

Original Research Report**OBSTACLES TO THE IMPLEMENTATION OF CLINICAL PRACTICE GUIDELINES AT MANDAU DISTRICT GENERAL HOSPITAL**Sindy Zelvia , Sri Wahyuni Nasution , Ermi Girsang , Sri Lestari Ramadhani Nasution* 

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ABSTRACT

Clinical practice guidelines are procedures followed by physicians to optimize healthcare services and achieve more effective outcomes. Conducted in October 2022, this study aims to analyze the factors that hinder the implementation of clinical practice guidelines among physicians at Mandau District General Hospital, Bengkalis, Indonesia. This study used an analytical survey design with a cross-sectional approach. This study included all 85 individuals who were employed as general practitioners at Mandau District General Hospital. The data were subjected to univariate, bivariate, and multivariate analyses. The independent t-test was used in the data analysis, with a p-value of less than 0.05 considered significant. The results showed a correlation between the implementation of clinical practice guidelines and several variables, including the ability to recognize and explain clinical features of diseases ($p = 0.008$), to diagnose diseases ($p = 0.004$), to perform initial management ($p = 0.000$), and to perform independent and directed management ($p = 0.001$). Upon conducting the follow-up analysis using the logistic regression, it was found that the variables associated with the implementation of clinical practice guidelines were the ability to perform initial management ($p = 0.000$, OR = 65.512, 95% CI: [22.048, 98.835]). In conclusion, the insufficient ability of physicians to perform initial management hinders the implementation of clinical practice guidelines. This study suggests that the findings should be used as an input in the evaluation and development of training for physicians on the implementation of clinical practice guidelines.

Keywords: Clinical practice guidelines; health professionalism; health system; healthcare; medicine

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Highlights:

1. Given the suboptimal implementation of clinical practice guidelines at Mandau District General Hospital, it is important to conduct research on potential obstacles to this problem.
2. The findings of this study can encourage hospitals to develop and apply effective clinical practice guidelines while also addressing the obstacles to their implementation.

INTRODUCTION

Hospital services must pay attention to the adherence to professional ethics by healthcare professionals. However, healthcare professionals who work in hospitals exercise independent decision-making in their professional capacity. The decision must be made with a strong sense of awareness, responsibility, and high morale in accordance with ethics in their respective professions. For this reason, hospitals play an important role in providing health services, the quality of which must be maintained or improved according to service standards (Ayudiah et al. 2022).

In essence, mistakes and negligence made by internal staff carrying out medical duties indicate the adverse effects of subpar health service quality. Healthcare professionals must work diligently and conscientiously to adhere to their professional ethics to prevent any instances of negligence (Miharja 2020). In Indonesia, the term "malpractice" is widely known among public medical workers. This term is also referred to as "medical malpractice," specifically denoting medical negligence (Perwira 2021).

Setyawan (2018) conducted a study that examined 23 cases of resolved malpractice. The study also

presented 10 (34%) cases with inadequate documentation, 7 (30%) cases with insufficient information, 8 (35%) cases with technical errors in clinical skills, 6 (26%) cases related to system failures, and 1 (4%) case resulted from a lack of supervision of students. Physicians have a fear of practicing independently due to the possibility of malpractice (Vivekananda-Schmidt & Sandars 2018). Health service providers, such as hospitals, must prepare healthcare workers to acquire medical competencies in an effort to prevent and reduce malpractice incidences. One of the essential competencies is the ability to comply with the clinical practice guidelines outlined in the Ministerial Decree of the Ministry of Health of the Republic of Indonesia No. HK.01.07/MENKES/1186/2022 concerning Clinical Practice Guidelines for Doctors in Primary Health Facilities.

Clinical practice guidelines are necessary to recognize qualified medical professionals, enabling them to understand their roles and improve their competencies. Clinical practice guidelines are procedures followed by a group of health professionals (Beauchemin et al. 2019). In Indonesia, these guidelines are established by referring to the National Guidelines for Medical Services (Pedoman Nasional Pelayanan Kedokteran/PNPK), which were developed by professional organizations and approved by hospital leaders. In an effort to implement the National Health Insurance (Jaminan Kesehatan Nasional/JKN), hospitals are required to work together with the Medical Staff Group (Kelompok Staf Medis/KSM) to develop clinical practice guidelines.

