emotional readiness, cognitive readiness, and desire to change). Questionnaire B, which was for institutional readiness, comprised contextual change, values, information assessment, commitment, efficacy, and change effort. The

questionnaire trial was conducted on 44 nurses from public health centers scattered around South Jakarta. Validity and reliability tests on the questionnaires resulted with r= 0.304 with a significance level of 5%. Therefore, all data with values less than 0.304 were unused. The Cronbach's alphas were 0.914 and 0.928 for questionnaires A and B, respectively, and these meant the instrument was reliable.

The data were collected using questionnaires given to 93 nurses from 13 public health centers within a city located in West Java. Furthermore, the data were processed using univariate analysis to acquire mean, median, standard deviation, minimum–maximum value, and 95% confidence interval. Meanwhile, category data were displayed in the form of frequency and proportion. Bivariate analysis of the relationship between institutional and individual readiness in implementing career paths in public health centers was performed using the Spearman rank correlation. This research was conducted after passing the ethical test from the ethics committee of the Faculty of Nursing, Universitas Indonesia No. 275/UN2.F12.D/HKP.02.04/2018 on August 27, 2018.

Results

The results of this study were focused on the characteristics of the respondent, description of institutional readiness, readiness of nurses, and relationship between institutional readiness and nurses. The age characteristics of nurses were within the average of 35.37 years, with the youngest and eldest being 23 and 58 years, respectively. The average length of work experience was 5 years, with minimum and maximum lengths of 1 year and 35 years, respectively. In terms of sex, the following data (Table 1) showed that participants were mostly women (80.6%). In addition, most of the participants had Diploma 3 (associate degree) of nursing science (67.5%).

Table 2 shows the readiness of institution from nurses' perspective, which are adequately good (74.5% of maximum values). Furthermore, in terms of readiness of superiors' attitude toward

Table 1. Respondents' Characteristics Based on Sex and Educational Background (n= 93)

Characteristics	Frequency	Percentage (%)
Sex		
Female	75	80.6
Male	18	19.4
Education level		
Health Nursing School	6	6.5
Diploma 3 of Nursing	63	67.5
Bachelor of Nursing	7	7.5
Professional Nurse Program	17	18.3

Table 2. Depiction of Institution Readiness Towards Nursing Career Development in Public Health Centers (n= 93)

Subvariables	Median (min–max)	Percentage of maximum values (%)	Confidence interval (%)
Institution readiness	112 (79–150)	74.5	106.9–112.3
Superiors' attitude	15 (9–20)	75.0	13.93–14.78
Commitment	32 (22–44)	72.3	30.15–31.87
Efficacy	43 (27–59)	72.9	40.62–42.76
Effort	1 (0–6)	16.7	1.23–1.99

Table 3. Depiction of Nurses' Readiness toward Career Development within Public Health Centers (n= 93)

Sub Variables	Median (min–max)	Percentage of maximum values (%)	Confidence interval (%)
Nurses' readiness	64 (40–89)	71.9	60.83–65.08
Communication	6 (2–8)	75.0	5.24–5.72
Participation	15 (5–20)	75.0	13.62–14.77
Superiors' support	18 (10–24)	75.0	11.19–11.94
Cognitive readiness	21 (12–28)	75.0	20.82–21.81
Emotional readiness	5 (2–8)	62.5	4.92–5.34
Intention	6 (3–8)	75.0	5.96–6.26

Table 4. The Relationship between Institutional and Nurses' Readiness toward Implementation of Nursing Career Paths in Public Health Centers (n= 93)

Variable	Individual's readiness	
	p	Coefficient correlation (*r*)
Institution readiness	< 0.001*	0.521

*Spearman rank test

career path development, the value was 75% of maximum values, whereas the lowest value was coming from the effort of establishing the career path, which was 16.7% of maximum values.

Meanwhile, Table 3 shows nurses' readiness towards career development and a good result (71.9% of maximum values). Nurses' readiness involves some aspects, such as communication, participation, superiors' support, cognitive readiness, and intention in having career development. Meanwhile, emotional readiness shows the opposite results (62.5% of maximum values).

Table 4 shows the relationship between institutional and nurses' readiness toward nursing career paths in public health centers ($p< 0.001$), indicating a strong positive relationship ($r= 0.521$).

