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por el

DR. LUIS RAZETTI

Organo de la Academia Nacional de Medicina
y del Congreso Venezolano de Ciencias Médicas

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de Caracas

Órgano oficial de la Academia Nacional de Medicina
y del Congreso Venezolano de Ciencias Médicas

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Guest Editor
Haeril Amir

INDEX

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La GMC sigue las Recomendaciones para la realización, informe, edición y publicación de trabajos académicos en revistas médicas, del Comité Internacional de Editores de Revistas Médicas conocidas como Recomendaciones ICMJE [www.ICMJE.org, Gac Méd Caracas. 2020;128(1):77-111]. Las unidades deben presentarse de acuerdo con el Sistema Internacional de Unidades (SI) [Gac Méd Caracas. 2015;123(1):46-71].

En la GMC se dará cabida a los trabajos realizados por profesionales de la medicina o especialidades conexas, presentados en la Academia, en los Congresos de Ciencias Médicas y los que sugiera la Corporación a través del Comité Científico, y aceptación final por la Dirección-Redacción. Los manuscritos enviados a la GMC —escritos en español o en inglés—, serán revisados por el Comité Editorial y— si reunen la calidad científica y cumplen con las normas de presentación necesarias— serán sometidos a un proceso de arbitraje externo por personas con competencias similares a las de los productores del trabajo (pares) para su debida evaluación. Queda entendido que el Comité Editorial puede rechazar un manuscrito, sin necesidad de acudir al proceso de arbitraje, si se incumple con lo mencionado.

La opinión, crítica y recomendaciones de los revisores son recibidas en forma escrita y anónima y se enviarán a los autores, cuando así lo decida la Dirección-Redacción.

Todos los trabajos deberán ser enviados por Internet y en papel escrito en computadora a doble espacio, letra Times New Roman tamaño 12, por el anverso del papel, tamaño carta, con amplio margen libre en todo el contorno.

La GMC considerará contribuciones para las siguientes secciones:

Artículos de revisión
Artículos originales
Artículos especiales
Casos clínicos
Historia y filosofía de la medicina
Información epidemiológica
Bioética
Comunicaciones breves
Perlas de observación
Noticias y cartas al editor
Varios

Los trabajos enviados deberán cumplir con los requisitos que se describen a continuación.

EDITORIALES

Esta sección estará dedicada al análisis y la reflexión sobre los problemas de salud de la población, los distintos enfoques preventivos y terapéuticos, así como los avances logrados en el campo de la investigación biomédica y otros que considere la Dirección-Redacción.

ARTÍCULOS ORIGINALES

Deberán contener en la página frontal, el título conciso e informativo del trabajo; nombre(s) y apellido(s) de cada autor; grados académicos de los autores e institución en la cual se realizó el trabajo; nombre y dirección actual del autor responsable de la correspondencia; un título corto de no más de 40 caracteres (contando espacios y letras) y las palabras clave.

Los trabajos originales, revisiones sistemáticas y metanálisis deben tener un resumen estructurado, como se indica a continuación:

Debe contener un máximo de 250 palabras, y los siguientes segmentos:

- Introducción: ¿Cuál es el problema principal que motivó el estudio?
- Objetivo: ¿Cuál es el propósito del estudio?
- Métodos: ¿Cómo se realizó el estudio? (selección de la muestra, métodos analíticos y observacionales).
- Resultados: ¿Cuáles son los aspectos más importantes? (datos concretos y en lo posible su significancia estadística)
- Conclusión: ¿Cuál es la más importante que responde al objetivo?

Al final se anotarán 3 a 6 palabras clave.

Resumen en inglés

Debe corresponderse con el resumen en español. Se sugiere que este sea revisado por un traductor experimentado, a fin de garantizar la calidad del mismo.

Introducción

Incluir los antecedentes, el planteamiento del problema y el objetivo del estudio en una redacción libre y continua debidamente sustentada por la bibliografía.

Método

Señalar claramente las características de la muestra, el o los métodos empleados con las referencias pertinentes, de forma que se permita a otros investigadores, realizar estudios similares.

Resultados

Incluir los hallazgos importantes del estudio, comparándolos con las figuras estrictamente necesarias y que amplíen la información vertida en el texto.

Discusión

Relacionar los resultados con lo reportado en la literatura y con los objetivos e hipótesis planteados en el trabajo.

Conclusión

Describir lo más relevante que responda al objetivo del estudio.

Agradecimientos

En esta sección se describirán los agradecimientos a personas e instituciones así como los financiamientos.

Referencias

Se presentarán de acuerdo con las Recomendaciones ICMJE.

Indicarlas con números arábigos entre paréntesis en forma correlativa y en el orden en que aparecen por primera vez en el texto, cuadros y pie de las figuras. En las citas de revistas con múltiples autores (más de seis autores), se deberá incluir únicamente los 6 primeros autores del trabajo, seguido de et al.,

a. Artículos en revistas o publicaciones periódicas: apellido(s) del autor(es), inicial del nombre(s). Título del artículo. Abreviatura internacional de la revista: año; volumen: páginas, inicial y final. Ejemplo: Puffer R. Los diez primeros años del Centro Latinoamericano de la Clasificación de Enfermedades. Bol. Of San Pam. 1964;57:218-229.
b. Libros: apellido(s) del autor(es), inicial(es) del nombre(s). Título del libro. Edición. Lugar de publicación (ciudad): casa editora; año. Ejemplo: Plaza Izquierdo F. Doctores venezolanos de la Academia Nacional ade Medicina. Caracas: Fundación Editorial Universitaria, 1996. (No lleva "Edición" por tratarse de la primera).
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Las fotografías de objetos incluirán una regla para calibrar las medidas de referencia.

En las microfotografías deberá aparecer la ampliación microscópica o una barra de micras de referencia.

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Se publicarán únicamente trabajos originales de presentaciones en Congresos de Ciencias Médicas. Serán enviados a la Gaceta por los coordinadores, quienes se responsabilizarán de la calidad, presentación de los manuscritos, secuencia y estructura, incluyendo un resumen general en español y en inglés, en formato libre y que no excedan de 250 palabras. Cada contribución no excederá de 10 cuartillas y deberá apegarse a lo señalado en estas instrucciones a los autores.

Artículos de revisión

Versarán sobre un tema de actualidad y de relevancia médica. El autor principal o el correspondiente deberá ser una autoridad en el área o tema que se revisa y anexará una lista bibliográfica de sus contribuciones que avale su experiencia en el tema.

Las secciones y subtítulos serán de acuerdo con el criterio del autor. Incluir un resumen general en español y en inglés que no exceda de 150 palabras. La extensión máxima del trabajo será de 20 cuartillas. Las ilustraciones deberán ser las estrictamente necesarias, no siendo más de seis, la bibliografía suficiente y adecuada y en la forma antes descrita.

Artículos especiales

Son aquellas contribuciones que por su importancia el Comité Redactor considere su inclusión en esta categoría.

Casos clínicos

Deberán constar de resumen en español e inglés (máximo 100 palabras) en formato libre. Constará de introducción, presentación del caso, discusión, ilustraciones y referencias, con una extensión máxima de 10 cuartillas y apegadas a las instrucciones a los autores.

Historia y filosofía de la medicina

En esta sección se incluirán los artículos relacionados con aspectos históricos, filosóficos, bases conceptuales y éticas de la medicina. Aunque su estructura se dejará a criterio del autor, deberá incluir resúmenes en español e inglés (máximo 100 palabras) en formato libre, referencias bibliográficas citadas en el texto y en listadas al final del manuscrito, siguiendo los lineamientos citados para los manuscritos de GMC.

Actualidades terapéuticas

Se informará sobre los avances y descubrimientos terapéuticos más recientes aparecidos en la literatura nacional e internacional y su aplicación en nuestro ámbito médico. La extensión máxima será de cuatro cuartillas y con un máximo de cinco referencias bibliográficas. Deberá incluir resúmenes en español en inglés, en formato libre (máximo 100 palabras).

Información epidemiológica

Será una sección de información periódica sobre los registros epidemiológicos nacionales e internacionales, destacando su importancia, su comparación con estudios previos y sus tendencias proyectivas. La extensión máxima será de cuatro cuartillas y deberá incluir resúmenes en español en inglés (máximo 100 palabras), en formato libre.

Comunicaciones breves

Serán considerados en esta sección, los informes preliminares de estudios médicos y tendrán la estructura formal de un resumen como se describió previamente (máximo 150 palabras). Se deberán incluir 10 citas bibliográficas como máximo.

Bioética

Se plantearán los aspectos éticos del ejercicio profesional y aquellos relacionados con los avances de la investigación biomédica y sus aplicaciones preventivas y terapéuticas. Su extensión máxima será de cuatro cuartillas y cuatro referencias bibliográficas, deberá incluir resúmenes en español e ingles (máximo 100 palabras) en formato libre.

El médico y la ley

Esta sección estará dedicada a contribuciones tendientes a informar al médico acerca de las disposiciones legales, riesgos y omisiones de la práctica profesional que puedan conducir a enfrentar problemas legales. Su máxima extensión será de cuatro cuartillas y no más de cinco referencias bibliográficas. Deberá incluir resúmenes en español e inglés (máximo 100 palabras).

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The perspective of the World of Education due to the COVID-19 pandemic

Haeril Amir

Invited Editor

Talking about COVID-19 seems to have no end, as it has various impacts. Its impacts are not only on the health sector but also on the education sector (1). Indonesia also experiences various educational policy adjustments due to the COVID-19 pandemic (2), from school holidays to distance learning or online learning (3). These policies are applied at schools and universities not without obstacles, but the application of these policies is the best choice to prevent the spread of COVID-19.

However, the impacts due to the application of these policies, and complaints from students are increasing. They complain about the online learning system, which according to them is complicated, requires expensive costs, and they are not used to it. Besides, piling up tasks is also their reason. Also, they have to get used to using platforms such as Google Meet and Zoom, which require the internet and devices such as laptops and mobile phones, whereas their homes are far from the reach of the internet (4). This can be a barrier to the implementation of online learning.

This situation eventually gives rise to various kinds of psychological disorders, ranging from anxiety to confusion, and even stress (5). Fortunately, schools and universities continue to improve their education system by providing an easily accessible platform while also maintaining to evaluate the improvements to their education system.

The COVID-19 pandemic has indeed changed the education system. There are a lot of negative impacts, but it does not necessarily mean that there are not any positive impacts. The world of education in Indonesia must be prepared with all possibilities to maintain quality and standards for the future of the nation.

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Perspectiva del Mundo de la Educación ante la pandemia de la COVID-19

Haeril Amir

Editor Invitado

Hablar del COVID-19 parece no tener fin, ya que tiene varios impactos. Sus impactos no son solo en el sector salud sino también en el sector educación (1). Indonesia también experimenta varios ajustes de política educativa debido a la pandemia de COVID-19 (2), desde vacaciones escolares hasta aprendizaje a distancia o aprendizaje en línea (3). Estas políticas se aplican en escuelas y universidades no sin obstáculos, pero la aplicación de estas políticas es la mejor opción para prevenir la propagación de la COVID-19.

Sin embargo, los impactos debido a la aplicación de estas políticas, y las quejas de los estudiantes son cada vez mayores. Se quejan del sistema de aprendizaje en línea, que según ellos es complicado, requiere costos elevados y no están acostumbrados. Además, acumular tareas también es su razón. Además, deben acostumbrarse a usar plataformas como Google Meet y Zoom, que requieren Internet y dispositivos como computadoras portátiles y teléfonos móviles, mientras que sus hogares están lejos del alcance de Internet (4). Esto puede ser una barrera para la implementación del aprendizaje en línea.

Esta situación eventualmente da lugar a diversos tipos de trastornos psicológicos, que van desde la ansiedad hasta la confusión e incluso el estrés (5). Afortunadamente, las escuelas y universidades continúan mejorando su sistema educativo al proporcionar una plataforma de fácil acceso y, al mismo tiempo, mantener la evaluación de las mejoras en su sistema educativo.

De hecho, la pandemia de COVID-19 ha cambiado el sistema educativo. Hay muchos impactos negativos, pero eso no significa necesariamente que no haya impactos positivos. El mundo de la educación en Indonesia debe estar preparado con todas las posibilidades para mantener la calidad y los estándares para el futuro de la nación.

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Smartphone Effect Against Students Psychosocial Changes in Kebumen Regency, Central Java, Indonesia

Efecto de los teléfonos inteligentes sobre los cambios psicosociales de los estudiantes en la Regencia de Kebumen, Java Central, Indonesia

Ike Mardiati Agustin*[1a], Anton Aji Pangestu[b], Siti Mutoharoh[c], Irmawan Andri Nugroho[d], Muhammad Iqbal[2e]

SUMMARY

Objective: *The purpose of this study was to understand the psychosocial changes in students due to smartphone use in Kebumen Regency, Central Java, Indonesia in 2021.*
Methods: *This study was qualitative research with a phenomenological approach. The sampling technique was purposive sampling, with a total of 5 participants who used smartphones. Data analysis was conducted using qualitative analysis. Demographic data was performed descriptively. Quantitative data was obtained through dept interviews with respondents.*
Results: *The respondents had different self-control. A total of five participants experienced a decrease in response to the environment. Four participants experienced changes in consumptive behavior. We found two participants had physical problems and a decrease in the achievement index cumulative (grade point average). Moreover, five participants decreased in concentration.*
Conclusion: *Smartphones had an impact on psychosocial changes in students such as changes in emotional intelligence, social behavior, financial problem, intelligence, and physical conditions.*

Keywords: *Phenomenology, psychosocial, smartphones, students.*

RESUMEN

Objetivo: *El propósito de este estudio fue comprender los cambios psicosociales en los estudiantes debido al uso de teléfonos inteligentes en Kebumen Regency, Java Central, Indonesia en 2021.*
Métodos: *Este estudio fue una investigación cualitativa con un enfoque fenomenológico. La técnica de muestreo fue el muestreo intencional, con un total de 5 participantes que utilizaron teléfonos inteligentes. El análisis de datos se realizó mediante análisis cualitativo. Los datos demográficos se realizaron de forma descriptiva. Los datos cuantitativos se obtuvieron con una entrevista de departamento contra los encuestados.*
Resultados: *Los encuestados tenían diferente autocontrol. Un total de cinco participantes*

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experimentaron una disminución en la respuesta al medio ambiente. Hubo cuatro participantes que experimentaron cambios en el comportamiento de consumo. Encontramos que dos participantes tenían problemas físicos y disminución del índice de rendimiento acumulativo (promedio de calificaciones). Además, cinco participantes disminuyeron su concentración.

Conclusión: *Los teléfonos inteligentes tuvieron un impacto en los cambios psicosociales en los estudiantes, como cambios en la inteligencia emocional, el comportamiento social, los problemas financieros, la inteligencia y las condiciones físicas.*

Palabras clave: *Fenomenología, psicosocial, smartphones, estudiantes.*

INTRODUCTION

Globalization triggers significant changes in people's behavior. It is followed by advanced technology rapidly, such as the use of smartphones. Smartphones play an important role to change people's lives. Smartphones are a major necessity and are used by around 7,2 billion people worldwide. Smartphones are used not only by adults but also by children and teenagers, including students. Among teenagers, smartphones are commonly used for social media purposes, watching videos, and playing games. Excessive use of smartphones has an impact on society, such as people abandoning religious values and traditions (1). Furthermore, smartphones also affect concentration and cognitive function. These Phenomena show that most people addict to smartphones which causes psychosocial changes (2).

According to the Dictionary of psychology (3), psychosocial behavior is a condition related to social relations and psychological factors (4). Psychological factors consist of family factors, peers, and community environmental factors (5). Psychosocial is a study of behavior and life interactions with others in accordance with aspects of human development. Moreover, psychosocial behavior is the behavior and mental activities of individuals and groups that influence their relationships, ability to work together, and attitudes to others (6).

The negative impact of smartphones on psychosocial behavior, such as students cannot be separated from their smartphones when interacting with friends and do not look at each other because they are focused on their smartphones (7). Moreover, they tend to be lazy to study, less responsible, less concentrated on the environment, and change lifestyles.

This research focuses on the influence of the smartphone against some negative behaviors such as easy-to-get information without knowing the detail, laziness, lack of self-confidence, communication with parents or people, and concentration. Based on these facts, this study aimed to determine the psychosocial changes in students due to the use of smartphones. The research benefits are the development of psyche nursing knowledge that can be applied in seminars and workshops. In addition, students are expected to limit the use of smartphones in their daily lives.

METHODS

This study was qualitative research with a phenomenological approach to describe the phenomena experienced by participants based on their experience of using smartphones. The study was conducted in (blinded for the review), Indonesia in April 2020. The principle of sampling in qualitative research was data saturation. Samples were selected using the snowball sampling technique. A total of 5 participants was used according to the inclusion criteria. The inclusion criteria were active students who use smartphones for more than 120 minutes per day and are healthy during an interview. The selection of 5 participants was carried out through the data saturation process and the saturation point of sampling. Therefore, the ideal minimum sample was fulfilled in qualitative research.

The study instrument was the researcher. In addition, voice recorders, interview guides, and field notes were used in this study. Data was obtained using depth interviews. Interview trials were conducted before the study with one participant. Each participant was interviewed for 30-45 minutes. All participant was recruited with informed consent and were willing to participate in this study. Data analysis was performed after the interview. After that, researchers searched keywords that matched to participant's statement.

Subsequently, categorizing was performed based on keywords that become a sub-theme of using smartphones for psychosocial changes. Furthermore, researchers arranged themes based on sub-themes. Data was analyzed by collecting all the interview data, direct observations, and field notes for quantitative data. Meanwhile, the quantitative data on the participant's demographic was analyzed descriptively and using the frequency distribution.

RESULTS

There were a variety of demographic data based on the frequency distribution analysis. A total of five active students were used in this study. The characteristics of the participants are presented in Table 1.

We found five themes related to psychosocial changes in students due to the use of smartphones, including changes in emotional intelligence, social behavior, financial, and physical conditions, and intelligence. Table 2 shows the variety of themes based on interview analysis and observation of participation.

Emotional Intelligence

There were two sub-themes including self-control efforts and psychological changes based on the interview results of students. Participant expressions were related to the sub-themes as follows:

"Leading to the negative, I already transferred it like that … just as an entertainer for me … (P1).

Sometimes I limit it, what is the use of smartphones? (P4).

The feeling triggers me to slam things (P5).

Table 1. Characteristics of Participants

Participant	Age	Gender	Religion	Study program	Period of smartphone use	Reasons for using a smartphone
P1	21	Female	Islam	Bachelor of Nursing	7 years	To contact family and friends
P2	19	Male	Islam	Diploma 3 of Nursing	7 years	For short message service (SMS) and telephone
P3	20	Female	Islam	Bachelor of Nursing	10 years	For SMS, telephone, and radio
P4	20	Female	Islam	Bachelor of Nursing	7 years	For chatting with friends and family
P5	22	Male	Islam	Bachelor of Nursing	9 years	For SMS and telephone

Table 2. Five themes related to psychosocial changes in students due to the use of smartphones

Component	Interpretation	Meaning
Distraction	Self-control efforts	Emotional intelligence
Limit yourself		
Information media		
Interested in negative things	Psychological changes	
Response instability emotional		
Decreased response to the environment	Changes in social behavior	Changes in social behavior
Changes in behavior		
Consumptive behavior	The economy	Financial changes
Having physical problems	Physical problems	Impact on physical conditions
Decreased concentration	Memory drop	Changes in Intelligence
Decreased learning interest		

Changes in Social Behavior

Based on the interview results, it was found that participants experienced changes in social behavior such as a decreased response to the environment and changes in behavior. The following expressions of the participants as follow:

"Choose at home to play cellphone instead of gathering with friends, like that" (P1).

In my opinion, it changes behaviors and negative thinking (P3).

Financial Changes

We found that financial changes by participants were consumptive behavior such as wasteful quotas and online shopping. The following expressions of the participants as follow:

"For example, financial matters are more wasteful … then yes, it may be wasteful of quotas …(P2).

"There are many brands in the online shop such as Instagram, then I want to buy…(P5).

Impact on Physical Conditions

The excessive use of smartphones had an impact on physical problems such as eye pain, fatigue, and dizziness. The following expressions of the participants as follow:

"The impact is sometimes the eyes hurt" (P2).

"Sometimes I get dizzy when using smartphones for a long time" (P4).

Changes in Intelligence

Participants decreased in concentration and two participants decreased in the value of the achievement index cumulative (grade point average: GPA). The following expressions of the participants as follow:

The concentrations are disturbed when I opened my cellphone, it broke up, like that (P1).

There is …a decrease …umm maybe because of the learning interest is decreasing, like that (P4)

DISCUSSION

Emotional Intelligence

Emotional intelligence had an impact on self-control efforts and psychological changes. Self-control efforts in participants consist of distraction and limiting the use of smartphones as information media and psychological changes. These findings show that the emotional intelligence experienced by participants is not consistent with their control due to the stimuli from the smartphones, such as interesting features or applications. If this cannot be controlled properly, it impacts the level of addiction to use smartphones. Low self-control, high expectation, low self-esteem, high media exposure, and social interaction are the effect of smartphone addiction (8). The higher of smartphone addiction, the lower level of emotional intelligence (9). Conversely, the lower level of smartphone addiction, the higher level of emotional intelligence. Therefore, good emotional control is needed.

There are five emotional and social effectiveness skills including respect for own self, respect for others, responsive awareness, courage, and authentic success. Therefore, emotional intelligence can be either positive or negative according to the conditions of each individual. Positive emotional intelligence can be the use of gadgets as information media, whereas negative emotional intelligence can be gadget dependency and affects the psychological changes of an individual (9).

Changes in Social Behavior

In a present study, we found that the changes in social behavior by participants decrease in response to the environment. The excessive use of smartphones and the presence of interesting

applications in smartphones such as social media decreases focus. It is in accordance with the research conducted by Hakim and Raj, who explains that teenagers ignore friends and focus on the internet (10). Moreover, a teenager tends to access the internet and delay other activities related to direct social interaction. The excessive use of smartphones impacts behavior such as a lack of confidence and an inferiority complex especially if you do not have a smartphone, you feel lonely. This statement was supported by Bian and Leung, who stated that people with high experiences of loneliness and shame have a higher addiction to smartphones (11). The use of smartphones causes different symptoms of addiction such as anxiety and loss. Therefore, students need to limit their use of smartphones because it affects their social life and behavior.

Financial Changes

In the present study, there were financial changes such as consumptive behavior (wasteful quotas and online shopping). A variety of online applications makes them more wasteful of the quota due to frequent use of social media. It impacts consumptive behavior such as online shopping. There is an influence of Instagram as social media, peers, and parents' socioeconomic status on the consumptive behavior of class XI students in the State senior high school 1 Semarang simultaneously or partially (12).

Shopaholic women who have actively used Instagram become increasingly consumptive to do online shopping to fulfill their needs based on their appearance as a form of self-identity (13). Therefore, excessive consumptive behavior has a negative impact. Participants spend their money to obtain the desired item, without prioritizing their basic needs. Therefore, they need to control or limit the use of gadgets, especially those related to the internet or social media.

Impact on Physical Conditions

This study demonstrated that there was an impact on participants' physical problems due to the prolonged use of smartphones such as eye pain, fatigue, and dizziness. This condition occurs because participants always use smartphones for long durations. Therefore, it affects the health condition of the body. In addition, smartphones are known to produce radiation that is dangerous for the eyes. Smartphones work by emitting electromagnetic radiation to capture radio frequency waves. The maximum energy expenditure of electromagnetic radiation from smartphones ranges from 0.6 to 1 watt (14).

The factors related to eye fatigue include refractive abnormalities and lighting levels. This condition triggers stinging eyes (15). Other symptoms such as headache (dizziness), which can be caused by eye disorders, eye fatigue, the need to wear glasses, and eye strain due to excessive use of the eyes (16).

Changes in Intelligence

Changes in intelligence decrease concentration and interest in learning (GPA). This shows that they use smartphones during the learning process. Therefore, they are not focused on the lecturer. In addition, the attraction toward the features of smartphones results in less time for learning. Smartphone addiction affects the academic aspects of teenagers and decreases academic achievement (17).

Social media (e.g., Facebook) has a partial impact on student motivation as well as the impact caused by the use of smartphones. Student learning achievement can be balanced with good learning motivation. If motivation decreases, it affects learning achievement (18).

In this study, three participants did not experience a cumulative GPA reduction. This means that the scores obtained were stable. Smartphones do not always have a negative effect on student achievement. It indicates by some students who have increased performance. Therefore, the use of smartphones can be wisely limited through the existence of rules and prohibitions from lecturers during the learning process (19,20).

Limitations. This study has limitations in the process of data retrieval that only focuses on data

collection using in-depth interview techniques and is not accompanied by observation or using group discussion techniques.