One of the hospitals that applies standard clinical practice guidelines according to the aforementioned ministerial decree is Mandau District General Hospital in Bengkalis, Indonesia. However, the hospital encountered numerous obstacles when implementing the clinical practice guidelines for its physicians. The researchers of this study conducted an initial survey at Mandau District General Hospital on July 10, 2022. During the observation, the researchers found that the service standard at the hospital did not meet the achievement standard of 100% (Beauchemin et al. 2019, Stewart et al. 2023). This was evident from the insufficient ability to manage lifesaving for both children and adults (80%), the minimum number of emergency care providers with valid certificates (75%), waiting time (75%), diagnostic rate (83%), and delivery assistance (64%). Interviews with three general practitioners at Mandau District General Hospital revealed that, among the 29 doctors, not all of them adhered to the clinical practice guidelines while on duty at the hospital. This was presumed to be closely related to the levels of ability in identifying and

explaining clinical features of diseases. The physicians' ability to diagnose patients' diseases, carry out initial management, and carry out independent and directed management were considered suboptimal.

The results of the initial survey were in stark contrast to the main role of hospitals, which is to provide healthcare services to the community with the aim of curing diseases, preventing death and disability, and minimizing both clinical and non-clinical risks that may arise during the provision of healthcare. Safe service for patients is a top priority in all forms of activity in hospitals. It is necessary to apply clinical practice guidelines to ensure effective, efficient, and safe services for patients. The implementation of clinical practice guidelines requires hospitals to have a multidisciplinary commitment (Hollon et al. 2014). Mandau District General Hospital had already established internal regulations that enforce clinical practice guidelines, ensuring that all matters relating to patient safety can be properly monitored. However, the effort to improve the quality of healthcare services did not result in favorable outcomes. Therefore, the objective of this study was to identify the factors that became obstacles in implementing clinical practice guidelines for physicians at Mandau District General Hospital.

MATERIALS AND METHODS

This was survey research using a cross-sectional study design. The research was carried out at Mandau District General Hospital, Bengkalis, Indonesia. The idea behind this study was the implementation of clinical practice guidelines that encountered obstacles, which affected the provision of healthcare services. The preliminary study was conducted in June 2022, which provided basic data to guide the main research in October 2022 (Brambilla et al. 2019).

The population in this study were all general practitioners and specialists who worked at Mandau District General Hospital. The total sample size consisted of 85 individuals, which included 53 general practitioners and 32 specialists who met the inclusion criteria. The exclusion criteria comprised medical interns and staff from other divisions who did not engage in clinical practices. The sample size was determined by the total sampling technique, resulting in a total of 85 participants (Etikan 2017).

The data analysis techniques employed in this study included univariate, bivariate, and multivariate analyses. The statistical analysis was performed using the independent t-test, in which a value of $p < 0.05$ was deemed significant. In the statistical

analysis, the researchers used the assistance of IBM SPSS Statistics for Windows, version 21.0 (IBM Corp., Armonk, N.Y., USA).

RESULTS

As shown in Table 1, the majority of the respondents were within the age range of 36 to 45 years, with as many as 45 individuals (52.9%). Out of the 85 respondents, 15 individuals (17.6%) were under the age of 35 years, while 25 individuals (29.5%) were above the age of 45 years. Most of the respondents were female, accounting for 46 individuals (54.1%), whereas the remaining 39 respondents (45.9%) were male. The largest proportion of the respondents consisted of general practitioners, accounting for 53 individuals (62.4%), while the rest were specialists, comprising 32 respondents (37.6%).

Table 1. Distribution of age, sex, and profession of the respondents.

Distribution	n	%
Age		
<35 years	15	17.6
36-45 years	45	52.9
>45 years	25	29.5
Sex		
Male	39	45.9
Female	46	54.1
Medical professions		
General practitioner	53	62.4
Specialist	32	37.6
Total	85	100

Out of the 85 respondents, 29 individuals (34.1%) were unable to recognize and explain the clinical features of diseases (Table 2). As many as 17 individuals (20.0%) had not optimally followed the implementation of clinical practice guidelines. Only 12 respondents (14.1%) adhered to the clinical practice guidelines in an ideal manner.

Table 2. The implementation of clinical practice guidelines and the physicians' ability to identify and explain the clinical features of diseases.