Discussion

Institution Readiness. The implementation of nursing career paths aims to provide good quality and safe health services. The implementation is necessary to be supported by all stakeholders within institutions to ensure the planning and execution to suitable placement for nurses in accordance with their competency (Baucom, 2012). The readiness of institutions to change can be seen from the attitude, efforts, efficacy, and commitment of institutional superiors. The results of this study indicate that the readiness of institutions to develop nursing career paths in public health centers was adequately good at 74.5% of maximum value.

This study assesses four important aspects of institutional readiness, such as superiors' attitude, commitment, efficacy, and efforts, since these aspects are important in establishing a new system. Meanwhile, establishing a new policy or system within institutions often fails when superiors do not plan for the establishment beforehand (Weiner et al., 2008). Therefore, planning as a part of institutional readiness is necessary. Essentially, institutional readiness is influenced by planning, implementation, communication, and internalization (Vakola, 2013).

Moreover, there is a possibility that superiors or heads of public health centers are puzzled by the implementation of nursing career paths, even though it is clearly stated in the decree of the Ministry of Health. This is due to the dif-

ferent systems of nursing career paths within public health centers. In hospitals, nurses have clear bureaucracy, such as nursing officer and nursing committee in handling nursing career paths. Meanwhile, in public health centers, the bureaucracy is not placed within the institution, yet it is being handled by the district or city health offices. A study by Sandehang et al. (2019) stated that the implementation of nursing career paths begins from mapping, working experience, and then assessing self and competency. As mentioned in Decree No. 40 of 2017 of the Ministry of Health, the first step of establishing nursing career paths begins with surveying the basic data of nurses, conducting a review, determining the level of each nurse, taking part in competency assessments, arranging clinical authority, and then releasing a Clinical Delegation Letter according to nurses' level.

The second aspect of institutional readiness is commitment to change, which includes change efficacy. Change commitment is defined as a belief in a change within an institution that can benefit all stakeholders (Weiner, 2009). In this research, the commitment from institutions was adequately good because the superiors or heads of public health centers had perseverance in establishing a nursing career path system. However, in doing so, the institutions needed more competent human resources, funds, knowledge, support, preparation, and reliable information.

The third is efficacy. According to Bandura (2010), efficacy is referred to as a shared belief in the ability of an individual to achieve something. Another definition determines efficacy as confidence in the ability of an individual to master any situation and produce something beneficial (Williams, 2010). Furthermore, this research found that efficacy within the institutional readiness was adequate. However, it was not enough since the institutions needed to improve other aspects such as ability readiness, implementation momentum, adaptation toward change, and staff contribution in developing nursing career paths in public health centers. Readiness to change is divided into four dimensions, namely, appropriateness, change efficacy, management support, and personal benefit (Anjani & Dhanapal, 2012)

The last is change effort, which is found to be the nethermost value in terms of institutional readiness (16.7% of maximum value) in this study. It was because institutions had not had the preparation, such as had not discussed it with other staff, had not appointed a coordinator for the implementation of career paths, had not arranged a nursing committee and budget planning, and had not yet known about the career path program as well. A research conducted by Afriani et al. (2017) stated that support from superiors or heads of institutions is a huge factor in nurses' expectation in developing a career path.

Nurse Readiness. Nurse readiness is mostly influenced by institutional readiness through communication, stakeholder participation, superiors' support, knowledge toward the change, intention, and emotional readiness toward change (Weiner, 2009). Still, it is not only institutions that take the responsibility toward the change itself but also the individuals, especially nurses, who have the intention of taking part in career development. A qualitative research on nursing career mapping found that nursing officers or managers needed to provide a position suitable to the individual's competency (Sandehang et al., 2019).

Holt et al. (2010) stated that individual readiness to change is divided into two factors, including structural and psychological factors. The psychological factor is composed of two aspects in terms of change readiness, namely, cognitive and affective aspects. In this study, cognitive aspects were assessed through nurses' knowledge on nursing career paths in public health centers in which it resulted as adequately good (75%). In detail, the value of nurses' effort in seeking information about nursing career development was 63.4%, whereas the other half did not even try seeking information.