CONCLUSIONS

Psychosocial changes occurred in participants due to the use of smartphones as follows: 1) emotional intelligence consists of self-control efforts and psychological changes, 2) changes in social behavior such as a decreased response to the environment and behavioral changes, 3) financial changes occurred due to consumptive behavior such as wasteful quotas and online shopping, 4) impact on physical conditions such as eye pain, fatigue, and dizziness, 5) changes in intelligence in the form of decreased concentration and GPA. Students or teenagers are expected to limit the use of smartphones in daily life through activities such as sports, joining organizations, focusing on academic achievements, and developing innovations such as making leaflets about the correct way to use smartphones.

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Authors' Contributions

All contributors contributed significantly to this study and all authors agree with the content of the manuscript.

Conflict of Interests

The authors do not have any conflicts of interest to report.

Availability of Data and Materials

All data generated or analyzed during this study are included in this published article.

Ethical Approval

This work was approved by the Ethical Review Committee Faculty of (blinded for the review) (No. 333.6/IV.3.AU/F/ETIK/III/2021) From *Ethic Commission Universitas Muhammadiyah Gombong*.

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Implementation of nurse knowledge about handover with situation, background, assessment and recommendation technique

Implementación del conocimiento de enfermería sobre el traspaso con la técnica de situación, antecedentes, evaluación y recomendación

Zulkifli[1a], Herni Sulastien[2b], Gusti Ayu Sripujawarnis Wijayanti[1c], Dewi Purnamawati[1d], Aan Dwi Sentana[1e]

SUMMARY

Introduction: *Error due to the conveyance of handover during shift change will result in a decrease in service quality indicators, especially patient safety in a hospital. Poor communication is a contributing factor to the cause of injury. One form of nurse communication is a handover. Handover is a technique of conveying and receiving information related to the conditions of patients. Gaps in communication in the handover process were found. It is considered that around 45.5 % of the implementing nurses at the Regional General Hospital of Mataram do not maximize the form of handover implementation with the SBAR technique. This study aimed to describe the implementation of nurse knowledge about handover with the SBAR technique at the Regional General Hospital of Mataram in 2022.*

Methods: *This study is descriptive research. The samples in this study were 30 implementing nurse respondents. The sampling technique used was Total Sampling-with the research instrument being a questionnaire.*

Result: *This study reveals that, in general, the description of implementing nurse knowledge is sufficient with a percentage of 46.7 or, 14 implementing nurse respondents having sufficient knowledge about handover with the SBAR technique.*

Conclusion: *It can be concluded from this study that the description of the implementing nurse knowledge about handover with the SBAR technique at the Regional General Hospital of Mataram in 2022 is in the sufficient category. Therefore, it is suggested for implementing nurses and hospital institutions continue to develop new knowledge related to health services so that the implementation of nursing care is in following the goals expected.*

Keywords: *Description of knowledge, handover, implementing nurse, SBAR.*

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RESUMEN

Introducción: *El error debido a la transmisión del traspaso durante el cambio de turno resultará en una disminución de los indicadores de calidad del servicio, especialmente la seguridad del paciente en un hospital. La mala comunicación es un factor que contribuye a la causa de la lesión. Una forma de comunicación de la enfermera es un traspaso. El traspaso es una técnica de transmisión y recepción de información relacionada con las condiciones de los pacientes. Se encontraron lagunas en la comunicación en el proceso de traspaso. Se considera que alrededor del 45,5 % de los enfermeros implementadores del Hospital General Regional de Mataram no maximizan la forma de implementación del traspaso con la técnica SBAR. Este estudio tuvo como objetivo describir el conocimiento del enfermero ejecutor sobre el traspaso con la técnica SBAR en el Hospital General Regional de Mataram en 2022.*

Métodos: *Este estudio es una investigación descriptiva. Las muestras de este estudio fueron 30 enfermeras ejecutoras encuestadas. La técnica de muestreo utilizada fue el Muestreo Total, siendo el instrumento de investigación un cuestionario.*

Resultado: *Este estudio revela que, en general, la descripción del conocimiento de la enfermera implementadora es suficiente con un porcentaje de 46,7 o, 14 enfermeras implementadoras encuestadas tienen conocimiento suficiente sobre el traspaso con la técnica SBAR.*

Conclusión: *Se puede concluir a partir de este estudio que la descripción del conocimiento de la enfermera implementadora sobre el traspaso con la técnica SBAR en el Hospital General Regional de Mataram en 2022 se encuentra en la categoría suficiente. Por lo tanto, se sugiere a los enfermeros ejecutores e instituciones hospitalarias continuar desarrollando nuevos conocimientos relacionados con los servicios de salud para que la implementación de los cuidados de enfermería esté en el seguimiento de las metas esperadas.*

Palabras clave: *Descripción del conocimiento, transferencia, enfermera implementadora, SBAR.*

INTRODUCTION

Patient safety goals outlined in PMK No. 1691/ MENKES/PER/VIII/2011 were stipulated with reference to nine patient safety solutions by World Health Organization (WHO) aiming to encourage specific improvements in patient safety. Patient handover is included in the second goal, namely increasing the effective communication of health workers. Error due to the conveyance of handover during shift change will result in a decrease in service quality indicators, especially patient safety in a hospital (1).

The impact of the lack of implementation of patient safety on the quality of health services results in injury to the actions taken. Poor communication is a contributing factor to the cause of injury. One form of nurse communication is a handover. Handover is a technique of conveying and receiving information related to the conditions of patients (2).

Phenomena found in nursing services in hospitals related to communication between staff, especially in patient handover activities, are wrong communication resulting in misperceptions, delay time, unfocused communication content about patient problems, and often, digressed topic of conversation, and incomplete information during the handover, so the nurse have to ask the nurse who was on duty again. This situation results in late service and even had an impact on patient safety (3).

There are many gaps in communication in the handover process. It is considered that around 45.5 % of the implementing nurses at the Regional General Hospital of Mataram do not maximize the form of handover implementation with the Situation-Background-Assessment-Recommendation (SBAR) technique which provides a framework for communication between members of the health care team about a patient's condition and is one of the main causes of gaps in treating patients, causing unexpected events in treating patients (4). Based on the results of observations that the researchers had made in the room where a study had been carried out, it was found that there were quite a lot of the implementing nurses working in that room who had not been sufficient in handover implementation with the SBAR technique. Then, if seen from the SBAR format itself, the lack in the conveyance of the Background and Assessment in the handover process can result in things that are not desirable in carrying out intervention or implementation. Then in another room where this study was carried out, the results were quite far from the application of the SBAR format itself.

Another study with a total of 786 articles, showed that there was a positive effect on

patient safety after the use of the SBAR effective communication method when carrying out the handover process. The benefits of using the SBAR effective communication method in handover implementation are increasing the effectiveness of patient information, making work more systematic, enabling nurses to follow patient developments in a structured manner, and avoiding unexpected errors. Therefore, it is hoped that the SBAR effective communication method can be used as a choice of communication method that can be applied in hospitals (4).

SBAR provides an organized way of delivering information that has the potential of not only improving communication methods but also directly affecting patient care outcomes. Many studies have been conducted to evaluate the effectiveness of using SBAR. In general, the use of SBAR shows that this handover tool helps improve communication skills as well as minimize or prevent errors arising from miscommunication in various healthcare settings (5,6). Based on the data the presented study aimed to assess the implementation of nurse knowledge about handover with the SBAR technique.

METHODS

This study is descriptive research, that is used to answer the formulation of the problem with regard to the question of the existence of independent variables, either only on one variable or morE (7,8).

This study described the implementation of nurse knowledge about handover with the SBAR technique at the Regional General Hospital of Mataram in 2022. The population in this study was all implementing nurses in the IRNA II and IRNA IIIA inpatient rooms at the Regional General Hospital of Mataram in 2022—with the research instrument being questionnaires that were distributed directly to respondents. The sampling technique used was Total Sampling, namely taking sample members from the entire existing population (8,9). Thus, the number of samples taken from the population of implementing nurses in the IRNA II and IRNA IIIA inpatient rooms at the Regional General Hospital of Mataram was 30 respondents.

RESULTS

Table 1 shows that out of 30 respondents, the average age of the respondents is 20-30 years old, with 22 respondents (73.3 %).

Table 1. Distribution of Respondents by Age

Age	Total	Percentage (%)
20 – 30 Years old	22	73.3
31 – 40 Years old	8	26.7
41 – 50 Years old	0	0
Total	30	100.0

Table 2 shows that out of 30 respondents, the average respondents are Nurse Profession, with 15 respondents (30 %).

Table 2. Distribution of Respondents by Education

Age	Total	Percentage (%)
Associate Nursing Expert	10	33.3
Bachelor of Nursing	5	16.7
Nurse Profession	15	50.0
Master of Nursing	0	0
Total	30	100.0

Table 3 shows that the description of the implementing nurse knowledge about handover with the SBAR technique at the Regional General Hospital of Mataram in 2022 is in the sufficient category, with 14 respondents (46.7 %).

Table 3. Description of the Implementing Nurse Knowledge about Handover with the SBAR Technique at the Regional General Hospital of Mataram in 2022

Age	Total	Percentage (%)
Good	12	40.0
Sufficient	14	46.7
Insufficient	3	10.0
Poor	1	3.3
Total	30	100.0

DISCUSSION

Age affects one's comprehension and mindset. The older someone is, the more their comprehension and mindset will develop so that the knowledge they gain will improve, both technically and psychologically, and their ability to carry out the tasks given will also improve (10,5).

Based on the characteristics of the respondents, the age of the respondents when viewed from the percentage of implementing nurses aged 31-50 years old, only 3 respondents have a good description of knowledge about SBAR. Whereas the percentage of younger implementing nurses aged 20 - 30 years old, those with a good description of knowledge about SBAR are more, namely around 9 respondents.

Ideally, getting older will affect one's comprehension and mindset so that the knowledge gained is improved (11). However, this does not guarantee that older nurses will have better knowledge. This can happen if it is not accompanied by self-development, through the learning process, especially to seek new knowledge or information about certain things.

The level of knowledge is also related to cognitive limitations, misinterpretation of information, lack of exposure, lack of interest in learning, lack of memory, and unfamiliarity with information sources (12,13).

Knowledge can also be affected by the ability of the individual nurse themselves, such as the willingness of the nurse to learn about the latest information so that they are able and easily completes their duties as a knowledgeable nurse. Education functions to develop the abilities and qualities of a person's personality, where the higher the level of education, the greater the willingness to utilize knowledge and skills. Knowledge is very closely related to education where it is hoped that someone with higher education will also have a wider knowledge (10,14,15).

This theory is proven by the characteristics of the respondents from the results of this study. When viewed from the percentage of implementing nurses based on the results of the characteristics of the respondents, it is obtained that the average implementing nurses with bachelor's degree who have good knowledge about SBAR are 9 respondents, and for those with Associate Nursing Expert degree who have good knowledge are 3 respondents.

This study aimed to describe the implementation of nurse knowledge about handover with the SBAR technique. Effective communication using SBAR communication is a framework that is easy to remember, a tangible mechanism used to convey the conditions of patients that are critical or need immediate attention and action. S (situation) describes the patient's identity, current problems, and results of medical diagnoses. B (background) describes a history of illness or a situation that supports the current problems/situation. An (assessment) describes the conclusion of the problems that are happening to the patient as a result of an analysis of the situation and background. R (recommendation) describes a plan or proposal to be made for existing problems (15,16).

The results of this study show that the description of the implementing nurse knowledge about handover with the SBAR technique in the inpatient rooms at the Regional General Hospital of Mataram in 2022, in general, is sufficient with a percentage of 46.7 or, 14 implementing nurse respondents have sufficient knowledge about handover with the SBAR technique. This was followed by 12 implementing nurse respondents with good knowledge, and 3 implementing nurse respondents with insufficient knowledge. And there is 1 implementing nurse respondent with poor knowledge (17-19).

CONCLUSION

The general description of implementing nurse knowledge about handover with the SBAR technique shows that as many as 14 respondents have sufficient knowledge.

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An overview of working mothers with children with online schooling during the COVID-19 pandemic in Riau Province

Una visión general de las madres trabajadoras con hijos con educación en línea durante la pandemia de la COVID-19 en la Provincia de Riau

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SUMMARY

Objective: *COVID-19 means Crown in Latin, COVID-19 is a type of virus that first spread in the city of Wuhan, China, and has spread throughout the world. This virus has an impact on all sectors namely the Economy, Health, and Education. This study aimed to determine the effect of school from home on working mothers during COVID-19 pandemia in Riau Province, Indonesia.*
Methods: *This study used a cross-sectional design involving 132 working mothers who had schoolchildren in Pekanbaru City, Riau Province, Indonesia. The sampling technique uses purposive sampling with inclusion criteria for working mothers with schoolchildren who are willing to be respondents. The measuring instrument used to determine the psychosocial impact uses Self Reporting Questionnaire 29 (SRQ 29). Data were analyzed using univariate descriptive tests.*
Results: *The results showed that more than half of them, namely 87 (65.9%) working mothers experienced Post Traumatic Stress Disorder.*
Conclusion: *There is a needs to implement policies and curriculum changes in schools, for example, don't give too many assignments, shorten study time, and need communication between school authorities and parents of students.*

Keywords: *Online learning, school from home, learning at home, learning at home, working mother.*

RESUMEN

Objetivo: *COVID-19 significa Corona en latín, COVID-19 es un tipo de virus que se propagó primero en la ciudad de Wuhan, China y se ha extendido por todo el mundo. Este virus tiene un impacto en todos los sectores, a saber, la economía, la salud y la*

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educación. Este estudio tuvo como objetivo determinar el efecto de la escuela desde el hogar sobre las madres trabajadoras durante la pandemia de COVID-19 en la Provincia de Riau, Indonesia.
Métodos: *Se utilizó un diseño transversal que involucró a 132 madres trabajadoras que tenían hijos en edad escolar en la ciudad de Pekanbaru, provincia de Riau, Indonesia. La técnica de muestreo utilizó un muestreo intencional con criterios de inclusión para madres trabajadoras con hijos escolares que estén dispuestos a ser encuestados. El instrumento de medida utilizado para determinar el impacto psicosocial fue el Self Reporting Quetionnaire 29 (SRQ 29). Los datos se analizaron mediante pruebas descriptivas univariadas.*
Resultados: *Los resultados mostraron que más de la mitad de los respondedores, es decir, 87 (65,9 %) madres trabajadoras experimentaron trastorno de estrés postraumático.*
Conclusión: *Debe haber una política y cambios en el plan de estudios de las escuelas, por ejemplo, no dar demasiadas tareas, acortar el tiempo de estudio y necesidad de comunicación entre las autoridades escolares y los padres de los estudiantes.*

Palabra clave: *Aprendizaje en línea, escuela desde el hogar, aprendizaje en el hogar, aprendizaje en el hogar, madre trabajadora.*

INTRODUCTION

One of the measures taken to combat the COVID-19 pandemic and apply internationally was the closure of schools (1). The peak of school closures began in early April 2020. At that time, around 1,6 billion students, or 90 % of the total students in 194 countries felt the impact of the spread of this virus (2).

School closures are based on evidence and assumptions that reduced social contact can disrupt the transmission of COVID-19. In Indonesia, the implementation of education policies during the emergency period of the spread of COVID-19 is learning from home through online/distance learning (4). Indonesia closed all schools starting in early March 2020 resulting in around 60 million students learning at home (5). Schools are required to facilitate learning from home using government or private digital platforms that provide free content and online learning opportunities across the region.

School closures have presented major experiences and challenges for children and parents and initiated the transition to online learning or learning from home. This condition brings adverse changes to children and students in elementary schools, high schools, to colleges (6). Several studies have found the experiences and challenges of parents with children attending school from home. A study in Italy revealed that during school closures, the lessons that the child follows are poorly organized and the child's routine becomes unstabel, the child is unable to concentrate for more than 20 minutes, the child needs a break every 10 minutes, the quality of learning is low, the child's anxiety increases, and the child becomes aggressive (7). Research revealed that almost 60 % of parents of primary school children and almost half of the parents of secondary school children report that it is enough or very difficult to support children's learning at home. The average time children spend looking at screens (watching television or playing video games) increased from more than 2 hours per day in the months before the pandemic to almost 6 hours per day during the initial phase of the pandemic (7). In total, media screen time increased by more than 3 hours per day during the pandemic.

The evidence indicates mental problems in parents with school children at home. The study was conducted in Mexico, the results revealed that experiencing confinement and prolonged school closures during the COVID-19 pandemic occurred in depressed parents associated with psychosocial dysfunction of the child and changes in school routines (8). In the UK, parents with school age children at home experience an increased prevalence of psychological distress especially before and during the second wave of COVID-19 (9). In China, the results of a study revealed parental mental health disorders during school closures are depression (18.7 %), anxiety (22.4 %), and stress (12.1 %) (10). Supported by data in America, the source of stress derived from distance learning/online/school from home, found in 70 % of parents who have school children, causes significant stress (11).

School closures reduce the spread of COVID-19. However, the burden on mothers to take care of children increases more than the burden on fathers. Before the pandemic, mothers' duties were largely limited to scheduling and

coordinating after-school programs. However, the pandemic changed mothers into active coordinators of public middle and high school classes, private online tutoring, and de facto school teachers at home (12). It was shown that COVID-19 pandemic, most of the additional workload fell on women, especially working women with children aged 0-5 years said that they found it more difficult to balance work and family. Most mothers reported doing much more parenting tasks than their partners during lockdown (13). Thus, the purpose of this study was to assess the demographic diversity of mothers with school children and analyze the effect of School From Home on working mothers in Riau Province during COVID-19 pandemia.

METHODS

This study is a cross-sectional study. Google forms were specifically created for this study. Questionnaire filling was carried out in August-September 2020. The sampling technique chosen was Purposive sampling with inclusion criteria for working mothers who had schoolchildren (children aged 5-12 years) and were willing to be respondents to the study. This research is a descriptive study with a cross-sectional approach where several variables are taken at the same time.

The variable psychosocial condition of mothers working with children from home is the Self Reporting Questionnaire which amounts to 29 (SRQ 29) in Indonesian. Mom was asked to rate each question on a five-point Likert scale (1 for strongly disagreeing, 5 for strongly agreeing). Questionnaires were sent to as many people as possible; questionnaire links were sent via email, WhatsApp, and other social media. Once the link is clicked, the participants are automatically redirected to information about the research and approval to participate in the research. After agreeing to fill out the questionnaire, a series of socio-demographic questions emerged, which included education level, occupation, education, and ethnicity, followed by other questions to assess the psychological condition of the mother using the Self-Reporting Questionnaire (SRQ-29) developed by World Health Organization (WHO) as an instrument to screen for mental disorders, including depression, anxiety-related disorders, and somatoform disorders. This research has passed the research ethics test at the Faculty of Medicine, Riau University with No.B/117/UN 19.5.1.1.8/UEPKK/2020.

RESULTS

This research was conducted on 132 working mothers in Pekanbaru City. The median age of mothers was 38.16 (SD 5,858) and ranged from 13-53 years. The average number of children that mothers have is 2.48 (elementary school is 2.48) and ranges from 0-5 children. The average home distance from mother to school is 7.76 (elementary 8,658) and ranges from 0-50. The average number of working hours of mothers is 7.42 (elementary 1 713) and ranges from 2-16

Table 1. Sociodemographic characteristics of participants

Respondent Characteristics	**N**	**%**
Education Level		
College	112	84.8
Senior high school	15	11.4
Junior high school	3	2.3
Elementary school	2	1.5
Work		
Private employees	18	40.2
Civil servant	41	23.5
Teacher	16	21.2
Lecturer	6	0.8
Health Workers	42	12.1
Bank employees	1	0.5
Student	1	0.8
Honorary Employees	2	1.5
Housewife	2	1.5
Self-employed	1	0.8
Laborer	2	1.5
Ethnic Group		
Malay	53	40.2
Minangkabau	31	23.5
Javanese	28	21.2
Bugis	1	0.8
Batak	16	12.1
Timorese	2	1.5
Nias	1	8
TOTAL	132	100

Table 2. Descriptive statistics of socio-demographic criteria

Variable	Working Mothers n=132
Age	
Mean ± SD	38.16 ± 5.858
Range	13-53
Number of Children	
Mean ± SD	2.48 ± 2.48
Range	0-5
Home Distance	
Mean ± SD	7.76 ± 8.658
Range	0-50
Number of Hours Worked	
Mean ± SD	7.42 ± 1.713
Range	2-16

Table 3. Psychosocial Mothers Working With Children Attending School From Home

Mother Psychosocial Condition	Frequency	Percentage
Normal	27	20.5
Post-Traumatic Stress Disorder	87	65.9
Anxiety and Depression	18	13.6
TOTAL	132	100.0

hours).

DISCUSSION

The transition of learning towards online learning during the COVID-19 pandemic is the biggest challenge for working mothers and varies by education level, occupation, age, number of children, distance from home to work, and number of hours worked.

Almost all of the mothers in this study had higher education. It was shown that parents with a higher level of education are at risk of depression, anxiety, sleep disorders, post-traumatic stress disorder, and obsessive-compulsive disorder during the COVID-19 pandemic. This is because highly educated parents may have more conducive jobs than less educated parents, so they don't have much time to teach their children their school online at home (14). In Italy, parents with low levels of education were the disadvantaged group during school closures during the COVID-19 pandemic (15). Some parents complain that they do not understand the learning material very well, making it difficult to teach their children at home. So that parents with low education are dissatisfied with the existence of this online learning system (2).

It was found that the dominant jobs were public servants and health workers. Both of these jobs require quite a lot of time in Indonesia to work. So parents do not have enough time to accompany children to school from home. Thus, working mothers have to sacrifice their jobs to accompany their children to school at home during the COVID-19 pandemic (16). Another study revealed that parents who do not have a job, parents who are looking for work, or parents who work from home, unable to adapt to new circumstances easily are more likely to want children to return to the classroom (15). So that it can be concluded that whether it works or does not work has different influence.

In addition, age of working mothers who participated in this study was 38.16 years with the youngest age being at 23 years old and the oldest age is at 53 years old. When viewed from the age group, the age of 38 years is still categorized as a productive group. Younger and older ages are at risk of depression, anxiety, sleep disorders, post-traumatic stress disorder, and obsessive-compulsive disorder during the COVID-19 pandemic (17).

When we explored the effect of School From Home on Working Mothers, it was found that more than half of working mothers (65.9 %) experienced Post Traumatic Stress Disorder (PTSD), being the higher PTSD score in women (18). Another study revealed that the overall prevalence of generalized anxiety disorder (GAD) in the general population was 71 % with the highest level of anxiety in women (51.7 %) (19). Indeed, as 65.9 % of mothers working with online school children in Riau Province experienced Post Traumatic

Stress Disorder (PTSD). This PTSD incident is in accordance with the research that reveals that during the COVID-19 pandemic, women do tend to experience PTSD (20). Post Traumatic Stress Disorder based has the characteristics of being easily tired, not concentrating, and even they think about ending their life. The cause of PTSD was the unpreparedness of mothers in working to face online schooling at home.

As many as 13.6 % of working mothers experience anxiety and depression. This is in accordance with other studies that show that working mothers do experienced stress during the COVID-19 pandemic (21). The cause of stress from parents is a change in parenting structure due to the lockdown, including the daily life of children who change from those who usually study at school, while during the pandemic children aged 2-14 years (22,23).

CONCLUSION

Communication between parents and teachers needs to be improved, it takes a lot of rest time and holidays are properly used to relax and be with family.

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Authors' contributions

All contributors contributed significantly to this study and all authors agree with the content of the manuscript.

Conflict interest

The author(s) declared no potential conflicts of interest with respect to the research authorship, and/or publication of this article.

Ethical approval

This research has passed the research ethics test at the Faculty of Medicine, Riau University with No.B/117/UN 19.5.1.1.8/UEPKK/2020.

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Measuring the Learning Model's Effectiveness in the Medical Surgical Nursing course

Medición de la Eficacia del Modelo de Aprendizaje en el Curso de Enfermería Médico Quirúrgica

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SUMMARY

Objective: *Learning process activities should be carried out in a deliberate and systematic effort to achieve learning goals in the cognitive, affective, and psychomotor domains by changes in attitudes and behavior. When the learning process is well-executed, good learning objectives can be achieved. It is vital to have a good learning design to achieve a good learning process. The aim of this study was to create a detailed, methodical, and accurate description of the facts, qualities, and relationships between the phenomena being studied.*
Methods: *This study aims to determine how effective the learning model is in the Medical-Surgical Nursing program. This was a qualitative descriptive study that used interviews, observations, and documentation studies as data collection methods. The study took place at the Sekolah Tinggi Ilmu Kesehatan (STIKes) Rumah Sakit Husada. Four lecturers from medical-surgical nursing courses and five students were involved in this study, and they were selected purposively.*
Result: *According to the study's findings, lecturers had difficulties teaching a variety of abilities that must be possessed as competencies in medical-surgical nursing courses, while students had difficulties participating in the medical-surgical nursing learning process. The difficulties include: 1) the less motivating class as the activities are mainly listening to lectures and discussion of questions and answers and doing assignments; 2) printed modules are the main learning resources and PowerPoint slides as supporting learning materials; 3) the teaching team provide different topics simultaneously, making students confused and difficult to understand multiple topics 4) test or assignment feedbacks are supplied slowly, and 5) lecturers' outside-of-classroom guidance time is likewise limited due to their hectic schedules.*
Conclusion: *The study concludes that the learning approach for Medical-Surgical Nursing is still traditional, making it difficult for students to receive optimal care. An appropriate design is needed to make a learning model that can help students to meet their learning objectives.*

Keywords: *Learning model, course, medical-surgical nursing.*

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RESUMEN

Objetivo: *Las actividades del proceso de aprendizaje deben llevarse a cabo en un esfuerzo deliberado y*

sistemático para lograr los objetivos de aprendizaje en los dominios cognitivo, afectivo y psicomotor mediante cambios en las actitudes y el comportamiento. Cuando el proceso de aprendizaje está bien ejecutado, se pueden lograr buenos objetivos de aprendizaje. Es vital tener un buen diseño de aprendizaje para lograr un buen proceso de aprendizaje. El objetivo de este estudio fue crear una descripción detallada, metódica y precisa de los hechos, cualidades y relaciones entre los fenómenos que se estudian.