Ability to recognize and explain the clinical features of diseases	Implementation of clinical practice guidelines						p
	Suboptimal		Optimal		Total		
	n	%	n	%	n	%	
Insufficient	17	20.0	12	14.1	29	34.1	0.008
Sufficient	15	21.1	41	48.2	56	65.9	
Total	32	37.6	53	62.4	85	100	

According to the statistical analysis, the implementation of clinical practice guidelines was related to the physicians' ability to identify and explain the clinical features of diseases, albeit not significantly (p=0.008).

Table 3. The implementation of clinical practice guidelines and the physicians' ability to diagnose patients' diseases.

Ability to diagnose patients' illnesses	Implementation of clinical practice guidelines						p
	Suboptimal		Optimal		Total		
	n	%	n	%	n	%	
Insufficient	18	21.2	12	14.1	30	35.3	0.008
Sufficient	14	16.5	41	48.2	55	64.7	
Total	32	37.6	53	62.4	85	100	

Table 3 shows that out of the 85 respondents studied, as many as 30 individuals (35.3%) did not have a sufficient level of ability to diagnose patients' diseases. Among these 30 respondents, 18 individuals (21.2%) did not adhere to the clinical practice guidelines as required, while only 12 individuals (14.1%) diligently followed the clinical practice guidelines. The statistical analysis indicated a significant association (p=0.004) between the implementation of clinical practice guidelines and the level of physicians' ability to diagnose patients' diseases.

Table 4. The implementation of clinical practice guidelines and the physicians' ability to perform initial management.

Ability to perform initial management	Implementation of clinical practice guidelines						p
	Suboptimal		Optimal		Total		
	n	%	n	%	n	%	
Insufficient	28	32.9	1	1.2	29	34.1	0.000
Sufficient	4	37.6	52	61.2	56	65.9	
Total	32	37.6	53	62.4	85	100	

According to Table 4, there were 29 (34.1%) respondents who lacked the ability to carry out initial management. Out of these 29 respondents, there were 28 physicians (32.9%) who failed to comply with the clinical practice guidelines at the hospital. Only one physician (1.2%) contributed to the optimal implementation of the clinical practice guidelines. The statistical analysis revealed a significant association (p=0.000) between the implementation of clinical practice guidelines and the level of physicians' ability to carry out initial management.

Table 5. The implementation of clinical practice guidelines and the physicians' ability to carry out independent and directed management.

Ability to carry out independent and directed management	Implementation of clinical practice guidelines						p
	Suboptimal		Optimal		Total		
	n	%	n	%	n	%	
Insufficient	23	27.1	17	20.0	40	47.1	0.001
Sufficient	9	10.6	36	10.6	45	52.9	
Total	32	37.6	53	62.4	85	100	

Table 5 demonstrates that 40 respondents (47.1%) had insufficient ability to carry out independent and directed management. Among the 40 respondents, 23 individuals (27.1%) were responsible for the suboptimal implementation of clinical practice guidelines at the hospital. There were only 17 individuals (20.0%) who followed the clinical practice guidelines as required. In the statistical analysis, it was found that the implementation of clinical practice guidelines was significantly associated with the physicians' ability to perform independent and directed management ($p=0.001$).

Table 6. Results of final stage analysis on logistic regression.

Variables	B	p	Exp(B) OR	95% CI for Exp (B)
Ability to diagnose diseases	2.437	0.037	11.439	1.161-58.686
Ability to perform initial management	6.453	0.000	65.512	22.048-90.835

Table 6 displays the logistic regression analysis results, which summed up that the variable most associated with the implementation of clinical practice guidelines at Mandau General Hospital was the physicians' ability to perform initial management ($p=0.000$, $OR=65.512$, $95\% CI=22.048-90.835$). The results indicated that physicians with sufficient ability to carry out initial management were 65.512 times more likely to be compliant with the clinical practice guidelines compared to those lacking sufficient ability. The positive t-value of 6.453 suggested that the B coefficient was statistically significant. Physicians who had a lower level of ability to carry out initial management had a higher probability of failing to comply with the clinical practice guidelines.