However, in reality, information on nursing ca-

reer paths or development for public health centers is still insufficient since most available information is about nursing career development for hospitals. Generally, the development of nursing career paths in public health centers, in terms of administrative division level (level of clinical nurse 1–5), is similar to a hospital career path system yet different from an organizational structure. The organizers of career paths within hospitals become the responsibility of the stakeholders within the hospital. Meanwhile, for public health centers, the organizing is handled by nursing committees from public health offices (Ministry of Health Republic of Indonesia, 2017).

This study found that knowledge on professional nursing career paths for nurses in public health centers is still low. The lack of understanding of career paths is caused by the following: competencies that must be achieved (48.4%), career path process in public health centers (52. 7%), objectives of nursing career paths (50.5%), stages of career path (54.8%), differences in nursing career path between hospitals and public health centers (50.5%), nurses' responsibility to improve their competencies (34.3%), importance of documenting nurses' profile (30. 1%), and organized training program in increasing nurses' competence (44.1%). A literature review by Rizany et al. (2018) found that the factors that influence the development of nurse competence were work experience, work environment type, education level, professionalism adherence, critical thinking, and personal factors. The factors that influence competency development are work experience and education level. Other research also stated that nurses should follow professional development and career advancement to maintain their competence and skills (Adeniran et al., 2013).

The affective aspect of this study measured emotional readiness and intention. Emotional readiness is an individual's belief that changes are made following the demands of the situation in the future, giving new enthusiasm to work, and providing benefits for nurses and nursing services. Intention is shown by the nurses' desire to improve their career, including their eagerness to implement and contribute to the realization of nursing career paths in public health centers. This study found that the emotional components and intention of nurses were good. Affectivity has a strong influence on change because it involves internal motivation (Vakola, 2013). This agrees with Harimurti and Mariatin's (2014) research that revealed that affective and normative components have a greater influence on change than the external environment.

Relationship of Institutional and Nurses' Readiness. The social cognitive theory stated that with high institutional readiness, stakeholders tend to eagerly make changes within the institution, such as implementing new policies, procedures, or practices (Bandura, 2010). Moreover, stakeholders will show greater intention or effort to support the change, be more persistent in overcoming obstacles during the implementation, and show a cooperative behavior toward change efforts. This is in line with a research by Parish et al. (2008) that stated that commitment to change is determined by relationship quality, work motivation, and work autonomy. Abrell-Vogel and Rowold (2014) found that stakeholders who were committed toward change not only showed cooperative attitudes but also helped solve institutional problems and transferred good values to others.

Nurses' readiness is related to institutional readiness to prepare for change. Institutional readiness functions in assessing stakeholders' willingness to change and assessing three main determinants: task demands, resource availability, and situational factors. Readiness for change refers to the joint decision of stakeholders to implement change (change commitment) and mutual trust in their collective ability to make change (change efficacy) (Hannon et al., 2017).

In line with this research, there is a significant relationship between institutional and nurses' readiness. A previous study also stated that the support of superiors and peers is related to the

hope or desire to apply a career path (Afriani et al., 2017). Support deficiency from management can reduce satisfaction among nurses toward career path implementation (Duffield et al. 2014). A research also found a relationship between career path implementation and constant professional development with career path satisfaction (Hariyati et al., 2017). A study using plan-do-check-action through the implementtation of nursing career path to retain nurses resulted in positive responses (Sandehang et al., 2019).

The limitation of this study was the lack of superiors' perspective toward institutional readiness. Meanwhile, the data obtained were merely from the nurses' perspective within public health centers, yet it was necessary to have the views or perceptions of superiors within the institution about the readiness to establish the career path within public health centers. Also, the number of nurses in the facility was insufficient, so it was difficult to use a random sampling technique for this research.

Conclusion

Institutional readiness in establishing nursing career paths according to public health center nurses' perspective is sufficiently good. Superiors' attitude toward change showed to have good results, followed by commitment and then institutions' efficacy toward change. Meanwhile, the lowest was the effort to apply a career path. Institutional efforts have yet to be seen in the preparation of information, resources, and cost planning and preparation for the formation of a nursing committee in district or city public health offices.

The readiness of nurses in applying the nursing career path was good. The best readiness of nurses was communication, participation, superiors' support, cognitive readiness, and intention or desire to apply for a career path at public health centers. Meanwhile, the emotional readiness was insufficient.