Métodos: *Este estudio tiene como objetivo determinar qué tan efectivo es el modelo de aprendizaje en el programa de Enfermería Médico-Quirúrgica. Este fue un estudio descriptivo cualitativo que utilizó entrevistas, observaciones y estudios documentados como métodos de recolección de datos. El estudio se llevó a cabo en la Sekolah Tinggi Ilmu Kesehatan (STIKes) Rumah Sakit Husada. Participaron en este estudio cuatro docentes de cursos de enfermería médico-quirúrgica y cinco estudiantes, seleccionados intencionalmente.* **Resultado:** *De acuerdo con los hallazgos del estudio, los profesores tuvieron dificultades para enseñar una variedad de habilidades que deben poseer como competencias en los cursos de enfermería médico-quirúrgica, mientras que los estudiantes tuvieron dificultades para participar en el proceso de aprendizaje de enfermería médico-quirúrgica. Las dificultades incluyen: 1) la clase menos motivadora ya que las actividades son principalmente escuchar conferencias y discutir preguntas y respuestas y hacer tareas; 2) los módulos impresos son los principales recursos de aprendizaje y las diapositivas de PowerPoint como materiales de aprendizaje de apoyo; 3) el equipo docente brinda diferentes temas simultáneamente, lo que hace que los estudiantes se confundan y dificulten la comprensión de múltiples temas; 4) los comentarios de las pruebas o tareas se brindan lentamente, y 5) el tiempo de orientación fuera del aula de los profesores también es limitado debido a sus horarios agitados.* **Conclusión:** *El estudio concluye que el enfoque de aprendizaje de Enfermería Médico-Quirúrgica aún es tradicional, lo que dificulta que los estudiantes reciban una atención óptima. Se necesita un diseño apropiado para hacer un modelo de aprendizaje que pueda ayudar a los estudiantes a alcanzar sus objetivos de aprendizaje.*

Palabras clave: *Modelo de aprendizaje, curso, enfermería médico-quirúrgica.*

INTRODUCTION

Organizing learning activities is the most important activity in education. Learning process activities should be carried out in a deliberate and systematic effort to achieve learning goals in the cognitive, affective, and psychomotor domains through changes in attitudes and behavior. When the learning process is well-executed, good learning objectives can be achieved. It is vital to have a good learning design to achieve a good learning process. Nurses, as healthcare workers, are the backbone of the healthcare system (1). Nurses are responsible for delivering nursing care to healthy and sick individuals, families, and groups. A nurse serves as a caregiver, manager, community leader, advocate, and researcher, to name a few roles. Nonetheless, nurses will collaborate with other health professionals in the course of their employment. As a result, nurses must have a broad range of knowledge and abilities to deliver quality health care to the public while adhering to professional standards of competence and authority and adhering to ethical and moral principles.

The College of Health Sciences STIKes Husada Hospital in Central Jakarta has the role of producing nursing staff capable of working professionally. In this college, the Medical-Surgical Nursing Course (MSNC) is a course that explains the medical-surgical nursing viewpoint, the responsibility of medical-surgical nurses, acknowledging programs in the management of tropical and endemic illnesses, health problems that usually appear in adults, both acute and chronic, and include impaired body functions with various pathological factors (2).

MSNC plays a critical role in shaping the competency of nursing students who exhibit nurse professionalism. Students must, however, have completed the prerequisite courses, Anatomy Physiology and Pathology Science, to participate in the MSNC. MSNC I and MSNC II are also necessary courses for MCNS I Clinic and MSNC II Clinic, which are the application of MSNC I and MSNC II in healthcare settings such as hospitals, Community Health Service Centers, Clinics, Integrated Service Posts, Nursing Homes, and community-based organizations (2). Meanwhile, assessments of theoretical (knowledge), psychomotor (skills), and attitudes are used to determine whether MSNC competencies have been met.

METHODS

This study used a qualitative methodology and was descriptive in nature. Qualitative research methods, according to (3), are studies of natural events in which the researcher is the primary instrument, data gathering approaches are merged, data processing is inductive, and qualitative research findings prioritize meaning over-generalization. Instead of converting human behavior into numeric entities, qualitative research attempts to preserve its form and content while analyzing its features(4). This descriptive study aims to create a detailed, methodical, and accurate description of the facts, qualities, and relationships between the phenomena being studied. Interviews, observations, and documentation studies were used as data collection techniques in this study.

The non-participant observation of lecturers and students at Husada Hospital's School of Health Sciences (STIKes) in Central Jakarta was used in this study. Interviews were done to learn more about the research and acquire information to back up the findings. The authors interviewed nine people: four lecturers from medical surgical nursing courses and five students from diploma three nursing programs. In this study, documentation studies were required to deepen the research analysis of learning models in medical-surgical nursing courses.

Purposive sampling was used in this study, which means that informants were chosen based on the authors' criteria and needs.

RESULTS

After analysing the interviews and observations, the opinions expressed by participants about the learning model in medical-surgical nursing courses can be described. Below are some excerpts from the author's interview with four lecturers of the medical-surgical nursing course:

"… we sometimes face some obstacles in conducting teaching activities …" (P1)

"…a learning model should be developed so that lecturers and students can have easier teaching and learning process. One way to do it is maybe by integrating a learning model with smartphones…." (P2)

"… This is the period of the millennials. Smartphones are commonly used by students to access information…" (P3)

"…We will be in trouble if we continue to teach in the traditional manner. Students will become bored quickly as well. When we give them a module of educational materials to study, for example, the students will not read it..." (P4)

Based on the findings of the interviews, it can be concluded that lecturers face challenges in carrying out teaching activities using traditional models. This is due to the fact that they are often preoccupied with academic duties, causing them to be tardy in delivering lectures.

The excerpts from the author's interview with five students of the diploma three nursing study program can be found in the following:

"…On our smartphones, we'd like a course-related application. If we have it, we can access the course anywhere. .." (P5)

"… Too many modules can make us lazy when it comes to studying. That is why we are uninterested..." (P6)

"… We become sleepy listening to lecturers give long lectures discussing the materials..." (P7)

"… Is it possible for our university to create apps for our courses? It will be more comfortable if we had something similar. Maybe we'll be able to finish the module..." (P8)

"... Is it feasible to collect all of the MSNC resources in the nursing studies, into one application? There are just too many of them.." (P9)

The statements made by the students support the four lecturers' view that students require a new learning model that can be implemented on campus. Students have become lazy to study as a result of the traditional learning methodology that has been used thus far. Furthermore, students are less motivated to learn under the current learning model.

Lectures, discussion of questions and answers, and assignments dominate the teaching activities, making them less compelling. In addition, printed modules and PowerPoint presentations are the most common learning resources utilized in learning activities. Topics from each teaching team are presented at the same time. Very often, the students must go on to the next topic even if the previous one has not been completed, leaving them perplexed and finding it almost impossible to comprehend or master a topic to completion. Feedback on test results or assignments takes a long time to arrive, and due to the lecturers' busy schedules, time for tutoring outside the classroom is also limited.

DISCUSSION

Learning design is the systematic development of learning to maximize its efficacy and efficiency. Analyzing students' needs, determining learning objectives, and developing learning materials and activities, which include determining learning resources, learning strategies, learning steps, learning media, and assessment (evaluation) to determine the level of learning success, are all part of the learning design activity. The evaluation results are utilized as a benchmark for determining the learning process' efficacy, efficiency, and productivity. In this scenario, a good learning design is created in accordance with the learning objectives, students' characteristics, infrastructure, and other aspects that will aid in the completion of the unit program or competency.

Many barriers were encountered by lecturers when providing medical-surgical nursing lecture materials, which may have hampered the competent achievement of the course's learning objectives. Medical-surgical nursing learning objectives have a significant impact on graduates' ability to provide nursing services, preserve patient safety, and avoid malpractice (2).

The goal of the material delivery system, according to (5), is to manage and provide learning objectives in line with the instructional objectives of learning. Says that learning activities or instructional activities are interactions involving students and their environment that help them attain the goals of instructional activities, whether they be knowledge, abilities, or attitudes (6). Also explain that the goal of effective learning activities is to increase new information, skills, and attitudes (7).

The purpose of instructional design, according to (8), is to boost productivity through human invention. Furthermore, according to (9), the goal of learning is to achieve efficient and effective instructional goals. It is vital to first identify the challenges that must be solved to reach the learning objectives (10).

To promote learning processes, lecturers need the most up-to-date learning models. Students can enjoy learning without feeling bored or pushed when approaches, models, strategies, methods, and learning techniques are acceptable and in agreement with the characteristics of students and learning objectives. As a result, students can quickly comprehend and grasp the materials. Preparing students entails recognizing and encouraging students to participate in the teaching process actively and effectively by interacting with newly generated learning resources. Decision-making during learning design has an impact on student competency accomplishment (11). emphasizes that developing a learning model rather than doing things the traditional way will impact learning effectiveness (12). Specific learning methodologies have been developed to enable these concepts to be implemented in current classrooms (13). Furthermore, giving learners flexibility is critical for an effective teaching and learning program (14).

Students require innovative learning methods that may be implemented on campus. Students have become lazy to study as a result of the traditional learning methodology that has

been used thus far. Furthermore, they are less motivated to learn under the current learning model. According to (15), three features of complex learning require students to (a) integrate knowledge, abilities, and attitudes; (b) coordinate the skills of the multiple aspects; and (c) transfer what has been learned to a new issue setting. Despite this, the participation of lecturers is required. Students can ask questions, get answers to their questions, and discuss information with their lecturers and classmates at any time (16). It is critical to support learner-generated contexts and content (both personal and collaborative) when bridging pedagogically prepared learning environments (17,18).

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Authors' contributions

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Availability of data and materials

All data generated or analyzed during this study are included in this published article.

Ethical approval

This article received ethical clearance from Health Research Ethics Committee, Sekolah Tinggi Ilmu Kesehatan Bani Saleh with letter number No: EC.232/KEPK/STKBS/XII/2022

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What are the reasons for choosing traditional medicine over conventional medicine? A qualitative study

¿Cuáles son las razones para elegir la medicina tradicional sobre la medicina convencional? Un estudio cualitativo

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SUMMARY

Objective: *This study aims to describe the participants' reasons for choosing traditional medicine over conventional medicine.*
Methods: *This study uses a qualitative design with a phenomenological study design approach. Data collection was carried out by in-depth interviews with the samples selected via purposive sampling.*
Result: *This study found three themes related to reasons for choosing traditional medicine over conventional medicine, which included doubts about conventional medicine, the factors and the values of traditional medicine.*
Conclusion: *For participants, traditional medicine is more humanistic than conventional medicine, which tends to focus on the hospital's provisions and standard operating procedures.*

Keywords: *Traditional medicine, chronic illness, conventional medicine.*

RESUMEN

Objetivo: *Este estudio tiene como objetivo describir las razones de los participantes para elegir la medicina tradicional sobre la medicina convencional.*
Métodos: *Este estudio utilizó un diseño cualitativo con un enfoque de diseño de estudio fenomenológico. La recolección de datos se llevó a cabo mediante entrevistas en profundidad con las muestras seleccionadas a través de un muestreo intencional.*
Resultado: *Este estudio encontró tres temas relacionados con las razones para elegir la medicina tradicional sobre la medicina convencional, que incluyeron dudas sobre la medicina convencional, los factores y los valores de la medicina tradicional.*
Conclusión: *Para los participantes, la medicina tradicional es más humanista que la medicina convencional, que tiende a centrarse en las disposiciones del hospital y los procedimientos operativos estándar.*

Palabras clave: *Medicina tradicional, enfermedad crónica, medicina convencional*

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INTRODUCTION

Chronic disease is difficult to cure, usually lasts more than six months, is difficult to control, and threatens life (1). Chronic diseases are divided into two types, namely communicable and non-communicable diseases. Non-communicable diseases include asthma, chronic obstructive pulmonary disease (COPD), cancer, diabetes mellitus (DM), hyperthyroidism, hypertension, coronary heart disease, heart failure, stroke, chronic kidney failure, kidney stones, and joint/ rheumatic diseases. In comparison, infectious diseases include sexually transmitted diseases, human immunodeficiency virus (HIV)/ acquired immune deficiency syndrome (AIDS), diarrhea, pneumonia, malaria, tuberculosis, and hepatitis/ liver disease/jaundice (2).

Data provided by the World Health Organization (WHO) show that the number of deaths increased in 2018 by around 71 % or around 57 million deaths, and as many as 41 million deaths were caused by non-communicable diseases, with the highest ratio including cardiovascular disease as high as 44 %, cancer as high as 22 %, chronic respiratory disease by 9 % and diabetes by 4 %. As for infectious diseases alone, there were 20.9 million deaths in HIV patients, including 374 000 with positive tuberculosis (TB), 1.3 million deaths occurred in HIV-negative TB patients, and 445 000 deaths in malaria patients from a total of 216 million cases (3).

In Indonesia, according to Basic Health Research Results, the prevalence of cancer was 1.4 % in 2013, which increased to 1.8 % in 2018, with diabetes mellitus increased from 1.5 % in 2013 to 2.0 % in 2018, heart disease was 0.5 % in 2013 increased as much as 1.5 % in 2018. COPD by 3.7 % in 2013 (2,4), and as many as 30.4 % of households in Indonesia utilize a service provider. Among them, 77.8 % of households use traditional medicine without tools, and 49.0 % use traditional herbal medicine (2).

According to the National Center for Complementary and Integrative Health (NCCIH), traditional medicine is a diverse group of treatment systems, practices, and healthcare products that are not currently considered part of conventional medicine (5-7). Using of complementary medicine was very high in patients with chronic diseases; 75.3 % with diabetes, and 63 % in patients with kidney disease, compared to patients with acute diseases or healthy population and as much as 97.7 % prefer consuming herbal medicines and mind-body therapies (8), while the results of a study conducted by Ho et al., states that the prevalence of the use of complementary medicine in patients with chronic diseases is 77.4 % (9). The use of complementary medicine is more in demand among the public, with 79 % sales, while as many as 17.6 % of the public will try alternative medicine before conventional medicine (10).

METHODS

This research uses a qualitative design with a phenomenological study design approach. Data collection in this study was carried out by in-depth interviews with eight patients with chronic diseases (cancer, heart disease, COPD, DM) who were selected using purposive sampling with inclusion criteria: participants had chronic diseases (cancer, heart disease, COPD, DM) that has been diagnosed by a doctor which is proven by medical records, participants who went to traditional medicine, skills, and the supernatural (Table 1).

The tools used during the interview process were voice recorders, field notes containing interview guides, and blank notes to describe the participant's facial expression, attitude, or condition. In this study, triangulation was carried out on four people, namely two pairs of participants and two traditional medicine practitioners recommended by the participants (Table 2).

RESULTS

This study found three themes related to reasons for preferring traditional medicine over conventional medicine, including distrust of conventional medicine, the factors and the values of traditional medicine.

Table 1. Characteristics of Research Participants (11)

Code	Initial	Gender	Age	Education	Occupation	Diagnosis	Frequency of Conventional	Type of Traditional Medicine	Frequency of Traditional Medicine
P1	NY. S	Female	35	Senior High School	Housewife	Breast Cancer	± 2 Years	Herbal	± 1 Years
P2	NY. A	Female	31	Bachelor's degree	Midwife	Uterus Cancer	± 1 Year	Herbal	± 3 Months
P3	NY. N	Female	28	Junior High School	Housewife	DM	± 8 Month	Herbal	± 1 Month
P4	Mr. S	Male	42	Vocational High School	Entrepreneur	Myocardial Infarction	± 1.5 Years	Shaman	± 3 Months
P5	NY. W	Female	39	Elementary School	Housewife	DM	± 5 Years	Massage, Herbal	± 2 Years
P6	Mr. I	Male	47	Junior High School	Farmers	COPD	± 1 Year	Massage, Herbal	± 6 Months
P7	Mr. E	Male	36	Associate degree	Entrepreneur	Coronary	±- 1 Year	Cupping, Herbal, breathing exercises	± 3 Months
P8	Mr. H	Male	33	Vocational High School	Entrepreneur	COPD	± 2 Years	Cupping	± 1.5 Months

Table 2. Characteristics triangulation participants (11)

Code	Education	Occupation	Description
T1	Junior High School	Housewife	Wife P4
T2	Senior High School	Housewife	Wife P7
T3	Elementary School	Farmer	Practitioner P4
T4	Elementary School	Farmer	Practitioner P1

Distrust of conventional medicine

According to participants, conventional treatment services were considered slow and seemed indifferent, not to mention the ineffectiveness of the drugs given, which added to the participants' disappointment with conventional medicine. In addition, the participants also stated that they were afraid of being addicted to consuming chemical drugs from conventional medicine, which in the long term would harm their bodies. Those are their drives to try traditional medicine. According to the participants, if the healing of their illness cannot be obtained through conventional medicine, it may be possible to get it via other treatments, one of which is traditional medicine, because, according to them, the treatment is a matter of compatibility. Following are some participant statements that represent the perception category:

"...I've used medical treatment five times with different doctors, there was no result. finally, I decided to take herbal treatment...."

"…the service was not good.... we asked questions but instead of answering they kept silent and we went there like that..." (P5, Female, 39 years, DM)

"...trying to be healed is an endeavor, sir, I'm thankful if I can find the right medicine and be healed, I'm just trying my hardest…"(P7, Male, 37 years old, Coronary)

"...What I'm afraid of is if the drugs are addictive to the body..... I'm afraid it's also dangerous for my body" (P8, Male, 33 years old, COPD)

The above statement was also supported by triangulation participants who stated that taking

conventional medication does not significantly change the participant's disease and only creates addiction. In addition, the triangulation participants also said that traditional medicine was a matter of compatibility. The following is an excerpt of their statement in the following interview.

"... Undergoing treatment at the doctor, there were no apparent changes, you know... the only change is when he's on medicine, but when he doesn't take medicine, it relapses again..." (T1, Wife of P4)

".... sometimes some of my patients have eee... underwent three different traditional medicine treatments, before they came to me, and in the end my medicine suits them, they will then stop the three others, so it's whether it is suitable for you..." (T4, Practitioner Mrs. S)

Economic Factors

Conventional medicine that is expensive without giving significant results related to the illness is causing the participants to look for other alternative treatments with lower costs. For participants, traditional medicine needs to be considered because apart from the location being close to home, the cost of traditional medicine is also very affordable. Here are some participant quotes taken from the interview results:

"(high pitched voice) What is clear is that, especially regarding costs, the cost is cheaper if the service is more family-friendly, it's different from going to the hospital; to the doctor is already expensive, in my opinion, the service is not good. .." (F5, Female, 39 years, DM)

"Yes, the location.....close to home" (P7, Male, 37 years, Coronary)

"...once a month I have to go to the Doctor, which costs a lot. I also have small children who are still in school and have household needs, so for my treatment, yes, what used to be once a month, became once every three months. It minimizes the expenses" (P8, Male, 33 years old, COPD).

This statement was also supported by triangulation participants who stated that the cost of conventional treatment was an obstacle because its daily needs were quite different from traditional medicine, which was without a set price and not necessarily with money as the payment. The following is an excerpt from the participant's statement, which can be seen from the results of the following interview.

"*Yes, the main thing is because of the cost, because treatment at the doctor costs a lot and it's like there are too many needs..... plus the distance to the hospital is far away, so it's a waste of time, and a waste of money...."* (T2, Wife of P7)

"....most say it's cheap because I happen to not charge at set prices... Just sincerity even if for example eeee...they don't have money, it is okay if, for example, they don't use money, and pay for food, for example, bananas or rice or cassava, I don't have a problem..." (T3, Practitioner P4)

Values of traditional medicine

The process flow of traditional medicine gives participants their own beliefs. For the participants, the position of traditional medicine practitioners is the same as that of a doctor. This is because practitioners can also find out the disease experienced by participants without having to carry out a medical examination as in conventional medicine. This adds to the participants' confidence and trust in practitioners regarding the traditional medicine they are undergoing. The following are participant statements quoted from the interview results.

".....it's more of trust..in other words, I still believe in such things (smile))." (P4, Male, 42 years, myocardial infarction)

".... ..he already knows, that is right. this.. here, I was shocked there (eyes widened while holding his chest) I do not think this is true, this 'smart' person already knows about my illness.." (P1, Female, 35 years old, Breast Cancer)

The act of giving encouragement made by practitioners to participants also creates values in the process of traditional medicine that participants in conventional medicine do not obtain. This adds to and arouses the participant's enthusiasm for recovery, calms the participant, and answers curiosity previously not obtained by the participant in conventional medicine. The following are excerpts from participant statements taken from the interview process.

> *".....then if we go to tradition we are considered like a family.. we are embraced by love for support, the point is there must be a cure for the disease"* (P5, Female, 39 years old, DM)

Triangulation participants also stated something similar to other participants that communication and encouragement before action give peace to both participants and families. The following is an excerpt of the interview below.

> *".....then what I like to talk about first, before therapy, the goal is to make the patient comfortable and calm...."* (T3, Practitioner P4)

DISCUSSION

People choose traditional medicine as a step to cure the disease, in addition to using medical healing. Traditional medicine can meet their health needs from a social, psychological, and organic perspective, which some people cannot obtain from doctors or related health services. Traditional medicine practitioners can cure their patients using methods different from those used by doctors (12,13).

Participants thought that poor hospital services and ineffective treatment made participants disappointed with conventional medicine. Participants said that they came to the hospital to be served well and to get cured, but this turned out to be the opposite of what was expected. The desire to recover made the participants try other treatments outside conventional medicine. Some participants thought that healing is a matter of compatibility; if this is not found in conventional medicine, maybe healing can be obtained from traditional medicine. In addition, the participants' fear of being addicted to drugs from the hospital made the participants more confident in seeking traditional medicine. Patients who seek treatment from traditional medicine have fear and dissatisfaction with modern medicine, the belief that modern medicine cannot or has failed to treat disease. Chemical drugs can harm health (14,15).

It cannot be denied that economic factors are the fundamental reason participants practice complementary and integrative medicine. The fear of medical expenses and increasing daily needs made the participants rack their brains to prioritize which came first, recovery or responsibility. Participants stated that with high costs, medicines from the hospital only temporarily affected their illness, and if the medicine ran out, the symptoms would return. This disappointed the participants with conventional treatment because of the costs already spent, and many participants felt that there needed to be a significant change related to their illness. Hence, they considered the treatment to be useless. Therefore, participants try to do traditional medicine with affordable costs and a location close to home, making participants calmer about their financial condition.

Economic status is a factor of a person's ability, namely in the form of income as support to access health services, because the use of health services depends on the ability of consumers to pay (16,17). The reason people use traditional medicine is not to spend much money on one treatment ritual, as a place to socialize people with one another (social ties), and the belief that traditional medicine can cure various diseases (18-20).

This study found that traditional medicine has value in participants' eyes compared to conventional medicine. This was proven by the participants doing traditional medicine. For the participants, communication is the initial approach taken by practitioners, for it can provide peace. Without being limited by time, participants can tell all the complaints they are experiencing, and practitioners also respond positively by providing support/encouragement that all diseases have a cure.

In addition, the practitioner also explains in detail all the information needed so that before starting treatment, the participants know everything from the type of disease, and the stages of treatment, to the type of treatment that uses natural ingredients and without any medical action. This adds to the participants' confidence and trust in traditional medicine because, according to the participants' view, practitioners also have the same position as health workers since they can also find out the participants' illnesses even with differences in treatment handling.

Poor communication patterns also influenced participant dissatisfaction with conventional medicine in conventional medicine (10,21,22). There needs to be more communication between doctors and patients, so explanations about taboos and others are often overlooked or not optimal (23,24). This opinion is based on the experience of participants during conventional treatment. Based on this, the participants felt that alternative, complementary medicine was better than conventional medicine. This opinion is also based on a comparison between the approaches used in alternative, complementary medicine and the approaches used in conventional medicine. Participants' assumption that complementary medicine is better than conventional medicine will further motivate patients to prefer alternative medicine compared to conventional medicine.