DISCUSSION

Insufficient ability to identify and explain the clinical features of diseases

The results of this research showed that not all of the physicians were able to recognize diseases only based on patients' histories, such as the most prominent complaint and the most frequent source of discomfort experienced by the patients. The patients' main complaint serves as a reference for digging for deeper information, conducting examinations, and administering effective treatment (Reader et al. 2014, Mirzoev & Kane 2018, Kwakernaak et al. 2019). The results of this study also revealed that not all of the physicians had the ability to identify clinical signs as an objective description of a disease or medical disorder. In contrast to symptoms, which are subjective complaints, clinical signs are objectively observed by professional healthcare workers. A clinical sign, such as increased blood pressure or temperature, can be measured and universally recognized. On the other hand, symptoms are exclusively felt by the sufferers or patients, such as headaches and stomach aches. The severity and parameters of these symptoms are not clear because they depend on many factors. Pain tolerance, for instance, differs from one person to another. Pain with the same intensity can cause different complaints in two individuals. However, initial observations may misinterpret complaints as mere symptoms, when in fact they are clinical signs, e.g., wounds on the skin, swelling on the feet, and reddish skin.

The physicians did not have sufficient ability to recognize prognostic signs and predict future outcomes for patients, such as their likelihood of complete recovery, the probability of recovery, the severity of the disease, and their potential life expectancy. These signs do not signify the nature of the disease when the patients were admitted to the hospital. On another note, anamnestic signs are signs that indicate a part of a person's medical history. Scars on the facial skin, for example, are evidence that an individual has previously suffered from pimples. Diagnostic signs are indicators used by physicians to identify existing diseases (Balogh et al. 2015). For example, an increase in blood pressure readings indicates the presence of hypertension, while elevated levels of prostate-specific antigen (PSA) suggest the occurrence of prostate problems. Pathognomonic signs serve as guides for physicians in establishing a definite diagnosis (Maity et al. 2020). For instance, the presence of positive *Mycobacterium tuberculosis* germs in polymerase chain reaction (PCR) test results is a definitive sign that an individual is infected with pulmonary tuberculosis.

In this study, the physicians were also unable to identify the patients' diseases based on their current medical history, which provided details on the patients' main complaint and travel history over the entire duration of the complaint. In a particular case, a patient's medical history indicated that the onset of her current illness appeared after lifting a lot of things. At the beginning, the patient thought it was just ordinary pain. However, after enduring a month of persistent discomfort, she finally decided to seek medical attention. The physicians were unable to identify the patient's illness based on her personal history, which contained information regarding her daily activities, hobbies, occupation as a housewife, and living environment. Prior studies found that family history plays an important role in a person's health condition (Daelemans et al. 2013, Bylstra et al. 2021). Diseases that appear in multiple close relatives can increase the risk of suffering from the disease. Nevertheless, the aforementioned patient reported no similar disease in her family members.

The results of this study are in line with prior research conducted by Sari et al. (2021), who determined that all the clinics studied were unable to provide a comprehensive service. The physicians at the clinics were deemed to have sufficient skills, according to the Decree of the Head of the Department of Health of Surabaya City No. 440/19547/436.3/2016. However, they were not supported by adequate supplies that were mandated in the Ministerial Decree of the Ministry of Health of the Republic of Indonesia No. HK.02.02/MENKES/514/2015. An imbalance between the physicians' ability and the availability of medical supplies hindered the establishment of clinical diagnoses. Thus, only 65 ($\leq 33\%$) clinical diagnoses were properly established by the physicians. The study suggests that policymakers need to review the capacity of clinics to provide supplies, and then clinics can determine the appropriate cost containment strategy to handle 195 clinical diagnoses. The researchers assumed that the physicians' inability to identify the patients' disease could be due to the possibility that the disease was associated with a past illness, and that this association was an important factor in considering the appropriate course of action.

A lack of ability to diagnose patients' diseases

Accuracy in establishing diagnoses is important because it affects an individual's drug usage, dietary restrictions, and lifestyle modifications. Accuracy is crucial to avoid any actions that may endanger the patient's therapeutic results. If the diagnosis is accurate, the patient's length of stay will align with the clinical pathway. Conversely, if the diagnosis is inaccurate, the patient's hospitalization may be prolonged or shortened, which may not align with

the clinical pathway. The results of this study indicated that the basic difference between general practitioners and specialists is that general practitioners provide comprehensive health services to patients. In addition, general practitioners play an important role in providing both initial and ongoing medical care to patients across all age groups (Liu et al. 2018, Grol et al. 2018). Physical examination, including the diagnosis of rare diseases, is still more effective when performed by a physician compared to computer programs. While acknowledging the imperfections of humans, it is worth considering the advantages of utilizing algorithms to complement the skills of doctors. However, in a direct comparison, physicians and symptom checker applications have equal access to medical history and symptom information.