The relationship between institutional and nurses' readiness toward nursing career paths in public health centers was statistically significant with a positive relationship direction and strong correlation. It is necessary to improve the participation, commitment, efficacy, and efforts of superiors within institutions. Institutions can establish nursing career paths together with public health offices through (a) increasing knowledge by conducting benchmarks on hospitals, (b) forming nursing committees at public health offices, (c) mapping nurses' competencies in public health centers, (d) disseminating nursing professional career paths, and (d) connecting to bestari partners by involving professional organizations or universities.

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SCHOOL STUDENTS' PERCEPTION ON RISKY BEHAVIOR AND THEIR UTILIZATION OF HEALTH CARE SERVICES

Muhammad Kamil Che Hasan, Noor Faizah Tutasting@Rawi, Mohd Said Nurumal, Siti Hazariah Abdul Hamid*

Kulliyyah of Nursing, International Islamic University Malaysia, Bandar Indera Mahkota, Pahang, Malaysia

*Email: shazariah@iium.edu.my

Abstract

The Malaysia Ministry of Health reported adolescents' low utilization of healthcare services, although they need this service as a consequence of their involvement in risky behavior. This cross-sectional study aimed to determine adolescents' perception on risk taking behavior and their utilization of health care services. A modified self-administered questionnaire was used to collect data from 250 secondary school students aged 13 and 14 years in one of the selected schools in Malacca, Malaysia. Data were analyzed using SPSS 20. Fast food consumption, loitering after school, physical fighting, smoking, and non-use of helmets were the most reported risky behaviors among adolescents in Malaysia. More than half of the adolescents who knew about health care services had a positive perception on their utilization of such services. Thus, the promotion of adolescents' health services helps increase their use of these services and consequently achieve a healthy lifestyle.

Keywords*:* adolescent health care services, risky behavior, schools

Abstrak

Persepsi Siswa Sekolah terhadap Perilaku Risiko dan Pemanfaatan Layanan Perawatan Kesehatan. *Kementerian Kesehatan Malaysia melaporkan rendahnya pemanfaatan layanan kesehatan oleh remaja, meskipun mereka membutuhkan layanan ini sebagai konsekuensi dari keterlibatan mereka dalam perilaku berisiko. Studi cross-sectional ini bertujuan untuk mengetahui persepsi remaja tentang perilaku pengambilan risiko dan pemanfaatannya terhadap layanan perawatan kesehatan. Kuesioner mandiri yang dimodifikasi digunakan untuk mengumpulkan data dari 250 siswa sekolah menengah berusia 13 dan 14 tahun di salah satu sekolah yang dipilih di Malaka, Malaysia. Data dianalisis menggunakan SPSS 20. Konsumsi makanan cepat saji, berkeliaran sepulang sekolah, perkelahian fisik, merokok, dan tidak menggunakan helm adalah perilaku berisiko yang paling banyak dilaporkan di kalangan remaja di Malaysia. Lebih dari setengah remaja yang tahu tentang layanan perawatan kesehatan memiliki persepsi positif tentang pemanfaatan layanan tersebut. Dengan demikian, promosi layanan kesehatan remaja membantu meningkatkan penggunaan layanan ini dan akibatnya mencapai gaya hidup sehat.*

Kata Kunci: *layanan perawatan kesehatan remaja, perilaku berisiko, sekolah*

Introduction

The World Health Organization categorized individuals as adolescents when their age ranges between 10 and 19 years. Adolescence is a crucial development period characterized by marked physical, emotional, and intellectual changes and changes in social roles, relationships, and expectations. All these changes are important because they provide a foundation for functioning as adults and individuals. At this stage, adolescents are prone to taking risky behaviors, such as smoking, aggressive and impulsive behaviors, alcohol consumption, sexual relationship, depression, anorexia and bulimia, and others (Choo & Sim, 2010). Hence, the development of healthy adolescents is complex, and their evolving process requires collaborations from various aspects, such as supportive and caring families, peers, and communities; access to

high-quality health services; and opportunities to engage and succeed in developmental tasks of adolescents. Adolescents' attitudes, behavior, and use of health care systems are directly linked to their health and well-being as adults (Hamid, 2018).