Encouragement therapy, the body being massaged, and afterward being given herbal concoctions makes traditional medicine its value for participants. In contrast to conventional medicine, participants said that the information obtained from doctors was very little and ignorant, and the service was not good.

CONCLUSION

The dissatisfaction with conventional medicine, economic problems, and the values of traditional medicine that conventional medicine does not have is the reason why people prefer traditional medicine over conventional medicine. For the participants, the process of traditional medicine was more humanistic than conventional medicine, which tends to focus on the hospital's provisions and standard operating procedures.

Authors Contribution

All work related to the study conceptualization, data collection, data analysis, and reporting of the findings was completed by the corresponding author.

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Adverse events following immunization with COVID-19 vaccines

Eventos adversos después de la inmunización con vacunas contra COVID-19

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SUMMARY

Objective: *The purpose of this study was to identify Post-Vaccination Adverse Events (PVAE) with Moderna vaccine, locally systemically, and other reactions.*
Methods: *A quantitative descriptive research method with a retrospective approach was used in this study. The study was carried out at RSUD Cicalengka Bandung with a population of employees who had received the Moderna vaccine after two complete doses of Sinovac from August to September 2021. Purposive sampling was used, with a total of 162 respondents calculated using the Yamane formula.*
Result: *The results of this study showed that all respondents (100 %) had experienced PVAE after Moderna vaccination. The PVAEs were classified as systemic (95.1 %), local (92.6 %), and other (53.1 %). Fever (75.9 %) in systemic PVAEs, pain (92 %) in local PVAEs, and lymphadenopathy (25.9 %) in other PVAEs had the highest percentage of reactions. A significant proportion of respondents (27.5 %) reported being unable to work following the Moderna vaccination.*
Conclusions: *PVAE can occur following Moderna vaccination and result in the inability to work, potentially causing service problems. Employees must be scheduled for planned vaccinations and monitored for PVAE to reduce the possibility of adverse effects.*

Keywords: *COVID-19, COVID-19 Vaccine PVAE, Moderna Vaccine, mRNA.*

RESUMEN

Objetivo: *El propósito de este estudio fue identificar los Eventos Adversos Post vacunación (EAPV) con la vacuna Moderna, a nivel sistémico y otras reacciones.*
Métodos: *En este estudio se utilizó un método de investigación cuantitativo descriptivo con enfoque retrospectivo. El estudio se llevó a cabo en RSUD Cicalengka Bandung con una población de empleados que habían recibido la vacuna Moderna después de dos dosis completas de Sinovac de agosto a septiembre de 2021. Se utilizó un muestreo intencional, con un total de 162 encuestados calculados utilizando la fórmula de Yamane.*
Resultados: *Los resultados de este estudio mostraron que todos los encuestados (100 %) habían experimentado EAPV después de la vacunación con Moderna.*

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Los EAPV se clasificaron en sistémicos (95,1 %), locales (92,6 %) y otros (53,1 %). La fiebre (75,9 %) en los EAPV sistémicos, el dolor (92 %) en los EAPV locales y las adenopatías (25,9 %) en los demás EAPV fueron los que mayor porcentaje de reacciones que se presentaron. Una proporción significativa de los encuestados (27,5 %) informó que no podía trabajar después de la vacunación con Moderna.

Conclusiones*: EAPV puede ocurrir después de la vacunación con Moderna y dar como resultado la incapacidad para trabajar, lo que podría causar problemas en el servicio. Los empleados deben ser programados para vacunas planificadas y monitoreados para PVAE para reducir la posibilidad de efectos adversos.*

Palabras clave: *COVID-19, Vacuna COVID-19, EAPV, Vacuna Moderna, ARNm*

INTRODUCTION

Coronavirus Disease (COVID-19) is one of the health issues that threaten and concerns the world today. COVID-19 is an infectious disease caused by SARS Coronavirus 2 (SARS-CoV-2), a new type of coronavirus that has never been previously identified in humans. On December 31, 2019, the first case of COVID-19 was discovered in Wuhan City, Hubei Province, China. COVID-19 was declared a pandemic, on March 11, 2021. As of October 17, 2021, there were 240 239 218 confirmed COVID-19 cases worldwide, with 4 892 690 deaths; in Indonesia, there were 4 234 758 cases with 142 952 deaths. With a total of 704 470 cases and 14 666 deaths; Task Force for Handling COVID-19, 2021, West Java became the province with the second-highest incidence after DKI Jakarta. Meanwhile, there were 33 973 cases in Bandung Regency, with 608 deaths (1,2).

The increase in morbidity and mortality in COVID-19 is one of the harmful effects that can occur if this disease is not handled properly. COVID-19 has a broad impact on various aspects of life, in addition to having an impact on physiological aspects. COVID-19 influences the psychosocial and psychological systems (3,4). Another effect is the decline in performance in several health programs. This is due to the urgency of dealing with the COVID-19 pandemic, as well as public and officer concerns about COVID-19 transmission. The COVID-19 pandemic has even resulted in temporary closures and/or delays of health services in some areas, particularly at *Posyandu* (Integrated Healthcare Center) and health centers.

Along with the development of research and technology, scientists have succeeded in developing a COVID-19 vaccine as part of the management of the COVID-19 pandemic. The COVID-19 vaccination is one of the efforts that is considered quite effective in preventing and controlling this disease. The COVID-19 vaccination is aimed to reduce the transmission of COVID-19 (5), reduce morbidity and mortality due to COVID-19, and accelerate the formation of *herd immunity*. The type of COVID-19 vaccine used in Indonesia is the COVID-19 Vaccine PT. Bio Farma (Persero), AstraZeneca, China National Pharmaceutical Group Corporation (Sinopharm), Moderna, Novavax Inc, Pfizer Inc. and BioNTech, and Sinovac Life Sciences (6).

Moderna vaccine is an *mRNA-based platform* considered effective in preventing morbidity and mortality due to COVID-19 with 94.1 % efficacy. According to the completeness and accessibility of data obtained from phase III clinical trials, the Moderna vaccine (*mRNA*-1273) is one of the best choices for COVID-19 vaccines other than *BNT162b2* (Pfizer-BioNTech) with a record of being supported by economic and organizational availability. According to the Indonesian Food and Drug Authority (*Indonesian: Badan Pengawas Obat dan Makanan, lit.'Agency for Drug and Food Control'*) or *Badan POM/BPOM* Agency Study, the Expert Team of the National Committee for Assessing the COVID-19 Vaccine, and the *Indonesia Technical Advisory Group on Immunization* (ITAGI) in general the Moderna vaccine can be tolerated, both local and systemic reactions with severity *grades* 1 and 2. Local and systemic reactions that occur are one of the Post-Vaccination Adverse Events (PVAE) in the administration of the Moderna vaccine. PVAE is a medical event that is suspected to be related to vaccination, which can be in the form of a vaccine reaction, procedural error, accident, anxiety reaction, or an undetermined causal relationship. When compared to other types of COVID-19 vaccines, the COVID-19 vaccine with the mRNA platform, particularly Moderna, had the highest PVAE (7).

Several studies have suggested that the Moderna vaccination has side effects. According to the results of a study of 599 German health workers, 88.1 % reported at least one side effect, including injection site pain (75.6 %), headache (53.6 %), muscle pain (33.2 %), malaise (25 %), chills (23 %), and joint pain (21.2 %) (8). In all age groups and sexes, reactions to the cardiovascular system revealed hypertension, severe hypertension, supraventricular tachycardia, sinus tachycardia, and palpitations. Certain age or sex groups have had abnormal electorcardiographic (ECG) findings with elevated C-reactive protein, D dimer, and troponin. Acute myocardial infarction, cardiac arrest, and circulatory collapse are associated with vaccines in the >75-year age group. The use of vaccines with *mRNA -based platforms* have also been reported in cases of anaphylactic reactions and myocarditis (9,10).

Given the potential side effects of the Moderna vaccine as well as their consequences, it is deemed necessary for organizers of vaccination activities to monitor and deal with any PVAEs that may occur. After two complete doses of Sinovac, Cicalengka Hospital employees received the Moderna vaccine (booster). Further research on the possible side effects of Moderna vaccination is needed, so this study was conducted by the title: "Descriptive Study of Adverse Events Post Moderna Vaccination in Cicalengka Regional General Hospital Employees".

METHODS

A quantitative descriptive research method with a retrospective approach was used in this study. The study was carried out at RSUD Cicalengka Bandung with a population of employees who had received the Moderna vaccine after two complete doses of Sinova from August to September 2021. Purposive sampling was used, with a total of 162 respondents calculated using the Yamane formula.

In this study, each respondent used social media communication networks to complete an online based "KIPASS" questionnaire. KIPASS, which stands for PVAE Assessment, is a research instrument used to evaluate post-COVID-19 Vaccination Adverse Events. Researchers created KIPASS by identifying the results of PVAE observations from various sources (11-13). The "KIPASS" questionnaire consists of ten main questions about possible reactions to the COVID-19 vaccination. The number of participants in the validity test was 115, with the degree of freedom (df) = n-2 being 113, at a significance level of 5 %, and the number r table being 0.1832. This questionnaire has a validity value of 0.252 to 0.472 and a reliability value of 0.706 points.

This research has received ethical approval from the Research Ethics Committee of the University of 'Aisyiyah Bandung No.87/KEP.01/UNISA-BANDUNG/I/2022 dated January 17, 2022.

RESULTS

The demographic characteristics of the respondents are shown in Table 1. In effect, 46.9 % of respondents are aged 26-35 years, 62.3 % are female, and 74.7 % of them work as health workers at Cicalengka Hospital. Most of the vaccinated participants (63.6 %) were in good health and had no history of illness before receiving the COVID-19 vaccination. In this study, 100 % of all respondents (162/162) complained 15 minutes to 7 days after receiving the Moderna vaccination (Table 2). Each respondent experienced one or more groups of PVAEs. Of the 162 respondents studied, 150 respondents (92.6 %) experienced Local PVAEs, 154 respondents (95.1 %) experienced Systemic PVAEs, and 86 respondents (53.1 %) experienced Other PVAEs (Table 3). Moderna vaccination gives a higher reaction to Systemic PVAEs compared to Local PVAEs and Other PVAEs.

The following tables show the type of reaction felt by each PVAE group. Local PVAE; 92.0 % pain, 33.3 % swelling, 17.9 % redness, and 4.3 % bruising (Table 4). Fever 75.9 %, chills 74.7 %, myalgia 66.0 %, fatigue 47.5 %, headache 35.8 %, and arthralgia 33.3 %; systemic PVAE (Table 5). Other PVAEs included lymphadenopathy (24.9 %), nausea/vomiting (8.6 %), palpitations/chest pain/tightness (3.1 %), cellulitis (2.5 %), and allergic reactions (1.9 %). Drowsiness and syncope were both 0.6 % (Table 6).

Table 1. Frequency Distribution of Respondents' Characteristics

No	Characteristics	Criteria	Frequency	%
1	Age	17-25 yr	11	6.8
		26-35 yr	76	46.9
		36-45 yr	54	33.3
		46-55 yr	17	10.5
		56-65 yr	4	2.5
2	Gender	Man	61	37.7
		Woman	101	62.3
3	Profession	Medical Employee	121	74.7
		Non-Medical Employee	41	25.3
4	Respondent's Health History	No history of illness	103	63.6
		Asthma	6	3.7
		COVID-19	23	14.2
		Hypertension	7	4.3
		Liver Disorder	1	0.6
		Immunological Disorders	2	1.2
		Heart disease	1	0.6
		Allergy History	19	11.7

Note: Vaccination history of respondents V1 ,V2 Sinovac + V3 Moderna | IBM SPSS 20 output

Table 2. Frequency distribution of PVAE Moderna based on the presence or absence of PVAE

No	Characteristics	Criteria	Frequency	%
1	PVAE	Complaints 15 minutes to 7 days after Moderna vaccination	162	100.0
2	Non-PVAE	No complaints 15 minutes to 7 days after Moderna vaccination	0	0.0
	Total		162	100.0

Note: Vaccination history of respondents V1, V2 Sinovac + V3 Moderna | IBM SPSS 20 output

Table 3. Frequency Distribution of PVAE Moderna Based on PVAE Classification

No	Characteristics	Criteria	Frequency	%
1	Local PVAE	Yes	150	92.6
		Not	12	7.4
2	Systemic PVAE	Yes	154	95.1
		Not	8	4.9
2	Other PVAEs	Yes	86	53.1
		Not	76	46.9

Information: each respondent can experience more than one type of group PVAE

Local PVAE	Experiencing local reactions, there is at least 1 “Yes” answer from 4 local reactions; pain, swelling, redness, and bruising
Systemic PVAE	Experiencing a systemic reaction (total), there is at least 1 answer "Yes" out of 6 systemic reactions; chills, fever, *fatigue*, *myalgia*, *arthralgia*, *and headache*
Other PVAEs	Experiencing other reactions, in addition to local and systemic reactions

IBM SPSS 20 output

Table 4. Frequency Distribution of Moderna Local PVAEs

No	Local PVAE	Criteria	Frequency	%
1	Painful	Yes	149	92.0
		Not	13	8.0
2	Swollen	Yes	54	33.3
		Not	108	66.7
3	Redness	Yes	29	17.9
		Not	133	82.1
4	Bruises	Yes	7	4.3
		Not	155	95.7

IBM SPSS 20 output

Table 5. Frequency Distribution of Modern Systemic PVAEs

No	Local PVAE	Criteria	Frequency	%
1	Shivering	Yes	121	74.7
		Not	41	25.3
2	Fever	Yes	123	75.9
		Not	39	24.1
3	*Fatigue*	Yes	77	47.5
		Not	85	52.5
4	*Myalgia*	Yes	107	66.0
		Not	55	34.0
5	*Arthralgia*	Yes	54	33.3
		Not	108	66.7
6	Headache	Yes	58	35.8
		Not	104	64.2

IBM SPSS 20 output

Table 6. Frequency Distribution of Other Moderna PVAEs

No	Characteristics	Frequency	%
1	*Lymphadenopathy*	42	25.9
2	Cellulitis	4	2.5
3	Nauseous vomit	14	8.6
4	Palpitations/chest pain/shortness of breath	5	3.1
5	Allergic reaction	3	1.9
6	Sleepy	1	0.6
7	Syncope	1	0.6
8	Not	92	56.8
Total	162	100.0	

IBM SPSS 20 output

The length of a Moderna PVAE Day is shown in Table 7 by time interval: 1-2 days, 3-4 days, 5-7 days, and >7 days. Most complaints (87.3 %) last only 1-2 days.

Table 8 shows the impact of PVAE; the majority of RSUD Cicalengka employees were not affected by the perceived PVAE (48 %), 28.4 % of them left their duties due to sick leave, and the rest said they might be affected by 23.5 %.

Table 7. Distribution of Modern PVAE Days

No	Characteristics	Local PVAE		Systemic PVAE		PVAE Moderna	
		freq	%	freq	%	freq	%
1	1-2 days	184	77.0	496	91.9	680	87.3
2	3-4 days	41	17.2	35	6.5	76	9.8
3	5-7 days	14	5.9	9	1.7	23	3.0
4	>7 days	0	0.0	0	0.0	0	0.0
5	Total	239	100.0	540	100.0	779	100.0

IBM SPSS 20 output

Table 8. Frequency Distribution of Moderna PVAE Impact on

No	Characteristics	Criteria	Frequency	%
1	Sick Leave (leaving work)	Not	78	48.1
		Yes	46	28.4
		Maybe (The peak of complaints occurs during work holidays)	38	23.5
	Total		162	100.0

DISCUSSION

In this study, a person was diagnosed with local PVAE if he experienced pain, swelling, redness, or bruising at the injection site. According to the results of a descriptive study of Moderna PVAE in Cicalengka Hospital employees, local PVAEs occurred in 92.6 % (150/162). The most common complaint after COVID-19 vaccination was pain (92.0 %), followed by swelling (33.3 %), redness (17.9 %), and bruising (4.3 %).

An effective vaccine provides an antigen source and contains an adjuvant to induce strong up-regulation of costimulatory molecules in host dendritic cells (DC). Adjuvants operate by producing IFN-1 (interferon type 1). The adverse effects of COVID-19 may be related to the high production of IFN-1 and the inducing of an effective immune response. IFN-1 is substantially more potent in women than men and at younger than older ages. IFN-1 production after COVID-19 vaccination was higher than after infection with SARS-CoV-2. This could explain why young people and the female sex tend to have substantial adverse effects on the COVID-19 vaccine (14).

The characteristics that influenced post-vaccination adverse events in 8 countries, said there was a significant variation in post-vaccination adverse events based on age group and sex (15). In another study, gender and age did not significantly correlate with post-vaccination follow-up events. However, a history of COVID-19 illness was significantly associated with the Severity of Side Effects for complaints of local reactions and fatigue (16,17).

Moderna post-vaccination pain was 92.0 % same as the results of the Moderna vaccine clinical trial in a study at Cicalengka Hospital. When compared to the results of studies/research conducted 62.8 %, and 75.6 %, the results of this study were higher. Conducted a similar study on health workers at the port of Semarang, Central Java, who received two complete doses of Sinovac plus one booster dose of Moderna; the incidence of pain was 100 % higher than the results of the Cicalengka Hospital study (18).

The pain was induced in the Moderna vaccination by a needle stick wound and the Moderna vaccine's reaction. The injection technique (19) and the condition of the needle used in terms of length-diameter size, and level of sharpness (20), also influence pain after vaccination. The needle used for Moderna vaccination was an Auto Disable Syringe (ADS) or a 1 mL (25g, 0.5 mm diameter) or 3 mL (23g, 0.6 mm diameter) syringe depending on the availability of facilities and applications using the same needle between vaccine collections using vials and intramuscular injections (21). Pain is also influenced by each respondent's subjective and very individual perception, as evidenced by the value of pain felt by respondents on a scale of 0-10. The results showed that most of the respondents gave a score of 5 on a scale of 0-10 for the pain they felt (an average of 5,9). The results of this study were higher than the results of the Moderna vaccine clinical trial (22-24).

According to the results of a descriptive study conducted by PVAE Moderna on Cicalengka Hospital employees, 54 respondents (33.3 %) reported swelling at the injection site. This result was higher than previous studies' results of 14.7 % and 18.5 %, respectively. Swelling is defined as a temporary abnormal enlargement or volume increase in a body part that is not caused by cell proliferation. Swelling at the injection site occurs because of a physiological reaction to the vaccine agent that is injected into the body (25-27).

According to the results of a descriptive study conducted by PVAE Moderna on Cicalengka Hospital employees, 29 out of 162 respondents (17.9 %) reported redness at the injection site. The results of the study in Cicalengka Hospital were consistent with clinical trials and previous studies. Based on the results of a descriptive study conducted by PVAE Moderna on Cicalengka Hospital employees, bruising was reported by 7 out of 162 respondents (4.3 %). It is the respondent's weakest reaction. The incidence of bruising was not determined during the clinical trial phase or in previous studies related to Moderna vaccination, but bruising was identified as a reaction related to immunization/vaccination procedures, specifically PVAE caused by insufficient vaccine handling methods (28-30).

A bruise (hematoma) is a blood extravasation beneath the skin caused by trauma. Deep hematomas are blue with a diameter greater than 1 cm, whereas superficial hematomas are red (31). Bruising is a local reaction that can occur with any injection; it is related to the injection technique as well as the sharpness of the needle used (31). Concerning COVID-19 vaccination, bruising has been related to thrombocytopenia with injection site trauma in individuals who received m-RNA and vector-based vaccination (32-35).

A person is diagnosed with systemic PVAE if they have chills, fever, weakness/fatigue (fatigue), muscle pain (myalgia), joint pain (arthralgia), and/or headache. According to the results of a descriptive study of Moderna PVAE in Cicalengka Hospital employees, systemic PVAEs occurred 95.1 % of the time (154/162). The most common complaints following the Moderna vaccination were fever (75.9 %) and chills (74.7 %). Infectious disease viruses stimulate the formation of intracellular spike proteins, triggering an immune response. This process is directly related to the emergence of the headache phenotype, as well as associated symptoms such as fatigue, chills, weakness, joint pain, and dizziness. Microorganisms may be able to activate anti-inflammatory substances such as nitric oxide, prostaglandins, and cytokines (36-38).

Fever is the body's natural reaction to vaccination agents. Fever should not be prevented by giving prophylactic antipyretics before vaccination because it will reduce the body's response to the formation of antibodies. Post-vaccination antipyretic drugs will decrease the response to the increase in body temperature required to induce the vaccine. In certain conditions that require taking antipyretic drugs, antipyretic drugs may be given 4 hours after vaccination (39,40).

According to the findings of the PVAE Moderna descriptive study on Cicalengka Hospital employees, the incidence of fatigue was 47.5 % (77/162), which was consistent with the findings of who found fatigue in respondents who were given the vaccine. The exact mechanism of weakness following COVID-19 vaccination, including the Moderna vaccine, is unknown. However, in cases of COVID-19 infection caused by SARS-CoV-2, weakness is common. The formation of intracellular spike proteins triggering an immune response and activating anti-inflammatory substances such as nitric oxide, prostaglandins, and cytokines, causes weakness in COVID-19 infection (41).

The weakness in COVID-19 is caused by several factors; 1) Factors affecting the central nervous system because of frontal hypometabolism and cerebellar hypermetabolism; 2) Anxiety and fear-related psychological factors; 3). A peripheral factor associated with disturbances in muscle metabolic homeostasis caused by cytokines and interleukin-6 release (42).

CONCLUSION

Based on the results of a descriptive study of post-Moderna vaccination follow-up events in Cicalengka Hospital Bandung employees, it can be concluded that of the 162 respondents who received the 3rd dose of booster vaccination using the Moderna vaccine, all of them experienced complaints 15 minutes to 7 days after Moderna vaccination. Based on the classification, the results of the study showed that local PVAEs were 92.6 %, systemic PVAEs were 95.1 % and other PVAEs were 53.1 %.

Local PVAEs include pain 92.0 %, swelling 33.3 %, redness 17.9 %, and bruising 4.3 %. Systemic PVAEs include fever 75.9 %, chills 74.7 %, *myalgia* 66.0 %, *fatigue* 47.5 %, *arthralgia* 33.3 %, and *headache* 35.8 %. Other

PVAEs, namely post-vaccination Moderna complaints, include swelling/pain in the injected armpit area (lymphadenopathy) 25.9 %, nausea/vomiting 8.6 %, cellulitis 2.5 %, allergic reactions 1.9 %, heart palpitations (palpitations)/chest pain/tightness 3.1 %, drowsiness 0.6 %, and fainting (syncope) 0.6 %. The majority of PVAE lasts 1-2 days (87.3 %). The systemic PVAE group (91.9 %) frequently reported PVAE that lasted 1-2 days.

PVAEs have an impact on the ability to carry out tasks and have the risk of disrupting services. 27.5 % of employees reported leaving their jobs to take sick leave, rest, or seek treatment. Because the peak of complaints occurred during work holidays, 25.7 % reported that they might leave work (sick leave).