Many of the physicians in this study lacked the ability to perform certain tests or physical examinations on patients. They should have the ability to perform the examinations by utilizing the available information. The physicians pooled their answers, with potential diagnoses ranked in order of likelihood. Instead of providing the same information to symptom checkers, physicians tend to prioritize and more frequently assign the most probable and accurate diagnosis. Physicians have a higher probability of accurately diagnosing serious and uncommon illnesses (Walkowiak & Domaradzki 2021). While in medical school, physicians are taught to consider a wide range of potential diagnoses, including rare diseases and life-threatening conditions.

According to the results obtained, the majority of the patients were diagnosed accurately. However, there were a small number of incorrect diagnoses made by the physicians. An accurate diagnosis indicates the physician's ability to correctly identify and classify a specific disease or health problem that an individual or community experiences. Prior studies conducted by Malmström et al. (2017), Johnson et al. (2018), and Graversen et al. (2020) have demonstrated that inaccuracies in triage assessment pose a risk to both patient safety rates and the quality of health services. Assessment results that are categorized as under-triage have a direct impact on patient waiting time (Naiker et al. 2018, Corkery et al. 2021, Al-Shatarat et al. 2022). Furthermore, a study carried out by Elbaih et al. (2022) found that under-triage has the potential to reduce patient safety rates. Under-triage is a result of a decrease in the triage scale assessment, which determines whether a patient should extend the treatment time or receive certain treatment according to their clinical condition.

The findings of this study align with prior research by Andri et al. (2020) on the accuracy of early

diagnosis. The study found that there was a 6.7% discrepancy in the implementation of triage assessment in the Emergency Department of Prof. Dr. M. Ali Hanafiah Regional General Hospital, Tanah Datar, Indonesia. The prevalence of inaccurate diagnoses made by physicians in the emergency room was 9.6%. A total of 30.8% of patients exhibited a length of stay that was not in accordance with the clinical pathway. Although the relationship between triage assessment accuracy and length of stay (0.673) was not significant, there was a significant relationship between diagnosis accuracy and length of stay (0.001). The hospital conducted triage assessments following Australian triage standards. In addition, the physicians adhered to the standard operating procedures (SOP) when taking action or making a diagnosis. However, misdiagnoses were still observed from the discrepancies between the initial diagnoses and the diagnoses made when the patients were discharged. Consequently, dissatisfaction became the patients' perception of the emergency room service. The initial step in the treatment process is to ensure the accuracy of a diagnosis, as it will directly affect the next step of action. Diagnosis includes determining the patients' need for care, including support, guidance, reassurance, education, training, and other types of care that facilitate their ability to seek treatment (Land et al. 2018, Karaca & Durna 2019, Akyirem et al. 2022).

An obstacle in the form of an inability to perform initial management

This study examined the physicians' ability regarding patient-centered management, specifically in the areas of pharmacological and non-pharmacological approaches. This variable includes education and counseling for patients, with a family-focused approach. It also includes other aspects related to the community, emphasizing a community-oriented approach. Additionally, it takes into account the criteria that physicians should consider when referring patients. Physicians will make a referral for a patient if they meet any of the time-age-complication-comorbidity (TACC) criteria (Maharani et al. 2019, Natalia & Idris 2022). Time refers to whether the course of the disease can be classified as a chronic condition or whether it has passed the golden period. Age refers to whether the patient falls into an age category that is known to increase the risk of complications and more severe conditions. Complication refers to any additional complications that can aggravate the patient's condition. Comorbidity refers to the presence of complaints or symptoms from other diseases that aggravate the patient's condition. In addition to the four criteria, the state of service facilities can also be the basis for physicians to make referrals, with the patient's consent, to ensure the continuity of

management.