Adolescents tend to participate in risk taking behaviors, including racing, using illicit drugs, engaging in unprotected sexual activities, and exhibiting aggressive behaviors, which can result in injury and fatality. The influence of media and the Internet is one of the major factors that contribute to sexual risky behaviors (Jones et al., 2014). Studies have shown that sexual and reproductive education does not lead to sexual activity among adolescents; instead, it helps delay their first sexual intercourse because they are aware of the consequences of having unintended pregnancy. It can also reduce the incidence of abortion (Rahman et al., 2011).

In Malaysia, sexual and reproductive health is delivered informally to Malaysian adolescents in schools. Furthermore, Rahman et al. (2011) reported that Malaysian adolescents have limited knowledge on sexual health topics. Recent news about gangsterism and bullying has also increased. The lack of life skills among adolescents contributes to other social problems, such as juvenile delinquency and bullying in schools. Some school children taking drugs and consuming alcohol have been reported. Without correct information and skills to cope with growth to adulthood, some adolescents may experiment with drugs and engage in unprotected sex, thereby increasing their risk of unwanted pregnancies and contracting HIV, hepatitis, and other sexually transmitted diseases (Chandra-Mouli & Patel, 2017). Therefore, governments and private sectors should cooperate to reduce this bad characteristic of adolescents by enforcing rules and regulations (Chandra-Mouli et al., 2013). A strategic approach is also required to empower adolescents and help them benefit from their involvement in program planning.

Methods

This quantitative cross-sectional study was conducted in one of the selected secondary schools in Malacca. The mean age of secondary school students was between 13 and 17 years old. According to the Ministry of Education, any research involving students should not include those in the national examination year. Therefore, 250 adolescents aged 13 and 14 years and who fulfilled the inclusion criteria were recruited for this study. A modified self-administered questionnaire was distributed to eligible adolescents in a hall, and their written consent was obtained. The students were instructed to answer the questionnaire divided into four parts. It covered demographic profile, involvement in risky behavior, knowledge on adolescent health care services in terms of human papillomavirus vaccination and nutritional intake, and their perception on adolescent health services. This questionnaire was adapted from Risky Behavior Questionnaire Adolescent (involvement in risky behavior), PSQ-18 (perception section), Vaccine Survey Georgia Department, and Nutrition Education Survey California (knowledge on health services in terms of HPV vaccination and nutritional intake). A pilot study was conducted among 30 teenagers to test their complete understanding about the questions and ensure reliability. Cronbach's alpha was 0.81, which corresponded to a good outcome (Taber, 2018).

Approval was obtained from the school principal and the ethics committees of Kulliyyah of Nursing, International Islamic University Malaysia, Ministry of Education, and Melaka State Education Department. In this research, the confidentiality and anonymity of the participants were ensured by obtaining consent attached with the questionnaire.

Results

Table 1 shows the demographic profile data of the participants. The number of male students was more than that of female students.

Table 1. Demographic Profile Data of the Participants (n= 250)

Variable	Frequency (n)	Percentage (%)
Gender		
Male	133	53.2
Female	117	46.8
Race		
Malay	200	80.0
Chinese	23	9.2
Indian	27	10.8
Age		
13	122	48.8
14	128	51.2
Household income		
<RM1000	52	20.8
RM1000–RM5000	164	65.6
>RM5000	34	13.6
Parent education level		
Primary	6	2.4
Secondary	127	50.8
Tertiary	117	46.8

Table 2. Adolescents' Perception on the Utilization of Health Care Services (n= 250)