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Effectiveness of self-acupressure interactive modules as a learning resource in reducing pruritus in hemodialysis patients

Eficacia de los módulos interactivos de auto acupresión como recurso de aprendizaje para reducir el prurito en pacientes en hemodiálisis

Yuanita Panma[1a], Hertuida Clara[b], Siti Nurhayati[2c]

SUMMARY

Introduction: *The prevalence of pruritus in hemodialysis patients is relatively high due to the impact of chronic renal failure. Numerous studies have examined uremic pruritus and acupressure. Patients can learn self-acupressure to relieve pruritus by using an interactive module.*
Objective: *To determine the effectiveness of the self-acupressure interactive module as a learning source in relieving pruritus.*
Methods: *Quasi-experimental research uses a pre-post control group. There were 28 respondents in the intervention group and 29 respondents in the control group. In the intervention group, self-acupressure interactive modules will be added to standard therapy. The East Jakarta hemodialysis unit conducted this investigation. Bivariate analysis used Wilcoxon and Mann-Whitney tests. Respondent and pruritus characteristic questionnaires, Visual Analog Scale for pruritus, also web-based interactive multimedia was used.*
Results: *Most respondents are male, enrolled in college, unemployed, married, having pruritus all over their bodies, having it the day following HD, having persistent pruritus, and not using antihistamines. The respondents' average age was 56.23 years, and they had hemodialysis for an average of 47.82 months. The average pre-intervention scores between the control and intervention groups did not change significantly. The post-intervention scores between the control and intervention groups differed significantly. The difference in the average pruritus score in the intervention group was 2.86, as opposed to the difference of 1.25 in the average pruritus score in the control group.*
Conclusion: *Self-acupressure interactive module can be used by hemodialysis patients as a learning source to relieve pruritus.*

Keywords: *Acupressure, hemodialysis, interactive, module, pruritus, self-acupressure*

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RESUMEN

Introducción: *La prevalencia de prurito en pacientes en hemodiálisis es relativamente alta debido al impacto de la insuficiencia renal crónica. Numerosos estudios han examinado el prurito urémico y la acupresión. Los pacientes pueden aprender la auto acupresión para aliviar el prurito mediante el uso de un módulo interactivo.*

Objetivo: *Determinar la eficacia del módulo interactivo de auto acupresión como fuente de aprendizaje para aliviar el prurito.*

Método*: La investigación cuasiexperimental utiliza un grupo de control previo y posterior. Hubo 28 encuestados en el grupo de intervención y 29 encuestados en el grupo de control. En el grupo de intervención, se agregarán módulos interactivos de autoacupresión a la terapia normal. La unidad de hemodiálisis del Este de Yakarta llevó a cabo esta investigación. El análisis bivariado utilizó las pruebas de Wilcoxon y Mann-Whitney. Se utilizaron cuestionarios de características del encuestado y del prurito, escala analógica visual para el prurito y multimedia interactiva basada en la web.*

Resultados*: La mayoría de los encuestados son hombres, matriculados en la universidad, desempleados, casados, con prurito en todo el cuerpo, al día siguiente de la HD, con prurito persistente y sin uso de antihistamínicos. La edad promedio de los encuestados fue de 56,23 años y tenían hemodiálisis por un promedio de 47,82 meses. Las puntuaciones medias previas a la intervención entre el grupo de control y el grupo de intervención no cambiaron significativamente. Las puntuaciones posteriores a la intervención entre los grupos de control y de intervención difirieron significativamente. La diferencia en la puntuación media de prurito en el grupo de intervención fue de 2,86, frente a la diferencia de 1,25 en la puntuación media de prurito en el grupo de control.*

Conclusión*: El módulo interactivo de auto acupresión puede ser utilizado por el paciente de hemodiálisis como fuente de aprendizaje para aliviar el prurito.*

Palabras clave*: Acupresión, hemodiálisis, interactivo, módulo, prurito, auto acupresión*

INTRODUCTION

The issue of pruritus is one that hemodialysis patients with Chronic Renal Failure (CRF) frequently deal with. Patients on hemodialysis frequently experience pruritus due to the symptoms of advanced renal disease. In hemodialysis (HD) patients, pruritus affects 83.4 % of them (1). In Indonesia, the number of instances of pruritus during hemodialysis rose to 9 448 cases in 2017 and 10 807 cases in 2018 (2). Although the exact etiology of pruritus is still debatable, it is thought that a variety of things can contribute to it. Patients with high creatinine, low hemoglobin, dyslipidemia, high levels of C Reactive Protein (CRP), and black race have more intense pruritus, while high-flow dialyzer use is associated with a lower intensity of pruritus (3). Nearly 90 % of dialysis patients experience pruritus, which is linked to higher morbidity and mortality, poorer quality of life, sleep difficulties, and depression (4,5). In addition to disrupting sleep and making it harder to fall asleep, pruritus mental disorders interfere with social interactions, such as anxiety and sadness (6-8) depressive symptoms are not usually included as a clinical parameter in the evaluation of hemodialysis patients. We aimed to identify depressive symptoms and associated risk factors in a large group of individuals with end stage renal disease (ESRD). Despite numerous studies on how pruritus affects the quality of life of hemodialysis patients, the best way to cure pruritus is still unknown because its cause is unknown.

One treatment method for treating a patient's pruritus symptoms is acupressure. According to Kılıç and Taşcı research (9) a frequent and compromising symptom for patients with advanced or end-stage renal disease (ESRD, uremic pruritus in hemodialysis patients can be effectively reduced by acupressure and Transcutaneous Electric Acupuncture point Stimulation (TEAS) at point LI-11. Aval (10) achieved the same outcomes that acupuncture or acupressure has been found to have in alleviating uremic pruritus. Skilled individuals perform self-acupressure without the assistance of practitioners or healthcare professionals (11). Self-acupressure has been used extensively to treat the symptoms of many medical conditions, but it has not been used much in Indonesia for pruritus. Patients can learn about self-acupressure by using learning resources. Because there are so many different types of teaching materials, including print, audio, audio-visual, and interactive ones, the development of teaching materials is quite diverse. Teaching resources in the form of

modules are one of the materials that have evolved since earlier; the modules were originally in the form of printed materials. However, they can now take the shape of electronic (e-modules) or non-printed materials that can be included in various media, including audio, video, and multimedia (12), which makes the module interactive. Suwatra et al. (13) showed that the packaging of educational resources might take the shape of printed books or digital modules. Electronic module innovations can be created interactively, and with the inclusion of future technology that integrates video, animation, simulation, and other elements in a seamless manner, the contents of the interactive electronic module become more diverse.

The effectiveness of interactive modules on self-care and powerlessness in hemodialysis patients showed positive results. Participants in the intervention group felt more in control of their life, had higher knowledge of self-care, and engage in self-care practices than those in the control group. This is an example of the advantages of interactive multimedia CDs (14). Results show that utilizing the interactive multimedia CD with elderly patients in HD and nursing practice education may be beneficial.

Research on the impact of acupressure on pruritus has been carried out in Indonesia. However, interactive modules as a learning resource for self-acupressure for pruritus have never been studied. Therefore, researchers are interested in the effectiveness of using interactive modules as a learning resource for self-acupressure in alleviating pruritus complaints.

METHODS

This quasi-experimental research methodology employs pre-post analysis with a control group. The study was carried out at the hemodialysis unit in East Jakarta. The head of the hospital gave his approval after this study passed the research Ethics Committee's test for ethics. Respondents in this study were divided into two groups: the control group and the intervention group. Standard therapy was given to the control group, while standard therapy plus interactive self-acupressure modules was given to the intervention group. The researcher chose respondents based on the established inclusion criteria before beginning the study. The total number of respondents who met the eligibility requirements was 58. These respondents were divided into two groups: the intervention group had 29 respondents, and the control group had 29 respondents. There were 28 respondents in the intervention group after one of the respondents in the intervention group passed away during the research.

Instrument

The respondent characteristic questionnaire, pruritus characteristic questionnaires, and Visual Analog Scale (VAS) for pruritus were employed as data-gathering tools. The respondent characteristic questionnaire includes information about the respondent's gender, education level, occupation, marital status, age, and HD length. The pruritus characteristic questionnaire includes the following parameters: pruritus location (local or systemic), pruritus time (the day before HD, during HD, constantly, and the day after HD), and pruritus state (intermittent, persistent, and severe pruritus). The severity of uremic pruritus was scored using a Visual Analog Scale (VAS) for pruritus, which uses a 10-point scale with 0 representing no pruritus and 10 representing severe pruritus, was utilized to translate non-numerical results into numerical ones (15). At baseline and after the intervention, VAS was used to gauge the severity of pruritus.

Procedures

Following the completion of the required number of research samples, the researcher informs participants of the study's objectives and methodology of the study before being asked to sign consent forms and complete questionnaires about their demographics, pruritus characteristic, and Visual Analog Scale (VAS) for pruritus. The first pruritus score was measured at the start of the study, and the final measurement was done a month later. An interactive module was used to educate the intervention group. They received individualized teaching using the interactive module for four weeks after being shown how

to use it. In addition, the researcher explained to the respondents how to use interactive modules to teach them about pruritus and acupressure and self-acupressure videos. According to the study, before the hemodialysis session started, the respondents performed self-acupressure for 6 minutes twice a week at the Li-11 point using an interactive module as a reference (9,16). Respondents utilize the interactive self-acupressure module as a reference when carrying out interventions. Respondents documented their self-acupressure by filling out the daily journal in interactive modules. They would be notified by researchers via WhatsApp video call each time a patient performed hemodialysis.

Module description

This interactive module was created by researchers using suggestions and learnings from the literature, clinical experience, and research goals. An acupressure expert, a head nurse, and renal nursing assessed the information and approved it as accurate. The self-acupressure interactive module was set up to function with the website — interactive media, such as video, text, images, and questionnaires, present content and activities. The content of interactive modules are the definition, incidence, causes, and symptoms of pruritus, as well as the understanding, purposes, and advantages of acupressure and the acupressure points that can be used to relieve pruritus were all covered in the educational material. An example of self-acupressure for pruritus at the Li-11 point may be seen in the video. Participants may pick the material that most appeals to them and view it at their own pace with no time constraints. Throughout the hemodialysis process, subjects may use the interactive module and perform self-acupressure.

The patient then completed a pruritus characteristic questionnaire form, which asked about the patient's experience with pruritus in terms of its location, frequency, severity, and usage of antihistamines. The visual analog scale for pruritus was used to calculate the pruritus score. Before initiating the intervention, the pruritus and pruritus scores were assessed. In the activity section, participants were instructed to use a self-acupressure interactive module as a learning resource and perform self-acupressure at point LI-11 each time before they had hemodialysis for four weeks. Each patient undergoing hemodialysis fills up a self-acupressure logbook, which is used for recording. The interactive module's final step is to record the respondent's pruritus score following four weeks of self-acupressure. The average time to finish a module consisting of text, images, videos, and a questionnaire is about 20 minutes. As for the activity sheet, the respondent can fill it out when they perform self-acupressure. After using the interactive module, the respondent filled out a module evaluation questionnaire regarding the suitability of the module content to the patient's needs and applicability.

Statistical analysis

The pre-intervention score data for pruritus and the post-intervention score were subjected to a data normality test. The Wilcoxon test and Mann-Whitney test were employed as the bivariate test since the results of the data normality test using the Kolmogorov-Smirnov demonstrate that the distribution is not normal with a p-value < 0.05.

RESULTS

Table 1 indicates that most respondents (61.4 %) are male, have a bachelor's or higher degree (42.2 %), are not employed right now (56.1 %), and are married (82.5 %). The respondents average age was 56.23 years, and they had hemodialysis for an average of 47.82 months or around four years (Table 2).

According to Table 3, most survey participants reported having pruritus all over their bodies (52.6 %), having it the day following HD (45.6 %), having persistent pruritus (42.1 %), and not using antihistamines (70.2 %).

Most the respondents suggested that educational activity meets its goals, is beneficial and applicable, increases their knowledge, and helps them understand hemodialysis patient pruritus. Instructional activity impact how to handle pruritus with self-acupressure. According to the average pre-intervention scores between the control group and the intervention group

Table 1. Respondent Characteristic (N=57)

Variable	Control group		Intervention group		Total	
	n	%	n	%	n	%
Gender						
Male	16	55.2	19	67.9	35	61.4
Female	13	44.8	9	32.1	22	38.6
Education level						
Elementary school	5	17.2	1	3.6	6	10.5
Junior high school	0	0	5	17.9	5	8.8
Senior high school	8	27.6	14	50.0	22	38.6
College	16	55.1	8	28.6	24	42.2
Employment						
Unemployed	15	51.7	17	60.7	32	56.1
Employed	14	48.3	11	39.3	25	43.9
Marital status						
Not married	2	6.9	0	0	2	3.5
Married	25	86.2	22	78.6	47	82.5
Divorce	2	6.9	6	21.4	8	14.0

Age (M= 56.23, SD= 12.52, min-max= 30-82 years)
Length of hemodialysis (month) (M= 47.82, SD= 53.91, min-max= 3-314 month

Noted: n= frequency, %= percentage, M= mean, SD= Standard Deviation

Table 2. Pruritus Score (N=57)

Variable	Mean	Median	SD	Minimal- Maximal	95 % CI
Pruritus scores pre-intervention	5.81	6.00	1.98	2-10	5.28-6.33
Pruritus scores post-intervention	3.49	3.00	2.04	0-9	2.95-4.03

Table 3. Pruritus Characteristics (N=57)

Variable	Control group		Intervention group		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Pruritus Area						
Local	20	69.0	7	25.0	27	47.4
Systemic	9	31.0	21	75.0	30	52.6
Pruritus time						
In the day when HD	1	3.4	3	10.7	4	7.0
In the afternoon, before the HD	3	10.3	6	21.4	9	15.8
All the time	2	6.9	16	57.1	18	31.6
The day after HD	23	79.3	3	10.7	26	45.6
Pruritus status						
Intermittent	14	48.3	9	32.1	23	40.4
Insistent	14	48.3	10	35.7	24	42.1
Severe pruritus	1	3.4	9	32.1	10	17.5
Use of antihistamines						
Using antihistamines	10	34.5	7	25.0	17	29.8
Do not use antihistamines	19	65.5	21	75.0	40	70.2

did not change significantly ($p > 0.05$). The post-interventions score between the control and intervention groups differed significantly ($p < 0.05$). The difference in the average pruritus score in the intervention group was 2.86, as opposed to the difference of 1.25 in the average pruritus score in the control group (Table 5).

Table 4. Modules evaluation (N=28)

No	Statement	Yes	No
1	Educational activity meets its goals	25 (89.29 %)	3 (10.71 %)
2	The educational activity is simple, beneficial, and applicable	25 (89.29 %)	3 (10.71 %)
3	Educational activity increases knowledge and helps understand hemodialysis patient pruritus	26 (92.86 %)	2 (7.14 %)
4	Instructional activity impact how to handle pruritus in hemodialysis patients	26 (92.86 %)	2 (7.14 %)

Table 5. Pruritus scores pre- and post-intervention (N=57)

Pruritus score	Group		p-Value[a]
	Control (N=29) Mean ± SD	Intervention (N=28) Mean ± SD	
Pre-intervention	5.59 ± 1.476	6.04 ± 2.396	0.579
Post-intervention	4.24 ± 1.76	3.18 ± 2.001	0.040*
p-value[b]	0.0001*	0.0001*	

*significant < 0.05
[a] Mann-Whitney test
[b] Wilcoxon test

DISCUSSION

Most respondents in this survey were male, enrolled in a college, were married, and did not have a job. The findings of this study contrast with the other study, which found that most respondents are women and had only an elementary education or none at all (9). The findings of this survey are consistent with previous studies (17,18) in which was found that most respondents were unemployed. The study's participants had an average age of 56.23 years, and they had been receiving hemodialysis for an average of 47.82 months or around four years. In a previous study participants in the acupressure group had an average age of 55.24 years (9), this study replicates that finding (17), the median period spent receiving hemodialysis was 49.9 months, and the respondents' average age was 47.5 years.

The majority of responders reported having pruritus all over their bodies. The findings of this study are in agreement with that of Kılıç and Taşcı (9), and Panma et al. (16). However, they differ from other studies in which most respondents reported having localized pruritus, with the feet, neck, and fistula areas being the most commonly affected (17). In this study, the majority of participants reported having insistent pruritus. The findings of this study differ from those of earlier research by Panma

et al. (16) who reported that most respondents have intermittent pruritus. While it was found that most respondents in the intervention group had severe pruritus that led to excoriation, the majority of respondents in the control group had intermittent pruritus (17). Most participants in the control and intervention groups in the study reported having significant pruritus, excoriation, and irritation. In this study, the majority of respondents did not use antihistamines, similarly to the other studies (9,17).

Most participants in this study reported having severe pruritus the day following hemodialysis. In his study, Kiliç et al. (17) also noted that acute pruritus occurred while taking HD in the intervention group occurred the day after HD in the control group. The majority of respondents in the other study reported having severe pruritus both on the day following HD and on the day the patient did not receive HD (9).

The usage of digital technology is expanding quickly as we approach the COVID-19 pandemic, especially in the field of education. Numerous models of learning media have been developed to aid the teaching and learning process. An information technology-based learning method that can be utilized to deliver information without being constrained by time or geography is e-learning. The study by Novia et al. (19) demonstrated that interactive learning sometimes referred to as learning that incorporates multimedia engagement, can inspire students to learn whenever and wherever they want. Learning through collaboration, interaction, experiential learning, and problem-based learning are just a few pedagogical benefits of interactive learning modules.

Interactive modules in this study consist of information about pruritus and acupressure and how to do self-acupressure for pruritus. Respondents used the interactive module to perform self-acupressure when they had hemodialysis. As a result, the mean pre-intervention VAS for pruritus scores of this study's control and intervention groups did not differ significantly ($p>0.05$). The control and intervention groups' post-intervention VAS for pruritus scores differed significantly ($p<0.05$). These results align with the other study about the acupressure effect in pruritus (9,17). This study's control group's average pruritus score differed by 1.25 points, whereas the intervention group's average pruritus score differed by 2.86 points. The other study showed that the difference in the average pruritus score at week four between the acupressure group, the TEAS group, and the control group was 3.54, 4.25, and 1.84, respectively (9). In contrast, the difference between the mean pruritus scores at week 6 in the intervention group and the control group was 5.58 and 1.1, respectively (17).

The positive results obtained in using interactive modules in this study align with several studies using interactive modules. A study about the infusion therapy interactive modules found that they can boost nursing students' knowledge and self-confidence (20). Another study also found that a computerized education module enhances patient knowledge and attitudes (21). An interactive instructional kiosk enhanced understanding of antibiotics and Acute Respiratory Infections (ARIs). There was a correlation between learning and changes in the individual's preference for antibiotics. Interactive educational computer technology may reduce the improper use of antibiotics for ARIs by diminishing the urge for antibiotics (21,22).

E-learning modules have a favorable effect. In this study, most respondents suggested that the module matched the participants' expectations, simple, beneficial, and applicable. Simple and beneficial because they can access any time on their own, less expensive, and applicable because it contains helpful in enhancing their knowledge and alleviate pruritus complaint. In interactive modules in health education, patients are taught healthcare ideas and techniques in their surroundings through blending characters, video, speech, and imagery. Compared to teaching patients in a formal medical or educational setting, this strategy is far more practical and much less expensive (14).

Limitations

In this study, the interaction between respondents and researchers is essential. When participants utilized interactive modules and performed self-acupressure, researchers could not see them in person; instead, they could only

watch them via video chats. Therefore, self-acupressure techniques cannot be evaluated correctly. Self-acupressure intervention might be affected by the precision of the acupressure sites and the pressure used by respondents.

CONCLUSION

This study hypothesized that a self-acupressure interactive module could help improve patient knowledge of managing pruritus, but the evidence needs to be included, and more research is needed.

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Conflict of Interests

The authors have no declared conflicts of interest.

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Factors influencing the incidence of premature rupture of membranes in Probolinggo District

Factores que influyen en la incidencia de ruptura prematura de membranas en el Distrito de Probolinggo

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SUMMARY

Introduction: *Premature rupture of membranes (PROM) is the rupture of the amniotic membranes before there are signs of labour.*
Objective: *This Study aims to analyze the factors that influence premature rupture of membranes.*
Methods: *This research is analytic research with a cross sectional design. The research was conducted in Probolinggo Regency. The population is all mothers giving birth in Probolinggo Regency in June - August 2021 as many as 90 people. The sampling technique uses total sampling. Sample: all mothers giving birth in Probolinggo Regency in June - August 2021 as many as 90 people. Bivariate data analysis with Chi-Square and multivariate logistic regression.*
Results: *Based on the results of bivariate analysis using Chi-Square, namely the variable abnormality of the location of the fetus with the result P value <α = 0.002 <0.05 there is a relationship between abnormalities of the location of the fetus and the incidence of PROM. The pre-eclampsia variable with a P value <α = 0.006 <0.05 has a relationship between pre-eclampsia and the incidence of PROM. The variable history of PROM with the results of P value <α = 0.007 <0.05 there is a relationship between PROM history and the incidence of PROM. The results of multivariate analysis using logistic regression showed that the dominant factor influencing the incidence of PROM was the variable abnormality of the position of the fetus with an OR of 7.999.*
Conclusion: *Health workers, especially midwives, continue to promote health about premature rupture of membranes so that the mortality rate for mothers and babies in Indonesia caused by infection due to PROM decreases.*

Keywords: *Amniotic fluid, PROM, abnormalities, pre-eclampsia, history.*

RESUMEN

Introducción: *La ruptura prematura de membranas (RPM) constituye la ruptura de las membranas*

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amnióticas antes de que haya signos de trabajo de parto.
Objetivo: *Este estudio se propone el análisis de los factores que influencian la ruptura de las membranas.*
Métodos: *Esta investigación es una investigación analítica con diseño transversal. La investigación se llevó a cabo en Probolinggo Regency. La población son todas las madres que dan a luz en Probolinggo Regency en junio - agosto de 2021 hasta 90 personas. La técnica de muestreo utiliza el muestreo total. Muestra: Todas las madres que dieron a luz en Probolinggo Regency en junio - agosto de 2021 hasta 90 personas. Análisis de datos bivariado con Chi-cuadrado y regresión logística multivariante.*
Resultados: *Con base en los resultados del análisis bivariado usando Chi-cuadrado, es decir, la variable anormalidad de la ubicación del feto con el valor de resultado P <α = 0,002 <0,05 existe una relación entre las anomalías de la ubicación del feto y la incidencia de PROM. La variable preeclampsia con un valor de P <α = 0,006 <0,05 tiene una relación entre la preeclampsia y la incidencia de RPM. La variable historia de RPM con los resultados de P valor <α = 0,007 <0,05 existe una relación entre la historia de RPM y la incidencia de RPM. Los resultados del análisis multivariado mediante regresión logística mostraron que el factor dominante que influyó en la incidencia de RPM fue la variable anormalidad de la posición del feto con un OR de 7,999.*
Conclusión: *Los trabajadores de la salud, especialmente las parteras, continúan promoviendo la salud sobre la ruptura prematura de membranas para que la tasa de mortalidad de madres y bebés en Indonesia causada por la infección por RPM disminuya.*

Palabras clave: *Líquido amniótico, RPM, anomalías, preeclampsia, antecedentes.*

INTRODUCTION

Premature rupture of membranes (PROM) is the rupture of the amniotic membranes before there are signs of labor (1). Premature rupture of membranes is the rupture of the membranes before labor, that is, if the opening of the cervix in primiparas is less than 3 cm and in multiparas, it is less than 5 cm (2). Signs of labor include pain with his coming stronger, frequent, and regular; more mucus mixed with blood due to small tears in the cervix; sometimes the waters break on their own; on internal examination, the cervix is flat and there is an opening (3).

In term pregnancies or pregnancies of more than 37 weeks as many as 8 %-10 % of pregnant women will experience PROM, and in preterm pregnancies or pregnancies less than 37 weeks as many as 1 % of pregnant women will experience PROM (4). In Probolinggo District in 2019, the maternal mortality rate reached 92.9 per 100 000 live births, an increase compared to 2018 which was only 68.72/100 000 live births. Causes of maternal death include bleeding as much as 11.8 %, hypertension in pregnancy as much as 23.5 %, infection as much as 5.9 %, and other (comorbid diseases) as much as 58.8 %. One of the causes infections is premature rupture of membranes (5). Based on a preliminary study on 3 June 2021 in Probolinggo Regency, out of 10 mothers who gave birth at term, 75 % had premature rupture of membranes and 25 % did not experience premature rupture of membranes.

The causes of premature rupture of membranes are parity, diseases experienced by the mother during pregnancy, fetal position abnormalities, twin pregnancies, anemia, pre-eclampsia, history of bleeding, history of abortion, history of preterm labor, history of premature rupture of membranes, and smoking (6). The most common impact on PROM before 37 weeks of gestation is respiratory distress syndrome (RDS), which occurs in 10 %-40 % of newborns. The risk of infection will increase, as prematurity, asphyxia, hypoxia, prolapse, risk of disability, and fetal lung hypoplasia at term. Almost all PROM in preterm pregnancies will be born before term or delivery will occur within one week after the membranes rupture. Approximately 85 % of perinatal morbidity and mortality is caused by prematurity as a result of premature rupture of membranes (7).

Therefore, researchers are interested to assess the factors that influence the incidence of premature rupture of membranes. Health workers, especially midwives, continue to carry out health promotion regarding premature rupture of membranes in the hope that maternal and infant mortality rates in Indonesia in general and in particular Probolinggo Regency caused by infections due to premature rupture of membranes will decrease.

METHODS

This research is an analytical research that explains the relationship between variables by using a tool in the form of a questionnaire to measure each variable studied. The design of this research is cross sectional. The research variables are measured at one time so that a picture of the situation at that time is obtained. This research was conducted in Probolinggo Regency. The population were all mothers giving birth in Probolinggo Regency in June – August 2021, namely 90 people. The sampling technique used total sampling. Sample: all mothers giving birth in Probolinggo Regency in June – August 2021, namely 90 people. Data was collected using a questionnaire and the researcher made an agreement with the subject regarding the time and place to distribute the questionnaire. Data was analyzed using univariate and bivariate analysis with Chi-Squere test, and multivariate with logistic regression to determine the dominant factors that influence premature rupture of membranes with the help of SPSS. This research has gone through an ethical test with a Certificate number KEPK/201/STIKes-HPZH/I/2022. Before conducting the research, the respondents first signed informed consent as legality that they were willing to be respondents.