This study is consistent with the research of Wu et al. (2022), who also demonstrated the significance of medical image segmentation in the development of a health care system, particularly for the purpose of disease diagnosis and treatment planning. The u-shaped architecture, also referred to as the U-Net, has emerged as the standard and exhibited remarkable performance in many tasks related to medical image segmentation. Nevertheless, the U-Net architecture sometimes faces challenges in effectively modeling long-term dependencies, mostly because the convolution operations have an intrinsic locality (Yin et al. 2022). Transformers specifically created for sequence-to-sequence prediction have become a popular alternative architecture that includes global self-attention mechanisms. However, they may have limited ability to accurately pinpoint specific details at a low level. The study introduced TransUNet as a robust option for medical image segmentation that is compatible with the Transformers and U-Net. A tokenized image patch from a convolutional neural network (CNN) feature map is encoded by Transformers as an input sequence to extract global context. Conversely, the decoder improves the quality of the encoded feature samples. These enhanced samples are subsequently merged with a high-resolution CNN feature map to achieve accurate localization. The development of such technology highlights the significance of initial management, particularly for patients with certain diseases. It is crucial to prioritize initial management to maintain airway patency, ensure optimal ventilation, treat any occurrence of shock, assess patients' neurological status, and perform additional examinations if the patients are stable (Yin et al. 2022).

Insufficient ability to conduct independent and directed management

Physicians demonstrate their ability to carry out independent and directed management by overseeing the entire process of patient care from admission until discharge. Independent and directed management can reduce the duration of patient care, improve patient well-being, prevent relapse, and lower mortality and morbidity rates. Patients seeking treatment receive interventions that involve independent and directed management, which comprise discharge planning, the provision of education regarding diet and rest patterns, and post-hospitalization follow-ups. This study corresponds to the research conducted by Andri et al. (2020), who investigated the relationship between pain levels and the implementation of early mobilization and ambulation in patients following surgery for

lower extremity fractures at the Seruni Inpatient Room of dr. M. Yunus Regional General Hospital, Bengkulu, Indonesia. The cross-sectional study revealed that 82.9% of the patients engaged in mobilization activities. The percentage of patients who did not engage in mobilization activities was 17.1%, whereas the percentage of patients who participated in ambulation activities was 82.9%. A total of 77.1% of the patients suffered from moderate pain, while 22.9% of the patients experienced severe pain. The Chi-square analysis in the study demonstrated a statistically significant relationship between pain levels and the implementation of early mobilization and ambulation among patients following surgery for their lower extremity fractures ($p=0.000$).

Independent and directed management will have an impact on improving the quality of patients' health. When it comes to independent and directed management, there are several factors to consider, one of which is the implementation process. Independent and directed management of patients should take into account the patients' needs and wants. Therefore, it should be assessed periodically, from the time of admission until discharge. This assessment is important to identify any problems that may appear after the patients' return from the hospital. It is also crucial to implement discharge planning that involves the collaboration of many healthcare teams, including nurses, doctors, and nutritionists. Discharge planning is a standard practice in healthcare teams from the moment patients are admitted to the hospital. This preparation must be carefully executed in accordance with the established procedures of the hospital. Effective application of independent and directed management will enable patients to gain knowledge and comprehension regarding their health problems, post-discharge treatment, emergency follow-up care, and specialized information for their families to ensure proper care upon leaving the hospital. Additionally, coordination with the nearest healthcare facility is necessary to monitor the patients' health status following their discharge (Kruis et al. 2014, Murtagh et al. 2021).

Strength and limitations

This study offers insights into the obstacles that hinder the implementation of clinical practice guidelines. The findings of this study are expected to encourage physicians to enhance their abilities in identifying and explaining the clinical features of diseases, diagnosing diseases, performing initial management, and conducting independent and directed management. However, this study was limited by its relatively small sample size, which only covered general practitioners and specialists

from a single center.

CONCLUSION

A correlation was found between the implementation of clinical practice guidelines and the ability of physicians at Mandau District General Hospital, Bengkalis, Indonesia, in terms of identifying and explaining the clinical features of diseases, diagnosing diseases, performing initial management, and performing independent and directed management. The ability to perform initial management was the most significant factor affecting the implementation of clinical practice guidelines. These findings should be incorporated into the training materials for physicians to optimize the implementation of clinical practice guidelines. Physicians are expected to understand their responsibilities and perform their duties effectively by developing these essential skills.

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Conflict of interest

None.

Ethical consideration

This study received approval from the Health Research Ethics Committee of Universitas Prima Indonesia, Medan, Indonesia, with registration No. 003/KEPK/UNPRI/X/2022 on 13/10/2022.

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None.

Author contribution

SZ contributed to the conception and design of the research, the analysis and interpretation of the data, and the drafting of the article. SWN and EG contributed to the final approval of the article and statistical expertise. SLRN contributed to the final approval of the article.

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