	Mean	Range	Minimum	Maximum	Standard Deviation
Perception	27.81	18	17	35	3.27

Total score of 7–35

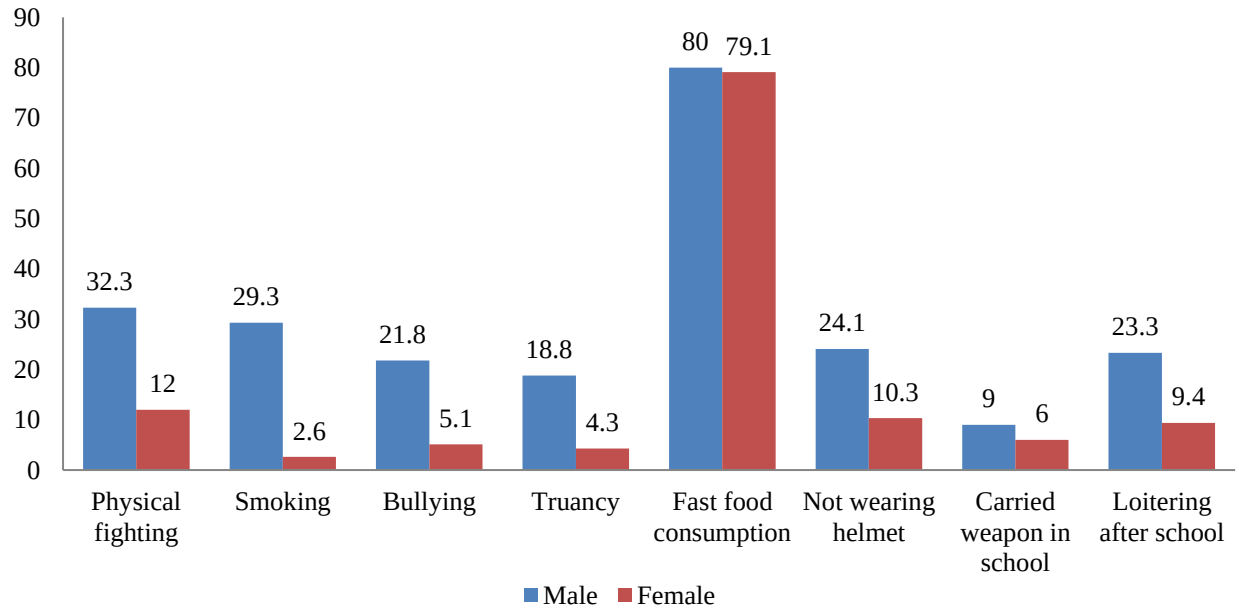

Figure 1. Types of Risky Behavior Among Adolescents (n= 250)

Table 3. Knowledge on HPV Vaccination (n= 250)

Questions	Frequency (n)	Percentage (%)
1. Do you know that HPV is the main cause of cervical cancer?	133	53.2
2. By receiving an HPV vaccine, it can protect against HPV.	199	79.6
3. HPV vaccine is safe and does not give any side effects.	168	67.2
4. HPV vaccine consists of three shots over a 6-month period.	162	64.8
5. The vaccine can protect people around me.	94	37.6
6. HPV vaccine is given to both males and females.	57	22.8

Table 4. Knowledge Regarding Healthy Nutritional Intake (n= 250)

Questions	Frequency (n)	Percentage (%)
1. Drinking eight glasses of water can ensure the health and fitness of the body.	247	98.8
2. To have a healthy body, we should avoid fatty food.	229	91.6
3. A healthy diet should contain a balanced proportion of carbohydrates, proteins, fibers, and fats.	246	98.4
4. Fruits and vegetables can provide good and beautiful skin.	244	97.6
5. Carrots can strengthen our bones.	81	32.4
6. Fat is not important for a healthy body.	50	20.0

Table 5. Association Between Knowledge and Perception on Adolescent Health Services (n= 250)

Variables	**Perception**
Knowledge	0.132[a]
	(0.037)[b]

a = Pearson correlation coefficient
b = p-value

Table 2 presents the perception of adolescents on their health services. The mean score was 27.81 with SD 3.27, and the range of score was 18, with a minimum score of 17 and a maximum score of 35. About 62.4% of the participants scored above the mean score, reflecting that they had a positive perception on adolescent health services.

Risky behavior among adolescents. Figure 1 shows the types of risky behavior between male and female adolescents and their percentage. Male and female adolescents had the highest percentage in fast-food consumption with 80% and 79.1%, respectively. Males were more prone to having a risky behavior than females.

Adolescents' knowledge on health care services

Knowledge on HPV vaccination. Table 3 presents the frequency and percentage of adolescents' knowledge on HPV vaccination. The participants realized that HPV vaccine is safe and helpful in preventing cervical cancer. They also learned that this vaccine is composed of three shots. Only 22.8% of them were not aware that HPV vaccine is given only to female adolescents in Malaysia.