RESULTS

Univariate analysis

Premature rupture of membranes

Table 1

Distribution of premature rupture of membranes in Probolinggo district in June -August 2021

Variable	Frequency	Percentage %
Normal	34	38
Premature Rupture of Membranes	56	62
TOTAL	90	100

Table 2

Characteristics of Respondents Based on Parity, Diseases Experienced by the Mother During Pregnancy, Fetal Abnormalities, Multiple Pregnancies, Anemia, Pre Eclampsia, History of Bleeding, History of Abortion, History of Preterm Labor, History of Premature Rupture of the Membranes, and Smoking in Probolinggo District by Month June – August 2021

Variable	Frequency	Percentage %
Parity		
Primipara	42	47
Multipara	48	53
Diseases Experienced by Mothers During Pregnancy		
Have no disease	84	93
Have Illness	6	7
Fetal Abnormalities		
Normal	69	77
Abnormal	21	23
Number of Fetuses		
Twin	8	9
Single	82	91
Anemia		
Normal	72	80
Anemia	18	20
Pre-Eclampsia		
Normal	71	79
Pre-Eclampsia	19	21
Bleeding History		
No history	81	90
There is History	9	10
Abortion History		
Never Aborted	71	79
Had an abortion	19	21
History of Preterm Labor		
Never	85	94
Once	5	6
Premature Rupture of Membranes History		
Never KPD	68	76
KPD Ever	22	24
Smoke		
No	88	98
Yes	2	2
Total	90	100

Bivariate Analysis

Table 3

Relationship Between Independent Variables and Premature Rupture of Membranes in Probolinggo Regency in June – August 2021

Variable	PROM Incident				Total		P value
	Normal		PROM				
	n	%	n	%	n	%	
Parity							0.172
Primipara	19	45	23	55	42	47	
Multipara	15	31	33	69	48	53	
Diseases Experienced by Mothers							
During Pregnancy							0.816
Have no disease	32	38	52	62	84	93	
Have Illness	2	33	4	67	6	7	
Fetal Abnormalities							0.002
Normal	32	46	37	54	69	77	
Abnormal	2	9	19	91	21	23	
Number of Fetuses							0.435
Twin	2	25	6	75	8	9	
Single	32	39	50	61	82	91	
Anemia							0.664
Normal	28	39	44	61	72	80	
Anemia	6	33	12	67	18	20	
Pre-Eclampsia							0.006
Normal	32	45	39	55	71	79	
Pre-Eclampsia	2	11	17	89	19	21	
Bleeding History							0.310
No history	32	40	49	60	81	90	
There is History	2	22	7	78	9	10	
Abortion History							0.661
Never Aborted	26	36	45	64	71	79	
Had an abortion	8	42	11	58	19	21	
History of Preterm Labor							0.916
Never	32	38	53	62	85	94	
Once	2	40	3	60	5	6	
Premature rupture of membrane History							0.007
Never PROM	31	46	37	54	68	76	
PROM Ever	3	14	19	86	22	24	
Smoke							0.718
No	33	38	55	62	88	98	
Yes	1	50	1	50	2	2	
Total	34	38	56	62	90	100	

Multivariate Analysis

Table 4

Multivariate Analysis of Factors Influencing the Incidence of Premature Rupture of Membranes in Probolinggo Regency in June – August 2021

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B) Lower	Upper
Step 1[a]	Number of Fetuses	2.079	0.804	6.696	1	0.010	7.999	1.656	38.635
	Pre-Eclampsia	1.371	0.852	2.588	1	0.108	3.938	0.741	20.911
	History KPD	1.216	0.733	2.755	1	0.097	3.374	0.803	14.185
	Constant	-0.277	0.283	0.955	1	0.328	0.758		

DISCUSSION

The results showed that most of the deliveries in Probolinggo District were with premature rupture of membranes (62 %). The incidence of premature rupture of membranes (PROM) ranges from 5 %-10 % of all births. Preterm PROM occurs in 1 % of all pregnancies and 70 % of PROM cases occur in term pregnancies. PROM is the cause of premature birth in 30 % (8). Premature rupture of membranes in Probolinggo Regency mostly occurs in term labor as much as 100 %. This is because physiologically the membranes rupture when there are signs of labor towards complete dilation. But due to another reason, the waters rupture before complete opening which can occur due to labor factors that are not progressing.

It was found that the majority of parity mothers were multiparas as much as 53 %. Most mothers do not have any disease during pregnancy as much as 93 %. Most of the fetal position is normal as much as 77 %. Most of the number of fetuses is single as much as 91 %. Most mothers do not experience anemia as much as 80 %. Most of the mothers did not experience pre-eclampsia as much as 79 %. Most mothers do not have a history of bleeding as much as 90 %. Most mothers have never had an abortion as much as 79 %. Most mothers have never experienced preterm labor as much as 94 %. Most mothers have never experienced a history of premature rupture of membranes as much as 76 %. Most mothers do not smoke as much as 98 %.

Women who have given birth several times will have a higher risk of experiencing PROM in their next pregnancy (9). PROM often occurs in multipara parity. This is supported by the research results of Tunut and Sudarto (10) indicated that the factors that influence the incidence of PROM are multipara parity of pregnancies which are too frequent because they can affect embryogenesis, the amniotic membranes are thinner, so they break easily prematurely, and the more parities the easier it is for amnion infection to occur because damage to the cervical structures in previous deliveries.

Women with second and third parity in reproductive age usually have relatively safer conditions to get pregnant and give birth. The uterine wall at that age is still stronger because it hasn't undergone much change, and the cervix has not experienced an opening that can properly support the amniotic membranes. While women who have given birth several times have a higher risk of experiencing PROM because the connective tissue of the amniotic membranes is easily fragile because the vascularization of the uterus experiences several disorders which eventually result in the membranes spontaneously breaking.

Based on the results of bivariate analysis using *Chi Square*, namely the variable abnormality of the location of the fetus with the result P value $<\alpha = 0.002 < 0.05$, it means there is a relationship

between abnormalities in the location of the fetus and the incidence of premature rupture of membranes. Pre-eclampsia variable with P value $<\alpha = 0.006 < 0.05$, The indicated there is a relationship between pre-eclampsia and premature rupture of membranes. The variable history of premature rupture of membranes with a P value $<\alpha = 0.007 < 0.05$, which demonstrated that there is a relationship between premature rupture of membranes history and the incidence of premature rupture of membranes.

Abnormal fetal position is one of the predisposing factors for premature rupture of membranes because, in the breech position, there is no lowest part that covers the pelvic inlet (PAP) which can block pressure on the lower membranes. A breech position can allow uterine tension to increase, thus causing the amniotic membranes to rupture prematurely (11). Abnormalities of location such as a breech position or a transverse position can make the lowest part directly receive intrauterine pressure, namely the buttocks. Because the location of the fetus is not normal that is breech and latitude, it often results in the umbilical cord protruding after the rupture of the membranes, this can worsen the condition of the mother and fetus.

Pre-eclampsia is a disease characterized by hypertension, edema, and proteinuria arising from pregnancy. The disease occurs at gestational age above 20 weeks, most seen at 37 weeks gestation, but can also occur at any time in mid-pregnancy. Preeclampsia can develop from mild pre-eclampsia to severe pre-eclampsia. In pre-eclampsia, blood vessel spasm occurs which results in vasoconstriction resulting in slow blood flow and local and surrounding tissue hypoxia. Arterial vasospasm also causes an increase in capillary permeability resulting in edema and stunted fetal growth and can cause premature rupture of membranes (12).

In preeclampsia, blood vessel spasm occurs which results in vasoconstriction resulting in slow blood flow and local and surrounding tissue hypoxia. So if all the atria in the body experience spasm, then the blood pressure will naturally rise, overcome the increased peripheral pressure so that oxygenation can be fulfilled. Arterial vasospasm also causes an increase in capillary permeability resulting in edema and stunted fetal growth.

Women who had PROM in a previous pregnancy are more at risk of experiencing it again between 3-4 times in their next pregnancy than women who did not experience PROM before, because the membrane composition becomes fragile and the collagen content decreases in subsequent pregnancies (13).

History of PROM in birth mothers who have experienced PROM before tends to experience it again. This is because mothers with a history of PROM will affect the composition of the membranes in the uterus so that they become brittle which results in premature rupture of membranes, so mothers with a history of PROM are likely to experience premature rupture of membranes in their next pregnancy.

Multivariate analysis using logistic regression found the dominant one factor influencing the incidence of premature rupture of membranes was the variable abnormality of fetal position with OR 7,999. In a fetus with an abnormal location, namely the location of the breech and latitude, there is a risk of causing premature rupture of membranes because in a pregnancy with an abnormal location of the fetus, the lowest part of the fetus cannot cover the pelvic inlet (PAP) which can block pressure on the lower membranes. A breech position can allow uterine tension to increase, thus causing the amniotic membranes to rupture prematurely (14).

Breech deliveries pose a serious problem because infant mortality in breech deliveries is 4 times greater than in normal deliveries. In the transverse position, when labor begins, the fetal shoulders can descend below the pelvic cavity in the front, PROM and umbilical cord development can occur. If the birth is left unaided, the shoulders will enter the pelvis so that the pelvic cavity is completely filled with the shoulders and other body parts. The fetus cannot descend any further and is trapped in the pelvic cavity. The Latitude position can be attempted to become a longitudinal position with a head presentation by the doctor. However, returning to a longitudinal position is difficult and often doctors do not recommend an external cephalic version before planned birth or delivery arrives. The internal cephalic version has risks, namely premature rupture of membranes, inflated umbilical cord, and preterm labor.

CONCLUSION

Factors that influence the occurrence of premature rupture of membranes in Probolinggo Regency are abnormalities in fetal position, pre-eclampsia, and history of premature rupture of membranes. The dominant factor that influences the occurrence of premature rupture of membranes in Probolinggo Regency is fetal abnormalities.

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ARTÍCULO ORIGINAL

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Condition of the house physical environment on the incidence of acute respiratory infections in toddlers in Sumbawa, Indonesia

Condición del entorno físico de la casa sobre la incidencia de infecciones respiratorias agudas en niños pequeños en Sumbawa, Indonesia

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SUMMARY

Objective: *The objective was to examine the relationship between the state of the home's physical environment and the incidence of acute respiratory tract infections (ARI) in toddlers in the working area of the North Moyo Health Center in Sumbawa Regency, Indonesia.*

Methods: *The research design employed is a case-control design with an analytic survey method and a retrospective methodology. This case research focuses on families with a child (age 1- <5 years). ARI victims in the last month at the interview, whereas the control on families with an infant (1- <5 years) who has not suffered from ARI in the past month. Questionnaires and observation sheets are used to collect data. In October 2022, data gathering was conducted. The selection of household samples is determined based on information from medical records. A trained enumerator was responsible for collecting data. The outcomes of data processing were evaluated using the Chi-Square test and multiple linear regression tests in SPSS version 16.0.*

Results*: Results indicated that physical environmental conditions and the application of mosquito coils for >3 hours affected the incidence of acute respiratory infection (ARI). Based on the findings of a statistical test of physical ambient conditions and the use of mosquito coils (count significance < 0.05). While cigarette smoke has no statistically significant influence (significance > 0.05). Thus, physical ambient conditions and the use of mosquito coils are related to the component that determines the occurrence of ARI.*

Conclusion: *Many respondents are unaware that preventing ARI is preferable to treating it. This necessitates a concerted effort from multiple parties to pay prompt attention to preventing ARI sickness in toddlers.*

Keywords: *Physical environment, acute respiratory infections, and toddlers.*

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RESUMEN

Objetivo: *El objetivo de esta investigación fue examinar la relación entre el estado del entorno físico del hogar y la incidencia de infecciones agudas de las vías respiratorias (IRA) en niños pequeños de la zona de trabajo del Centro de Salud de Moyo Norte en la Regencia de Sumbawa, Indonesia.*
Métodos: *El diseño de investigación empleado es un diseño de casos y controles con un método de encuesta analítica y una metodología retrospectiva. Esta investigación de casos se centra en familias con un hijo (edad 1- <5 años). Víctimas de IRA en el último mes en el momento de la entrevista, mientras que el control son familias con un lactante (1- <5 años) que no ha sufrido IRA en el último mes. Para la recogida de datos se utilizan cuestionarios y fichas de observación. En octubre de 2022 se llevó a cabo la recogida de datos. La selección de las muestras de hogares se determina a partir de la información de los historiales médicos. Un encuestador formado se encargó de recopilar los datos. Los resultados del procesamiento de los datos se evaluaron mediante la prueba de Chi-cuadrado y pruebas de regresión lineal múltiple en SPSS versión 16.0.*
Resultados: *Los resultados indicaron que las condiciones ambientales físicas y la aplicación de espirales contra mosquitos durante >3 horas afectaron la incidencia de infección respiratoria aguda (IRA). Según los resultados de una prueba estadística de las condiciones ambientales físicas y el uso de espirales antimosquitos (significación del recuento < 0,05). Mientras que el humo de los cigarrillos no influye de forma estadísticamente significativa (significación > 0,05). Así pues, las condiciones ambientales físicas y el uso de espirales antimosquitos están relacionados con el componente que determina la aparición de IRA.*
Conclusiones: *Muchos encuestados no son conscientes de que es preferible prevenir las IRA que tratarlas. Esto hace necesario un esfuerzo concertado de múltiples partes para prestar pronta atención a la prevención de la enfermedad por IRA en los niños pequeños.*

Palabras clave: *Entorno físico, infecciones respiratorias agudas y niños pequeños.*

INTRODUCTION

The upper and lower respiratory tracts are affected by acute respiratory tract infections (ARI), an acute illness. Fungus, bacteria, and viruses bring on this infection. ARI can be split into three categories: influenza, which is brought on by different types of influenza viruses; respiratory syncytial virus; and the common cold. This illness typically manifests during the transitional season and is brought on by an increase in virus circulating in the air. Additionally, a child's immune system will deteriorate because of air temperature swings from hot to cold. This makes this disease more likely to affect children (1).

Respiratory infections, known as ARI can continue for up to 14 days. Along with the surrounding organs like the sinuses, middle ear area, and lung membranes, the respiratory tract is an organ that extends from the nose to the lung alveoli. Many people are afflicted with ARI, a sickness. Riskesdas reports that the prevalence of ARI was 4,4 % in 2018, with an 8.0 % increase among children ages 1-4. Fever, sneezing, coughing, runny nose, sore throat, body aches, headaches, and weakness are common complaints. Usually, ARI can recover without using medications (self-limited disease). The immune system is the area that needs improvement (2).

Children are susceptible to ARI attack if the body's resistance (immunology) declines. Often target people with low system immunity and children under five still susceptible to numerous infections (1). This illness starts with a high body temperature of about 38°C and one or more symptoms, such as pain in the throat or swallowing, fluid coming from the nose, and a dry cough or phlegm. Otitis media, sinusitis, pharyngitis, pneumonia, and death from shortness of breath are the side effects of ARI.

Each year, ARI affects the life of around four million people. Furthermore, ARI is the primary factor in consultations or hospitalizations in healthcare facilities, particularly in childcare. Similar events took place in Indonesia (3). The World Health Organization (WHO) indicated that toddler death rates above 40 per 1 000 live births, or 15 % to 20 % per year in toddlers, are associated with the occurrence of acute respiratory tract infections (ARI). Indonesia still is the number one for ARI incidence, especially for morbidity causing in infants and toddlers, with a prevalence of 25 %. An additional risk factor for ARI is nutritional status; poor nutrition will weaken the immune system and increase the risk of infectious infections (3).

The greatest baby and toddler mortality rates among Association of Southeast Asian Nations (ASEAN) nations are seen in Indonesia. Currently, pneumonia and diarrhea are still the most common causes of morbidity and child mortality. Pneumonia is the primary factor in children's ARI deaths, particularly in young toddlers. In Indonesia, the prevalence of pneumonia in toddlers is between 10 and 20 percent every year, with a fatality rate of 6 per 1 000 toddlers. ARI sickness is case number 1 (one) in the category of the 10 most common diseases in (NTB) Nusa Tenggara Barat (West Nusa Tenggara), according to the health profile of West Nusa Tenggara (2020), in 2019, with the highest number of visits (174 213) (4).

Intrinsic and extrinsic risk factors are the two categories into which ARI risk factors fall. Age, nutritional state, exclusive breastfeeding, gender, low birth weight, vaccination status, breast-feeding (breast milk), and administering vitamin A are examples of intrinsic factors. Extrinsic factors include the house's physical environment, maternal education, family income, residential density, air pollution, housing type, ventilation, cigarette smoke, fuel consumption, and the use of mosquito coils, in addition to maternal factors such as education, age, and mother's knowledge (5). The physical environment of the house and clean and healthy life behavior that do not meet the requirements remain the risk of the occurrence of ARI in toddlers. Therefore, efforts to prevent ARI need to pay attention to the physical environmental factors of the house and Clean and Healthy Living Behavior (CHLB). According to the World Health Organization Healthy House is a physical structure used by people or humans for shelter, where the environment of the structure provides the necessary amenities and services, equipment that is beneficial for physical and spiritual health, and favorable social situations for individuals and families (4).

According to the results of the preliminary survey, toddlers continue to suffer from ARI the most frequently, followed by episodes of diarrhea, in the North Moyo Health Centre working region. Information indicates that for one month, there are typically 60 visits connected to these conditions. It is believed that one of the determinants of risk for the incidence of ARI in children under the age of five in North Moyo District is the state of the physical environment's sanitation. This research aims to examine the connection between the home's physical environment and the prevalence of acute respiratory tract infections (ARI) in children in the North Moyo Health Center's operating area.

METHODS

A case-control research design with an analytical survey method and a retrospective methodology was adopted. The case in this research are families with a toddler (age 1- <5 years) who has experienced ARI within the previous month at the time the interview was performed. While the control are families with a child (1- <5 years) that has not suffered from ARI in the past month, the case is a household that has. In October 2022, this research was conducted in the North Moyo District Health Center's working region in the Sumbawa Regency, West Nusa Tenggara.

This research's population consists of housewives with children under the age of five who reside in the service area of the North Moyo District Health Center in the Sumbawa Regency. Children under the age of five are the unit of analysis. The sample represents a fraction of the number of households in the North Moyo District Health Center service area with children under the age of five. The minimum sample size (n) is 50 units of analysis, hence the total sample size necessary is 100 units of analysis, with a sample size of 50 units for each case and control.

This research used the approach of purposive sampling for its sampling. This research's data were examined univariately, or by describing the properties of each variable. Variable groups are shown as frequency distribution tables for physical environmental variables, including ventilation of houses, house floors, residential density, smoking behaviors of household members, and the usage of mosquito coils, as well as ARI incidents; it were used the following analysis: (Chi-Square) to determine the picture of the relationship between physical environmental conditions and the dependent variable, the incidence of acute respiratory infection (ARI), and Multivariate Analysis (multiple linear regression) to determine

the dominant factors of a number of sub-physical environmental sub-variables associated with the incidence of ARI in children under the age of five.

Toddlers that being sampling units have to fulfill the criteria:

Toddlers aged 1 year - 5 years, Toddlers who don't have any contagious diseases, Toddlers whose parents agreed to participate in the study as responses, and Toddlers whose parents are willing to be observed by the physical environmental conditions of their homes.

RESULTS

This research was conducted in North Moyo Health Center Working Area on October 2022.

Table 1. Characteristics of Respondents

Mother's Age Category	Frequency (n)	Percentage (%)
<30 years	40	40.0
> 30 years	60	60.0
Total	100	100.0
Toddler Age Categories		
0 - 24 months	32	32.0
25 - 50 months	54	54.0
> 50 months	14	14.0
Total	100	100.0
Work		
Midwife	2	2.0
Houswifes	45	45.0
Employee	12	12.0
Farmer	33	33.0
Civil servants	3	3.0
Total	100	100.0
Last Level of Education		
Elementary	5	5.0
Junior high school	34	34.0
Senior high school	39	39.0
University	22	22.0
Total	100	100.0

(Source: Primary Data, 2022)

Based on the data distribution of respondents 'characteristics, most respondents' mothers are in the age range> 30 years (60 %). Toddlers with an age range of 25 - 50 months are the most age range in this research (54 %). Most toddler mothers who participated in this survey were housewives with a high school education or less (39 %).

Table 2. ARI Incident

ARI incidence	Frequency (n)	Percentage (%)
ARI	50	50.0
No ARI	50	50.0
Total	100	100.0

(Source: Primary Data, 2022)

In this research, the number of respondents with ARI cases was compared to the number of toddlers without ARI. This is designed to cause toddlers who experience ARI to be assigned to the case group, while toddlers who do not experience ARI will be assigned to the control group.

Table 3. Description of the condition of the physical environment of the house

Categories Home	Frequency (n)	Percentage (%)
Healthy	27	27.0
Unhealthy	73	73.0
Total	100	100.0
The use of insect repellent > 3 hours per day		
Yes	71	71.0
Not	29	29.0
Total	100	100.0
The Presence of Cigarette Smoke		
Yes	61	61
Not	39	39
Total	100	100.0

(Source: Primary Data, 2022)

The results of the Kolmogorov-Smirnov normality test indicated that the data were normally distributed since the normality value was > 0.05, hence multiple linear regression tests could be conducted. The findings of this multiple linear regression test are shown in Table 4.

Table 4. Multiple linear regression test results

Independent Sub variables	Value t	Sig value
Home Conditions	7.793	0.030
Use of Mosquito Repellent	4.542	0.009
The Presence of Cigarette Smoke	4.421	0.074

(Source: Primary Data, 2022)

DISCUSSIONS

There are a number of variables that hinder efforts to reduce the risk of ARI. There must be a policy in place to support children's health in the community and the social support network (6). The findings of the data analysis indicate that the significant value for the variables of the house's physical state and the application of mosquito repellent is <0.05. This indicates that the two variables are a factor related to ARI events in the working area of North Moyo District. ARI disease is affected not only by air pollution but also by home condition that physically impacts indoor air quality and humidity (7). Statistically, the event of ARI in children under 5 years is still the cause of the mortality rate (8), respiratory viruses being the major causative agents. The aim of this work was to determine the respiratory pathogen frequency, the clinical characteristics and the outcome in infants <2 months old hospitalized with ARI. A retrospective study was performed during a five-year period (2008-2011, 2014-2016). The presence of ARI disease is also affected by the cleanliness of the home. This is consistent with the research (9), which indicates that increasing the proportion of households in a community with sanitation facilities that are managed safely can reduce transmission by limiting the likelihood of spreading pathogens from outside the home, thereby contributing to the decline in ARI incidence among toddlers.

Parents serve as social environment role models and household policymakers for their children's homes. In addition, parents can influence the physical environment of the home by providing resources that support their children's food, activities, and sleeping habits (10). A healthy dwelling, as defined by the Indonesian Ministry of Health (2012), satisfies minimal requirements such as access to potable water, access to healthy latrines, flooring, ventilation, and lighting. In this research, 73 % of respondents had homes that did not match the criteria for a healthy home, according to the observation sheet of healthy home criteria. The house is a component of a very influential health-related environment. The home environment has a substantial effect on some ARI variables, including *indoor air pollution*. Multiple elements, including the ceiling, ventilation, residential density, and humidity, influence the indoor air quality of a home (11).

An infection known as an acute respiratory tract infection (ARI) can continue for up to 14 days. Research (12) with the title "*The Relationship between Home Environmental Conditions and the Occurrence of Acute Respiratory Infection (ARI) in Toddlers in Nagan Raya Regency*" claims that there is a significant correlation between the floor factor of a house and the incidence of ARI in toddlers and that this correlation can increase the incidence of ARI in toddlers. It also claims that there is a significant correlation between the occupancy density of a room and the incidence of ARI in toddlers and that this correlation can increase the incidence of ARI in toddlers. One of the significant elements that contribute to the occurrence of ARI is the physical state of the home (ventilation area, humidity, occupants, natural lighting, temperature) (13). The results of a survey of 70 house patients with ARI indicate that 28 % of houses have floors that do not meet the requirements of healthy homes, 78 % of houses have windows that are rarely opened so that no sunlight enters the house, and 57 % of houses have lighting that does not meet the requirements (14).

Inadequate environmental conditions or noncompliance with health standards are risk factors for ARI incidence (15). When the criteria for healthy houses are not met, the house, which is a human physical environment as a place to live, can be a source of sickness (16). ARI is believed to be caused by excessive dust, air ventilation, illumination, and humidity. According to study (17), there is a correlation between dust levels and the incidence of acute respiratory infections (ARI) ($p = 0.0001$), ventilation conditions and the incidence of ARI ($p = 0.0001$), illumination and the incidence of

ARI ($p = 0.001$), and humidity and the incidence of ARI.

Anti-mosquito drugs are a form of pollution that can be discovered in the home. Similarities between the functions and uses of this anti-mosquito drugs make it effective at killing and repelling mosquitoes. The distinction lies in the percentage of the concentration of poisonous compounds or active ingredients present in anti-mosquito drugs, which are insecticides of insect killer insects classed as an organophosphate. Mothers whose infants are exposed to anti-mosquito drugs are at an elevated risk of developing acute respiratory infection (ARI) (18).