Knowledge on nutritional intake. Table 4 presents the frequency of the knowledge on nutritional intake. The majority of the participants (98.9%) understood that consuming eight glass-

es of water could favor a healthy body. Overall, the participants were aware of a healthy diet, including fruits (98.4%) and and vegetables (97.6%). Few participants were poorly knowledgeable on the benefits of carrots and the function of fat in their body.

Association between knowledge and perception on adolescent health services. Table 5 represents the association between knowledge and perception on adolescent health services. The p-value was 0.037 ($p< 0.05$) with a correlation coefficient of $r= 0.132$. This study found that knowledge had a weakly positive association with perception on adolescent health services. Therefore, this finding demonstrated that knowledgeable adolescents had a high perception on adolescent health services.

Discussion

Most of the participants were Malay, came from moderate-income families, and had parents with formal education. No study has been conducted nationally or internationally to describe a definitive line between positive and negative perceptions on adolescent health services. High mean scores indicate a positive perception on adolescent health services (Roncoroni et al., 2013). Our findings show the mean score of the perception on adolescent health services was 27.81 ± 3.27. This result was comparable with that of Mauerhofer (2010), who found that 94% of female adolescents are satisfied with adolescent health services in Switzerland. However, adolescents' involvement in risky behavior was alarming. We found that males were more exposed to risky behavior than females, and this result supported the finding of Hamid and Nawi (2013), who reported that Malaysian male adolescents are three to four times more likely to be involved in multiple risky behaviors. Our result was also comparable with that of Fox et al. (2013), who demonstrated that male adolescents have a high prevalence of being involved in more than one type of risky behavior. This phenomenon may be attributed to the anger and rage felt by male adolescents and their being victims of bullying.

The majority of the participants had good knowledge about HPV vaccination. More than half of them knew that HPV is the main cause of cervical cancer, it can protect against HPV, it is safe, and it consists of three shots over a 6-month period. The knowledge on HPV vaccination in this study was similar to that described by Al-Naggar et al. (2012), who pointed out that about 69% of adolescents in Melaka have knowledge on HPV vaccination, and this value is higher than their previous findings (51.5%). This result showed that the knowledge of Malaysian adolescents has enhanced because the government has heavily promoted vaccination through campaigns and media. However, Rashwan et al. (2011) in Sarawak revealed that 61.8% of adolescents have poor knowledge on HPV. Differences in results might be due to different questionnaires used and study settings.

Our result revealed the good knowledge on nutritional intake among adolescents. More than half of them knew the importance of drinking eight glasses of water per day, the balanced proportion of a healthy diet, eating fruits and vegetables, and avoiding fatty and oily foods. However, some of the respondents did not know about the importance of fats to the body. Vereecken et al. (2015) claimed that there was a significant increase in the vegetable and fruit consumption in adolescent in 18 countries between 2002 until 2010. These results suggested that adolescents in developed and developing countries have basic understanding on healthy nutritional intake. Similarly, in the United States, adolescents do not understand the benefit of fat to their body because they assume all fats are bad (Harrison, 2000). Overall, this finding emphasized that adolescents had good knowledge about nutritional intake.

The association between demographic profile factors and perception on adolescent health services was examined in this study. Our findings

showed that age, gender, and race were not associated with perception on adolescent health services. However, Abajobir and Seme (2014) suggested that age is significantly related to the utilization of adolescent health services, particularly reproductive health services. This result might be due to different environments and accessibilities to adolescent health services. In Malaysia, the government has enforced the entire adolescents in government schools to be included in services because they are free.

The expected association between knowledge and perception on adolescent health services was observed; that is, knowledge had a weakly positive correlation with perception on adolescent health services. This result indicated that adolescents with high knowledge had a positive perception on adolescent health services. Violita and Hadi (2019) supported this finding and indicated that knowledge is significantly associated with perception on adolescent health services (x^2= 10.9 and p= 0.004). Both studies successfully demonstrated that having knowledge can affect the perception of adolescents on health services.

Conclusion

In this study, the perception on adolescent health services is identified. Adolescents' perception on health services should be determined because understanding their perception can further improve health care delivery. This study also aims to identify risky behavior, especially among early adolescents, because early identification is crucial, considering that "prevention is better than cure." Age, gender, and race do not affect adolescents' perception on health services. Therefore, knowledgeable adolescents have a positive perception on health services.

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