The presence of smoke from mosquito repellants contributes to indoor air pollution. The insect repellents used by respondents negatively impact indoor air quality. The outcome of the research (19), showed the presence of P-Dichlorobenzene chemicals in the smoke of mosquito coils, which considerably impeded human breathing. The usage of mosquito coils influences childhood ARI (19). People believe that using mosquito coils is one way to avoid mosquito bites, even though some individuals are aware that the smoke from mosquito coils is exceptionally hazardous to the health of toddlers, especially in the case of ARI sickness (20). The utilization of mosquito coils is associated with the occurrence of ARI by P value $0{,}001 < \alpha\ 0.05$ PR = 2.174 (12).

Cigarette smoke is an air pollutant in the form of a complex mixture of substances created by the combustion of tobacco. Children in smoking families are twice as likely to develop acute respiratory infection (ARI) as those in nonsmoking homes (21). The parental smoking habit in the home causes toddlers to become passive smokers who are constantly exposed to cigarette smoke (22). Children between the ages of 1 and 5 who are exposed to cigarette smoke are sensitive to asthma, perished at an early age due to lung infections, are prone to allergies, and are at high risk for contracting pulmonary tuberculosis (23).

The habit of smoking in the home has a significant impact on the respiratory health of toddlers. The frequency with which family members smoke in the home will enhance the amount of cigarette smoke's toxicity. Consequently, family members who become passive smokers will inhale more noxious smoke (11). Exposure to cigarette smoke is one of the causes of acute respiratory infections in toddlers. Exposure to cigarette smoke creates issues in the respiratory organs of toddlers who may also get ARI (24).

Passive smokers and their surroundings, especially children under the age of five, will be exposed to air pollution due to indoor smoking. Children under the age of five are more susceptible to the effects of environmental tobacco smoke (ETS), which will increase the incidence of ARI in their lungs. More than 4 000 hazardous substances found in ETS, including nitrogen oxides, carbon monoxide, and other particles, impair cilia's ability to function and harm ciliated epithelial cells, which can lead to a reduction in the immune system's capacity on both a local and a systemic level (25). Exposure to passive smokers is classified as high when the number of cigarettes or other smoking tobacco products smoked by daily smokers at home exceeds nine per day and as low when this number falls between one and nine per day. The type of exposure to passive smokers is classified as paternal if the father is a smoker, maternal if the mother is a smoker, and parental if both parents are smokers (26).

Most persons are exposed to more significant health risks from indoor air pollution than from outside air pollution. The link between indoor air quality (IAQ), indoor air pollutants, and chronic non-communicable diseases must be given extensive consideration in light of the increasing severity of indoor air pollution-related health issues (27). This is consistent with the research (28), which indicates that the presence of cigarette smoke in a room will result in ARI issues in children. The results of the research (29) leading to child mortality in Indonesia. This research emphasizes the significance of the family wealth index and the physical quality of the home in enhancing children's health.

CONCLUSION

Conclusively, this study shows that home conditions and using mosquito repellent are significant factors causing ARI. Then this study

also shows a substantial number of respondents are unaware that preventing ARI is preferable to treating it. This necessitates a concerted effort from multiple parties to pay prompt attention to preventing ARI sickness in infants. ARI in children should be prevented from an early age. Prevention efforts require contributions from various parties, including the physical environment, family environment, and health service support. Even the stakeholders' policies are expected to impact the prevention of ARI in toddlers significantly.

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Conflict of Interest

The author(s) declared no potential conflicts of interest concerning this article's research authorship and/or publication.

Availability of Data and Materials

All data generated or analyzed during this study are included in this published article.

Ethical Approval

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Human Immunodeficiency Virus management in pregnant women at Kupang City Hospital East Nusa Tenggara

Manejo del virus de inmunodeficiencia humana en mujeres embarazadas en el hospital de la ciudad de Kupang, este de Nusa Tenggara

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SUMMARY

Introduction: *Human Immunodeficiency Virus (HIV), syphilis, and hepatitis B are sexually transmitted infections (STIs) that can pass from pregnant women to their babies. Transmission of HIV, syphilis, and Hepatitis B to children from mothers' results in morbidity, disability, and death. Indonesia has adopted the Prevention of Mother-to-Child Transmission (PMTCT) as a national policy, following a voluntary counseling and testing approach.*
Objective: *This study aims to evaluate the process of HIV management in pregnant women in Kupang.*
Methods: *This research is a descriptive study using a survey method.*
Result: *The results showed that most pregnant women had been screened for HIV (91 %), a small proportion were infected (0.004 %), and most pregnant women infected with HIV had received treatment (80 %) also had the opportunity to be accompanied by companions from fellow sufferers with a good quality of life.*
Conclusion: *There are still some problems with the availability of reagents and the back-referral system that need further investigation.*

Keywords: *HIV, pregnant women, Kupang City*

RESUMEN

Introducción*: El Virus de la Inmunodeficiencia Humana (VIH), la sífilis y la hepatitis B son infecciones de transmisión sexual (ITS) que pueden pasar de la mujer embarazada al bebé. La transmisión del VIH, la sífilis y la hepatitis B a los niños de las madres produce morbilidad, discapacidad y muerte. Indonesia ha adoptado la Prevención de la transmisión maternoinfantil (PTMI) como política nacional, siguiendo un enfoque voluntario de asesoramiento y pruebas.*
Objetivo: *Este estudio tiene como objetivo evaluar el proceso de manejo del VIH en mujeres embarazadas en Kupang.*
Métodos: *Esta investigación es un estudio descriptivo utilizando un método de encuesta.*
Resultados: *Los resultados mostraron que la mayoría de las mujeres embarazadas habían sido examinadas para el VIH (91 %), una pequeña proporción estaban infectadas (0,004 %) y la mayoría de las mujeres embarazadas infectadas con el VIH habían recibido*

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tratamiento (80 %). También tuvieron la oportunidad de ser acompañadas por compañeros de compañeros de sufrimiento con una buena calidad de vida.
Conclusión: *Todavía existen algunos problemas en la disponibilidad de reactivos y el sistema de referencia inversa que necesitan más investigación.*

Palabras clave: *VIH, mujeres embarazadas, ciudad de Kupang.*

INTRODUCTION

Human Immunodeficiency Virus (HIV) Acquired Immunodeficiency Syndrome (AIDS) is a collection of symptoms and infections associated with a decrease in the human immune system due to the HIV can be contagious and deadly (1). HIV, syphilis and hepatitis B are sexually transmitted infections (STIs) that can pass from pregnant women to their babies. All three have the same transmission route in the form of sexual, blood, and vertical contact from mother to fetus. It generally occurs during pregnancy, although it can occur during labor and breastfeeding with less frequency. Transmission of HIV, syphilis, and Hepatitis B to children from mothers results in morbidity, disability, and death (2).

The number of HIV cases in Southeast Asia in 2015 reached 5.1 million patients with 77 000 HIV pregnant women and 167 000 cases of syphilis in pregnant women (3). According to data for 2017, the number of syphilis patients in Indonesia reached an HIV prevalence rate of 0.39 percent, syphilis 1.7 percent, and hepatitis B 2.5 percent. This number is high and allows transmission from pregnant women to babies during pregnancy so more attention is needed to overcome it.

The Ministry of Health has a target of achieving zero by 2030. Triple Elimination is a program organized by the Ministry of Health of the Republic of Indonesia to tackle the transmission of HIV, syphilis, and hepatitis B in pregnant women to their babies. This activity is an activity adopted from the World Health Organization (WHO) program called triple elimination (4). The transmission rate can be reduced to 5 percent from the supposed 15 percent with preventive activities in the form of testing for HIV, hepatitis B, and syphilis during antenatal care (ANC) (3).

Indonesia has adopted the Prevention of Mother-to-Child Transmission (PMTCT) as a national policy, following a voluntary counseling and testing approach (5). Assessing the implementation of programs in the province of Nusa Tenggara Timur (NTT), especially in the city of Kupang, as a barometer for the implementation of health programs in the province of NTT, it is necessary to survey the implementation of the Prevention of Mother to Child Transmission (PPIA) program implemented in hospitals. The purpose of this survey is to evaluate the process of HIV management in pregnant women in Kupang City.

METHODS

This research is a descriptive study using a survey method, which was conducted at 3 PMTCT referral hospitals in Kupang City. The population is all pregnant women who checked at the research hospital in 2021. The sample was taken as a total population of as many as 3 938 people. Data collection used secondary data that is in the hospital report. Analysis was used to describe the management of HIV in pregnant women in the hospital. This research has received permission from the hospital with letter number DINKES.444.870/637/VI/2022.

RESULTS

HIV Screening in Pregnant Women

The survey conducted at 3 referral hospitals for the PMTCT program in Kupang City found that the program that had been implemented at the hospital, namely pregnant women who came to check their pregnancies, would be screened for 3E (HIV, Syphilis and Hepatitis B), so that if a mother was found if the screening result is positive, management was carried out immediately according to the SOP (Standard Operating Procedures). The results of Miyahara's study stated that increasing test coverage could reduce the number of cases due to well-integrated tests and immunization (6).

Figure 1 shows that in 2021 it was found that most pregnant women who checked themselves at the hospital had been screened for HIV, namely as many as 3 597 people (91 %), while 341 people (9 %) did not have screening. These results have not reached the target set by WHO, namely 95 % for HIV screening coverage in pregnant women (7). HIV screening coverage which is still low requires an increase in supporting resources consisting of human resources, facilities, and funds as well as collaborating and motivating private health services to support and implement policies (8). The willingness of pregnant women to carry out HIV testing is not only influenced by sources of information (9). Support from health workers for pregnant women to carry out PPIA examinations can be in the form of providing information, advice for post-examination examinations, and counseling (10). Ghoma et al., stated that the factors that influence the acceptance of pregnant women to want to be screened are good counseling because it will increase pregnant women's understanding of HIV and the importance of HIV screening in pregnant women (11). The results also found that the obstacles faced in screening pregnant women were reagents that were not available or had run out so screening could not be carried out when pregnant women had pregnancy checks. In addition, several pregnant women did not come to the hospital for screening after receiving referrals from the Public Health Center for various reasons, such as not having a permanent domicile.

Laboratory tests have been carried out according to the available SOP. The availability of laboratory inspection equipment and facilities is complete, inspection forms for triple elimination are always filled in, and centrifuges are available, but the availability of consumables is not specified because there is no special separation for the PPIA program.

The evidence showed that in Indonesia there is a shortage of rapid testing and treatment supplies, trained staff including experienced counselors, provision of PMTCT guidelines, and private rooms for consultation and counseling (12). The availability of rapid test kits and treatment is a potential determining factor (13). The utilization of VCT (Voluntary Counselling and Testing) services is more at health facilities with good infrastructure availability than those that are lacking (14). WHO recommends that efforts to improve congenital syphilis surveillance and quality assurance of HIV and syphilis laboratories should be included as primary targets for country-based mother-to-child transmission programs as they are critical for the elimination of mother-to-child transmission EMTCT programs (15).

Figure 2 shows that based on the results of the screening that was carried out, it was found that most of the pregnant women were not infected with HIV, but there was a small number who were infected, namely 15 people (0.004 %). Mothers with HIV infection status before childbirth will be given ARVs (Antiretroviral) as soon as possible both for therapeutic purposes and prophylactic purposes (16).

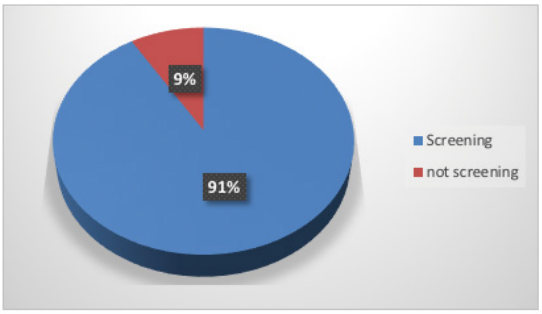

Figure 1. HIV Screening Data for Pregnant Women at Kupang City Hospital in 2021.

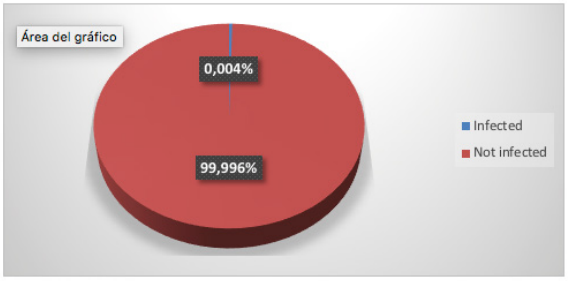

Figure 2. Data on pregnant women infected with HIV at Kupang City Hospital in 2021.

The survey results found that the Hospital already has a special poly-de-prescribing (PDP) based services, but some are still joining the internal poly. The hospital also has Standard Operating Procedures (SOP) 10T, handling labor and postpartum in mothers with 3E and counseling sheets. The management of HIV in pregnant women has been carried out by VCT doctors. The results of another study found that the availability of infrastructure has a significant relationship with HIV testing behavior (17). Implementation of the PPIA program with antenatal services, facilities, and infrastructure is needed starting from outreach activities, screening, and referrals. Facilities for information through the media so that the delivery of messages is easily understood by mothers can be in the form of leaflets, flipcharts, banners, posters, and so on (18).

Management of HIV in Pregnant Women

Figure 3 shows that not all HIV-infected pregnant women received treatment because there were still 3 people (20 %) who did not receive treatment because they lost contact after the screening. This is caused by various obstacles such as the domicile of pregnant women and the return referral system. These results do not meet the WHO recommendation target of 95 % treatment coverage for women diagnosed and living with HIV (19). The condition of pregnant women who have not received treatment with ARVs is very at risk of transmitting the virus to their babies during the delivery process (20).

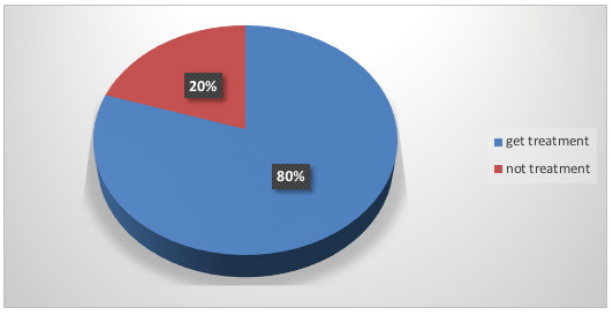

Figure 3. Treatment Data for HIV-Infected Pregnant Women at Kupang City Hospital in 2021.

Pregnant women who are HIV positive are an indication for lifelong ARVs. This administration must be done regardless of the CD4+ count (Cluster Differential 4, T-helper cells/T-cells). This is effective in preventing the transmission of HIV infection from mother to child (21).

Considerations for delivery assistance to HIV-positive pregnant women are still being considered today. Various research results suggest that delivery by cesarean section is very effective in preventing HIV transmission and pregnant women with a viral load of ≥1 000 copies/mL or unknown in the third trimester are recommended for cesarean section (22). The delivery method with elective cesarean section (ECS), can reduce the morbidity of HIV-infected mothers when compared to vaginal delivery and reduce the incidence of HIV-infected babies (22).

The results of the study found that the problem that occurred was that there were no return referrals from the hospital for HIV confirmation checks and treatment that had been obtained by pregnant women who were 3E reactive, so the health center staff found out this information from AIDS Concerned Residents (ACR), conducted by researchers in the Citizens Concerned AIDS (WPA). WPA is one of the efforts to prevent and control HIV/AIDS which involves community participation (23). In addition to WPA, the Provincial Government of East Nusa Tenggara and the City of Kupang in collaboration with Non-Governmental Organizations have established a companion group that is provided to accompany and help provide support and assistance for pregnant women with HIV to improve the quality of life for mothers and their babies. These companions also come from HIV sufferers who are in the Kupang City area, and who have undergone good and regular treatment throughout their lives.

Another study in Indonesia stated that to achieve the target of reducing the transmission of HIV, syphilis, and hepatitis B from mother to child threefold, strengthening the capacity of all primary healthcare providers in providing PMTCT services must be a priority. This includes better integration of private providers, particularly private midwives, into the Indonesian healthcare system (24). Screening activities require mother cards that are integrated with PMTCT and

reagents for HIV testing, while referral activities require two-way communication between MCH (Mother and Child Health Department) and VCT clinics (18).

CONCLUSION

Most of the pregnant women who went to the hospital had been tested for HIV. The hospital also has SOPs and infrastructure for testing and treating HIV, but there are still problems with the availability of reagents. Most HIV-infected pregnant women have received standard treatment and have had the opportunity to be accompanied by fellow HIV sufferers with a good quality of life.

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Bullying among nursing students during clinical practice

Acoso en estudiantes de enfermería durante la práctica clínica

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SUMMARY

Objective: *Bullying behavior that occurs in the educational environment, such as insulting, giving a bad nickname, slandering, terrorizing, and others. Bullying is disturbing behavior that causes mental damage to its victims. This study aims to describe the occurrences of bullying among nursing students in Pekanbaru, Indonesia.*
Methods: *This study was a quantitative study with a descriptive method. There were 83 respondents from four different colleges selected by accidental sampling. Bullying measurement using a questionnaire from Multidimensional Peer-Victimization Scale and modified by the researcher based on forms of bullying behavior such as verbal, physical, and nonverbal forms. The validity and reliability of the content of the questionnaire were determined with 20 respondents. Bullying measurement is declared valid if r results> r table (0.444), and is obtained (0.894> 0.444).*
Result: *The results showed that more than half of them, namely 56 (67.5 %) nursing students get bullied. It was found that most respondents are insulted about 94 %.*
Conclusion*: Bullying in nursing education still happens, need further research to solve bullying in nursing school.*

Keywords: *Bullying, nurse, students.*

RESUMEN

Objetivo: *Las conductas de acoso se dan en el ámbito educativo, como insultar, poner un mal apodo, calumniar, aterrorizar, entre otras. El bullying es un comportamiento perturbador que causa daño mental a sus víctimas. Este estudio tiene como objetivo describir las ocurrencias de acoso entre estudiantes de enfermería en Pekanbaru.*
Métodos: *Este estudio fue un estudio cuantitativo con un método descriptivo. Hubo 83 encuestados de cuatro universidades diferentes seleccionados por muestreo accidental. Se hizo la medición de la intimidación utilizando un cuestionario de la Escala Multidimensional de Victimización entre Pares y*

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modificado por el investigador en función de las formas de comportamiento de intimidación, como formas verbales, físicas y no verbales. La prueba de validez y confiabilidad del contenido del cuestionario fue determinada con 20 encuestados. La medida de bullying se declara válida si r resultados > r tabla (0,444), y se obtiene (0,894 > 0,444).
Resultado: *Los resultados mostraron que más de la mitad de ellos, es decir, 56 (67,5 %) estudiantes de enfermería son acosados. Se encontró que la mayoría de los encuestados son insultados alrededor del 94 %.*
Conclusión: *La intimidación en la educación de enfermería aún ocurre, se necesita más investigación para resolver la intimidación en la escuela de enfermería.*

Palabras clave: *Intimidación, enfermera, estudiantes.*

INTRODUCTION

Bullying is one of the violent behaviors that still happens now. The effects found on individuals who are victims of bullying can be seen as psychological effects such as shock, depression, low self-esteem, stress, anxiety, and helplessness and physical impacts such as chest pain, physical injuries, and attempting to commit suicide (1). Bullying was found in the education environment, especially in nursing school (2). The bullying can impact nursing students' performance in clinical areas (3).

In Indonesia, the number of bullying for nursing students during clinical practice cannot be found specifically yet. Based on the interview results, it was found that out of 10 nursing students during clinical practice at the Hospital, 9 of them claimed to have experienced one of the bullying behaviors by their peers. When interviewed about the type of bullying that was experienced, 8 people said they often experienced verbal bullying, both in the form of harsh words, and criticism, and often received negative comments about the desire to become a nurse and becoming a matter of gossip. At the same time, 4 out of 10 people claimed to have been ostracized or ignored.

This study aimed to assess the bullying cases in nursing students during clinical practice and what kind the bullying happens among nursing students.

METHODS

The type of this research was quantitative by using descriptive design. This research was conducted in July 2019 at Arifin Achmad Regional Hospital. The samples of this research were nursing students and the number of samples was 83 respondents by accidental sampling. Bullying measurement used the Multidimensional Peer-Victimization Scale and modified by the researcher based on theories developed based on forms of bullying behavior such as verbal, physical, and nonverbal forms (4). This questionnaire consisted of 10 question items with dichotomous questions. The validity and reliability of the content of the questionnaire were determined. The Cronbach's α coefficient of the total scale was 0.444 and was obtained at 0.894> 0.444. It is found that this scale has good internal consistency reliability. Bullying variables were measured using dichotomies questions, with occurring and not occurring interpretations.

The collected data were organized, tabulated, and statistically analyzed using SPSS software (Statistical Package for the Social Sciences, version 15). For general demographic data of nursing students, the frequency and percentage were calculated. For the determination between bullying and not bullying, using the median score if the score $\geq$ 17, meant bullying happen. And if the median score <17 it was mean not bullying happen.

This study has passed the ethical test at the Faculty of Medicine, University of Riau with Ethical approval number: 127/UN.19.5.1.1.8/ UEPKK/2019. All respondents have been given information related to the purpose and design of the research to be conducted.

RESULTS

Table 1 shows that the majority of respondents aged 23 years were 49 respondents (59.0 %) and respondents aged 24 years were 23 respondents (27.7 %), and respondents aged 25 years were 11 respondents (13.3 %). It can be seen that female

respondents were 45 nursing students (54.2 %) and the male respondents are 38 nursing students (45.8 %). In addition, it was found that the majority of respondents bullied was 56 (67.5%).

Table 1. Distribution of Respondents by Age Group

No	Variables	Category	Frequency	Percentage (%)
1.	Ages	23 years old	49	59.0
		24 years old	23	27.7
		25 years old	11	13.3
2	Gender	Male	38	45.8
		Female	45	54.2
3	Bullying	Bullied	56	67.5
		Not Bullied	27	32.5
		Total	83	100.0

Table 2 indicates that most of the bullied students were insulted about 94 % of them. The second place for the type of student of nursing bullying in Pekanbaru was Gossip when they were not around about 81.9 %. And the type of bullying that occurs the least in nursing students was to be threatened by about 47 %.

Table 2

Type of Bullies

No	Statements	Frequency	Percentage (%)
1.	I was insulted	78	94.0
2.	Gossip when I was not around	68	81.9
3.	I was kicked	40	48.2
4.	They made a bad nickname for me	67	80.7
5.	I was threatened	39	47.0
6.	I was humiliated	51	61.4
7.	I was locked in the darkroom	54	65.1
8.	I was blamed	57	68.7
9.	I was accused	57	68.7
10.	They spread bad news about me to Senior Nurse	60	72.3

DISCUSSION

In the present study, it was shown that the majority of respondents, among 83 respondents are 23 years old age. This age is adolescent age which is reported to be the bullying victims and can cause high suicide cases (5). This study's results contradict another study that states that the youngest children more easily become victims (6). It is possible that bullying occurs in all age ranges. It was concluded that the range of 23-24 years old is the youngest age in the clinical area in which students have a high risk of getting bullying.

Based on the characteristics of respondent, female is the majority gender in this study. It

means that mainly the bullying victims are female. The evidence indicates that females are weaker than males (7). Men naturally tend to be aggressive, keep themselves to compete, and desire to be better than females (8). Thus, females are the most vulnerable people to be bullied. However, this study has a bias in that the majority of respondents are female nursing students.

Bullying was defined as "aggressive behavior towards another person, or object of that person, finding expression in physical assault, sexual harassment, and non-physical violence, such as verbal abuse, incivility, and intimidation" (16). Bullying happens also in nursing education during clinical practice. The main type of bullying is "I was insulted". It was shown that most nursing students get insulted by their friends and they are seniors in nursing (9). Bullying, known as "oppression or bullies" in Indonesian, is any form of oppression or violence that is done intentionally by one or a group of people continuously and in this case, their perpetrator is their nursing friends (10).

The less type of bullying from this study is "I was threatened". Bullying almost always happens in schools with grades 9-12 (11,12). In this study, the threat is not dominant for a perpetrator. A recent study reported that the threat is not Asian culture (13). There is no specific study about Indonesian nursing culture as having a threat against the weaker ones.

Based on all the behavior above, bullying can implicate a negative impact on the student's performance to apply their knowledge to practice in a hospital (2). Bullying is a repetitive physical or psychological repression, by stronger people or groups against weaker ones (14). Bullying is a form of behavior in the form of verbal or attempts to hurt physically and psychologically someone or a group that prepares them as a stronger group (15).

Bullying harms perpetrators and victims. This is consistent with research that states that students who are victims and perpetrators have a higher level of stress than students who have never received and committed acts of bullying. The victims of bullying are very bad in several aspects such as academic achievement, socializing, and emotional atmosphere. Bullying victims tend to have no support from others, feel unable to resist bullying, and often experience stress. They often think of moving away or moving from a place where they always want to be alone to avoid verbal abuse or bullying. Victims of bullying are also overwhelmed with feelings of shame and stress so that tasks are neglected and, in the end, they are left behind in academics (16). Based on another research students who get bullied reported anxiety, panic attacks, physical symptoms of distress, and loss of confidence and self-esteem from their experience of bullying during clinical placement (17).

The hospital as a place to carry out nursing practices, of course, has its impact when bullying occurs. One of the impacts is a decrease in the nurse's function when caring for patients and of course, it will become a burden for the nursing manager because the work environment is no longer healthy (18).

According to the researchers' assumptions, bullying is an action aimed to hurt others verbally and physically. Bullying occurs when the victim has no strength or has difficulty defending himself or is also weaker physiologically and psychologically. Besides this power imbalance can be either individuals or groups. The most frequent acts of bullying are such as being ridiculed, insulted, sneered at, viewed cynically, ostracized, encouraged, or even avoided or shunned by people around the victims which occurs continuously without realizing that it will have negative impacts, especially on the victims. Bullying behaviors shown to students during clinical placement are becoming incessant and detrimental. The damage to nursing students may be irreparable and result in a chain of repetitive behavior whereby they become bullies in the not-so-distant future. Bullying victims tend to have high levels of stress, and shame and victims tend to be passive. Victims of bullying have negative self-concepts which will negatively impact their life. Thus, awareness of bullying behavior would enable nursing students to recognize when they are being bullied so that appropriate solutions can be found. Nursing students deserve to be mentored in a caring and accepting environment where they would be supported to achieve their learning goals, build their confidence and develop their personal and professional identities. Bullying in nursing is unacceptable, and the

profession should not tolerate bullying of any individual. In accordance with the International Council of Nurses guidelines, there should be respectful mentorship of nursing students (19).

The limitation of this study is the fact it does not provide information regarding the perpetrators of workplace bullying, or patient-related bullying.

CONCLUSIONS

Most kinds of bullying among nursing students during clinical practice are insulting by the perpetrators and the lowest was threatened. Thus, is clear that changes must be made in clinical nursing education. Preceptors must be trained, enumerated, and present in the clinical area to perform their guiding and supervisory roles. Bullying should be dealt with at an individual and institutional level. Individuals should be assertive and insist on their rights and seek redress when they are bullied. Hospitals should have policies in place outlining what constitutes bullying and the consequences of bullying.

Further research is still needed regarding research methods such as a qualitative method to explore the experience of bullying victims, and studies in other settings can examine the reasons for bullying and examine how those bullied copes with the situation.

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Authors' contributions

All contributors contributed significantly to this study and all authors agree with the content of the manuscript.

Conflict interest

The authors declare no conflict of interest.

Ethical approval

This study has passed the ethical test at the Faculty of Medicine, University of Riau with Ethical approval number: 127/UN.19.5.1.1.8/ UEPKK/2019

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Effect of Yoga on Anxiety of Pregnant Women in Bali

Efecto del yoga sobre la ansiedad de las mujeres embarazadas en Bali

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SUMMARY

Objective: *Anxiety is an obscure and pervasive concern, related to feelings of uncertainty and helplessness. Anxiety can be caused by certain circumstances. One condition that can cause anxiety is pregnancy. During pregnancy, mothers will experience changes in physical and psychological. Anxiety in pregnancy will have adversely affected the physical and psychological state of the mother and fetus. Yoga is one of the recommended exercises for reducing anxiety during pregnancy. The purpose of this study was to determine the effect of yoga on anxiety levels of third-trimester pregnant women at the Bumi Sehat Foundation Clinic.*

Methods: *This study is a quasi-experimental approach with a pretest-posttest control group design. The sample size in this study was 44, who were obtained based on consecutive sampling and fulfilled the inclusion and exclusion criteria. Respondents were divided by yoga group (22 people) and treatment as usual or TAU (22 people). There are 2 research variables, namely yoga as the independent variable, and the anxiety level of trimester III pregnant women as the dependent variable. The instrument used in this study is the state anxiety inventory questionnaire (S-Anxiety scale form Y- 1). Paired t-tests was used to determine differences in anxiety levels. The study was considered significant if $p<0.05$.*

Result: *This research was conducted at the Bumi Sehat Foundation Clinic with the final respondents in each group (Yoga and TAU) 22 people. The result showed that there is a difference in the average anxiety in the pre-test of the yoga and TAU groups with an average of 33.00 and 32.00, respectively. In the post-test, the mean decrease was found in the yoga group by 3.91 and in the TAU group by 1.73. With the paired t-test it was stated that the decrease in anxiety was significant with a p-value <0.05 in both groups.*

Conclusion: *Yoga could be one of the alternative methods for reducing anxiety for pregnant women.*

Keywords: *Anxiety, third trimester, pregnant women, yoga, Bali.*

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RESUMEN

Objetivo: *La ansiedad es una preocupación oscura y generalizada, relacionada con sentimientos de incertidumbre e impotencia. La ansiedad puede ser*

causada por ciertas circunstancias. Una condición que puede causar ansiedad es el embarazo. Durante el embarazo, las madres experimentarán cambios físicos y psicológicos. La ansiedad en el embarazo habrá afectado negativamente el estado físico y psicológico de la madre y el feto. El yoga es uno de los ejercicios recomendados para reducir la ansiedad en el embarazo. El propósito de este estudio fue determinar el efecto del yoga en los niveles de ansiedad de las mujeres embarazadas del tercer trimestre en la Clínica de la Fundación Bumi Sehat.

Métodos: *Este estudio es un enfoque cuasi experimental con un diseño de grupo de control de prueba previa y posterior a la prueba. El tamaño de la muestra en este estudio fue de 44, que se obtuvieron en base a un muestreo consecutivo y cumplieron con los criterios de inclusión y exclusión. Los encuestados se dividieron por grupo de yoga (22 personas) y tratamiento habitual o TAU (22 personas). Hay 2 variables de investigación, a saber, el yoga como variable independiente y el nivel de ansiedad de las mujeres embarazadas del tercer trimestre como variable dependiente. El instrumento utilizado en este estudio fue el cuestionario de inventario de ansiedad estado (S-Anxiety scale form Y-1). Las pruebas t pareadas se utilizaronn para determinar las diferencias en los niveles de ansiedad. El estudio se consideró significativo si p <0,05.*

Resultado: *Esta investigación se realizó en la Clínica de la Fundación Bumi Sehat y los encuestados finales en cada grupo (Yoga y TAU) son 22 personas. El resultado mostró que existe una diferencia en el promedio de ansiedad en el pretest de los grupos de yoga y TAU con un promedio de 33,00 y 32,00 respectivamente. En el post-test, la disminución media se encontró en el grupo de yoga en 3,91 y en el grupo TAU en 1,73. Con la prueba t pareada se afirmó que la disminución de la ansiedad fue significativa con un valor de p <0,05 en ambos grupos.*

Conclusión: *El yoga podría ser uno de los métodos alternativos para reducir la ansiedad de las mujeres embarazadas.*

Palabras clave*: Ansiedad, tercer trimestre, mujeres embarazadas, yoga, Bali.*

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INTRODUCTION

Pregnancy lasts 260-294 days from the first day of the last menstruation (1). Pregnancy is not only a happy time but also a stressful time for women both physically and mentally. Even in healthy women, pregnancy can cause various anxieties (2). Anxiety is a vague and pervasive worry associated with feelings of uncertainty and helplessness. Anxiety includes fear of unexpected dangers that may occur in the future. Anxiety is similar to fear but with a less specific focus (3). According to data from the World Health Organization (WHO), regarding Depression and Other Common Mental Disorders: Global Health Estimates, 3.6 % of the world's total population experiences anxiety. Globally, anxiety is more common in women (4.6 %) compared to men (2.6 %). The prevalence of people with anxiety disorders in Indonesia reaches 3.3 % of the total population (4).

In a cohort study regarding the prevalence of anxiety in pregnancy and associated factors at a government maternity hospital in southern India, it was found that anxiety in pregnancy not only affects pregnant women, but also has an effect on births such as premature births, prolonged labor, cesarean delivery, and low birth weight babies (5). In this study, it was also shown that there was a relationship between gestational age and anxiety levels. The highest average level of anxiety is in the third trimester (106.89) compared to the first (100.36) and second trimester (85.50) (2).

There are various kinds of therapy used to reduce anxiety in pregnant women, one of which is yoga. The term yoga is defined as the unification of the body and mind to balance and harmonize the physical and mental functions of the body (6). Prenatal yoga has four sequences, namely centering, pranayama, warming up, and prenatal asanas (7). Asana is a synonym for yoga posture and pranayama is an equivalent to the breathing exercises that are carried out in the sessions.The word pranayama is a compound of two separate Sanskrit terms, *prana* and *yama*, and *prana* is "the fundamental basis of whatever is, was, and will be" or "life force" or "vital energy". Meanwhile, *yama* is often translated as "restraint" or "control". Pranayama then, is typically defined as a set of practices designed to control prana within the human body by means of various breathing techniques, meditative visualizations, and physical locks (or kumbhaka).

Anxiety can be assessed with several instruments. One commonly used rating scale is a State Anxiety Inventory questionnaire (S-Anxiety Scale Form Y-1). This questionnaire demonstrated excellent internal consistency

across samples and demonstrated adequate test and retest reliability (8).

Prenatal yoga can be carried out in hospitals, health centers, or private foundations. The Bumi Sehat Foundation Clinic is a non-profit in Gianyar Regency that regularly performs prenatal yoga and has a large number of participants from all walks of life. Based on the background, this study aimed to assess the effect of yoga on the anxiety level of third-trimester pregnant women at the Bumi Sehat Foundation Clinic.

METHODS

The research design used was an analytic method with a quasi-experimental and a pretest-posttest control group design. This study was used to determine the comparison between the anxiety levels of third-trimester pregnant women before doing yoga and after doing yoga at the *Bumi Sehat* Foundation Clinic. Respondents in this study were pregnant women in the third trimester at the *Bumi Sehat* Foundation Clinic. The treatment group was pregnant women in the third trimester who did yoga at the *Bumi Sehat* Foundation Clinic, while the control group was pregnant women who did a pregnancy check-up (ANC) or treatment as usual (TAU) at the Bumi Sehat Foundation Clinic. The entire sample was selected based on inclusion criteria including singleton pregnancy, gestational age 29-38 weeks, and not having pregnancy disease or abnormalities. Mothers who refused to be respondents were excluded from the study.

Respondent selection in this study was done by using the consecutive sampling method. The sample size formula used in this study was a numerical comparative research formula in pairs of repeated measurements twice. The minimum average difference in decreasing anxiety which is considered significant is 5.5 and the combined standard deviation is 8.75 (9). By estimating the possibility of dropping out, the number of respondents for each treatment was 22 respondents. A questionnaire was used for data collection in this study which was divided into three parts. The first part is an explanation sheet for the research respondent. The second part is the respondent's consent form which contains the respondent's identity such as name (3-letter initials), gestational age, and the respondent's telephone number. The third part is for collecting socio-demographic data of respondents which contains several questions, namely questions about age, last level of education, occupation, and parity. Followed by the State Anxiety Inventory questionnaire (S-Anxiety Scale Form Y-1) which is used to measure anxiety in pregnant women.

The S-Anxiety Scale questionnaire (STAI From Y-1) consists of 20 statements that evaluate how the respondent is currently feeling. The factors that are assessed by this questionnaire are feelings of fear, tension, nervousness, and worry. Each STAI item is given a Likert score of 1-4 which will be totaled with a minimum number of 20 and a maximum of 80. The questionnaire used is the S-Anxiety Scale questionnaire (STAI From Y-1) in Indonesian and has often been used in various previous studies. The validity and reliability test of the STAI questionnaire showed a Cronbach alpha value of > 0.6, which means that this questionnaire is good for use (10).

This research was carried out after being declared ethically feasible by the Health Ethics and Research Commission at Warmadewa University. Data analysis was carried out after evaluating the correctness and completeness of the data. Data normality was tested with the Kolmogorov-Smirnov test. The first analysis performed was descriptive analysis or univariate analysis to see the characteristics of the research respondents. Categorical data such as age, education level, occupation, and parity will be expressed in the form of frequency and percentage distributions. Continuous data such as anxiety was displayed in the form of mean and standard deviation if normally distributed or median if not normally distributed. Bivariate analysis was used to determine the effect of prenatal yoga on the anxiety level of third-trimester mothers with a $p < 0.05$ which was said to be statistically significant. Paired t-test was used to assess the difference in the average anxiety before and after yoga if the data is normally distributed. If the data is not normally distributed, the Wilcoxon test was then used.

RESULTS

This research was conducted at the *Bumi Sehat* Foundation Clinic with the initial number of participants in the Yoga group of 25 people, but 3 people were excluded for reasons as follows: 2 respondents did not fill out the post-test questionnaire and 1 respondent did not fill in data completely so that the final respondents in each group (yoga group and TAU group) totaled 22 people.

Table 1 shows that the average age of the respondents in the yoga group was 26.27 and in the TAU group was 27.55. All respondents were in the third trimester with an average gestational age of 33.27 in the yoga group and 34.27 in the TAU group. Education level is divided into high (having more than junior high school education) and low (no education or less than junior high school education). The employment status in the yoga group is as follows: 5 respondents are not working and 17 respondents are working. In the TAU group, 12 respondents are not working and 10 others are working. In terms of parity in the yoga group, 15 respondents had less than 2 live births and 7 respondents had more than or equal to 2 live births. In the TAU group, 10 respondents had less than 2 live births and 12 respondents had live births greater than or equal to 2. All characteristics of the respondents studied had a p-value> 0.05 indicating that there was no significant difference between the yoga and TAU group respondents.

Table 1. Respondents Characteristic

Variable	Yoga (n=22)	TAU (n=22)	*P-value*
Mean (SD) Age	26.27 (4.99)	27.55 (5.07)	0.41
Mean (SD) Pregnancy age	33.27 (3.25)	34.27 (3.13)	0.31
Education			1.00
High	20 (90.9 %)	21 (95.5 %)	
Low	2 (9.1 %)	1 (4.5 %)	
Working status			1.00
No	5 (22.7 %)	12 (54.5 %)	
Yes	17(72.3 %)	10 (45.5 %)	
Parity			0.13
<2	15 (68.2 %)	10 (45.5 %)	
≥2	7 (31.8 %)	12 (54.4 %)	

Source: Primary data, 2020

Table 2 indicates the anxiety level of third-trimester pregnant women in the yoga and TAU (treatment as usual) groups. The STAI form Y questionnaire used by the researcher to assess the anxiety of the respondents did not have provisions regarding the distribution of anxiety levels. Some studies use a score ≥ 40 to indicate severe anxiety in adults. Researchers referred to a study that divided anxiety levels into mild anxiety (score 20-37), moderate anxiety (score 38-44), and severe anxiety (score 45-80) (11). Based on Table 3, it can be explained that most of the respondents had mild anxiety, namely 63.6 % in the yoga group and 77.3 % in the TAU group. A small proportion of respondents had moderate anxiety, namely 36.4 % in the yoga group and 22.7 % in the TAU group. None of the respondents had severe anxiety.

Table 2. Anxiety Baseline of Respondents

Anxiety Level	Yoga (n=22)	TAU (n=22)
Mild	14 (63.6%)	17 (77.3%)
Moderate	8 (36.4%)	5 (22.7%)
Severe	0	0

Source: Primary data, 2020

Table 3 shows that there is a difference in the average anxiety in the pre-test of the yoga and TAU groups with an average of 33.00 and 32.00, respectively. In the post-test, the mean decrease was found in the yoga group by 3.91 and in the TAU group by 1.73. With the paired t-test it was stated that the decrease in anxiety was significant with a p-value <0.05 in both groups.

Table 3. Anxiety level before and after treatment in yoga and TAU group

Group	Pretest	Posttest	Paired t-test		p
	Mean ± SD	Mean ± SD	Δ mean	95 % CI	
Yoga	33.00 ± 7.26	29.09 ± 6.93	3.91	1.737-6.081	0.001*
TAU	32.00 ± 6.78	30.27 ± 7.05	1.73	0.435-3.019	0.011*

Source: Primary Data, 2020

DISCUSSION

This study found a decrease in the average anxiety in the yoga and TAU group respondents. In both groups of respondents, there was a significant decrease in the average anxiety, but the average reduction in anxiety in the yoga group was greater than in the TAU group with an average number of reductions in anxiety, 3.91 and 1.73, respectively. This is in line with research conducted by Newham et al., which showed that there was a decrease in the average anxiety in one yoga session in the yoga and TAU group respondents (p<0.001) (12). This was also reinforced by Davis et al., who showed that there was an average decrease in anxiety levels in the yoga group by 2.91 and in the TAU group by 2.07 (13).

Anxiety occurs in 26.8 % of pregnant women and is more common in the final trimester of pregnancy. Anxiety in pregnancy has been associated with an increase in obstetric complications including stillbirth, low birth weight infants, postnatal specialist care for the infant and susceptibility to more adverse neuro-developmental outcomes including behavioral, emotional and cognitive problems The high anxiety rate in the third trimester is related to the approaching time of delivery. It can be explained that pregnancy and childbirth are felt by some pregnant women as moments of vulnerability, capable of triggering feelings of fear in women, and this can occur even in women who have experienced previous births. Mothers who have fear of childbirth have a greater risk of experiencing anxiety during pregnancy (14).

Antenatal care is a series of services provided by trained health service providers to improve the quality of pregnancy for mothers and babies. The general goal to be achieved is to make sure that the mother and baby are healthy at the end of pregnancy and childbirth by identifying and preventing risks that can harm the health of the mother and baby (15). Missa et al. showed that there is an effect of antenatal care on the anxiety level of pregnant women, where a mother who has high adherence in carrying out antenatal care shows a lower level of anxiety, compared to mothers who are disobedient in carrying out antenatal care (16).

Pregnancy can cause anxiety, especially if the mother does not know how to deal with the changes experienced during pregnancy, so accurate and adequate information is very important to reduce the anxiety felt during pregnancy. In addition to health checks, during the antenatal care session, mothers are also given information and advice for a healthy pregnancy. The topics presented can cover the physiological changes that occur during pregnancy and the warning signs that may occur. Moreover, other topics could also be covered especially regarding nutrition, preparing for childbirth, baby care, and breastfeeding so that mothers can have valid information and are expected to reduce the fear and anxiety experienced (17).

Yoga comes from the word "Yuj" which means joining or oneness. Yoga is the unification or alignment of the body and mind which is carried out in the stages of asana (posture), pranayama (breathing), and meditation (6,18). According to Ningrum et al., more than 70 % of the results showed that yoga can significantly reduce stress and symptoms of anxiety (19). Yoga can reduce stress and anxiety which are activated by the autonomic nervous system. An hour of yoga session will increase the levels of gamma-aminobutyric acid (GABA) neurotransmitter in the prefrontal cortex of the brain so that it will help reduce symptoms of depression (20).

Serotonin, is a powerful neurotransmitter which plays a major role in mood regulation. A deficiency of serotonin is associated with depression. Yoga also has a positive effect on the serotonin levels. Respondents in the yoga group showed an increase in serotonin in urine after meditation. Several studies performed on participants after they concluded their meditation sessions, observed a rise in the breakdown products of serotonin in the urine when compared with the group who did not do their yoga meditation sessions (21).

Jiang et al., stated that yoga is an effective intervention for both pregnant women and their babies (22). Study results consistently show that the yoga intervention group has lower incidences of gestational hypertension and preeclampsia, lower pain levels, and lower levels of stress, anxiety, and depression. In addition, yoga can also improve quality of life and reduce macrosomia incidents. Several studies have consistently and significantly shown that yoga is more effective than walking or standard prenatal exercise (5,23).

Yoga is one of the solutions to assist in the process of pregnancy and childbirth. Yoga is a body, mind, and mental exercise that helps pregnant women to flex muscles, and joints and calm the mind, especially in the third trimester. Prenatal yoga includes building positive thoughts about childbirth at a deep relaxation level so that mothers can grow the courage to face childbirth (24).

CONCLUSION

Yoga helps to reduce anxiety levels greater than usual treatment. Yoga can be included as a complement to prenatal classes either privately or in a government program to reduce anxiety and improve pregnancy outcomes for the baby and mother.

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Authors' Contributions

All contributors contributed significantly to this study and all authors agree with the content of the manuscript.

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Availability of Data and Materials

All data generated or analyzed during this study are included in this published article.

Ethical Approval

This article received ethical clearance from the Ethical Committee of Faculty Medicine and Health Science, Universitas Warmadewa with letter number 093/Unwar/FKIK/EC-KEPK/II/2020

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Nurses' Turnover Intentions in Private Hospitals: A Narrative Study

Intenciones de Rotación de Enfermeros en Hospitales Privados: Un Estudio Narrativo

Monika Steffi Novia Sabatini[1a], Luky Dwiantoro[b] , Nur Setiawati Dewi[3c]

SUMMARY

Objective: *This study aims to analyze the problems often faced by nurses with a holistic approach to identifying the main motivations or reasons why nursing staff intends to move from the hospital where they work.*
Methods: *This research was conducted by using a qualitative method with a narrative study approach using semi-structured interviews where one participant will be given guideline questions and 8 responsive assessments that will be given to respondents where the assessment has previously gone through the expert test stage.*
Results: *Organizational policies (job design and compensation), leadership style, and work environment significantly influenced the level of nurses' turnover intentions in hospitals.*
Conclusion: *Hospital management should provide excellent service to employees, especially nurses in terms of work appreciation in the form of compensation (reward), preparing competent leaders, and creating a comfortable and safe work environment so that nurses feel at home in carrying out their duties at the hospital.*

Keywords*: Turnover intention, nurse, hospital.*

RESUMEN

Objetivo: *Este estudio tiene como objetivo analizar los problemas que a menudo enfrentan las enfermeras con un enfoque holístico para identificar las principales motivaciones o razones por las cuales el personal de enfermería tiene la intención de trasladarse del hospital donde trabaja.* **Métodos:** *Esta investigación se llevó a cabo utilizando un método cualitativo con un enfoque de estudio narrativo utilizando entrevistas semiestructuradas en las que a un participante se le darán preguntas guía y 8 evaluaciones receptivas que se le darán a los encuestados donde la evaluación ha pasado previamente por la etapa de prueba de expertos.*
Resultados: *Las políticas organizacionales (diseño de puestos y compensación), el estilo de liderazgo y el ambiente de trabajo influyeron significativamente en el nivel de intenciones de rotación de las enfermeras en los hospitales.*
Conclusión: *La gerencia del hospital debe brindar un excelente servicio a los empleados, especialmente a las enfermeras en términos de apreciación del trabajo en la forma de compensación (recompensa), preparar líderes competentes y crear un ambiente de trabajo*

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cómodo y seguro para que las enfermeras se sientan como en casa en el desempeño de sus funciones en el hospital.

Palabras clave: *Intención de rotación, enfermera, hospital.*

INTRODUCTION

As an institution engaged in health services, hospitals are established by the private sector and the government (1), to provide services for the wider community. Hospitals carry out complete activities by providing services including preventive, promotive, curative, and rehabilitative as well as providing services in inpatient, outpatient, and emergency services (2). Human resources including nurses are valuable assets in a company or organization such as a hospital. Nurses are the largest human resource in hospitals and have an important role in maintaining and improving the quality of health services in hospitals (3).

The problem that is often faced by hospital management is the turnover intention or nurses who decide to leave work (1). The problem of turnover intention in nurses must be considered because it can affect the performance of a hospital in terms of optimal service (4), one of the factors that influence the occurrence of turnover intention in hospitals and moving to another hospital is an under pressure workload. The workload consists of internal and external factors. Internal factors include gender, age, and health conditions; while external factors include tasks ,work environment, and work organization (4).

The intention to move to another hospital is always the driving force behind a nurse's decision to leave the hospital where she works. Working conditions that are not in line with expectations, the absence of good rewards or awards from hospitals for nurses, poor compensation, and workloads that exceed the ability of nurses are all factors that cause nurses to consider changing jobs (5). Leadership style influences nurse job satisfaction, so if the leader has a good and competent leadership style, job satisfaction will increase, preventing the desire to change jobs (6).

Hospital X, located in the city of Solo Baru, is a private hospital that has been fully accredited and provides various kinds of health services that can be accessed by the surrounding community. The problem faced by hospitals, especially management, is the large number of nurses who resign from the hospital and move to another hospital. In 2018 there were 12.7 % of nurses left and in 2019 as many as 12.4 % of nurses left. Thus, this study aimed to evaluate the problems faced by nurses by exploring the factors that are the main reasons nurses have the desire to leave the hospital.

METHODS

The study was conducted by using a qualitative research method with a narrative study approach using semi-structured interviews using one female participant, age 26 years old, with nurse education, working period at hospital X for 3 years to reveal the participants' personal experiences while working in the hospital. The research process at Hospital X in Solo Baru used a mobile phone to record every question and answer about the interview by using guideline questions to guide the course of the research, a total of 8 responsive assessments that previously underwent an expert assessment process or test. This study was approved by *Komisi Etik Penelitian Kesehatan* (Research Ethics Committee), Faculty of Medicine, Universitas Diponegoro Semarang No. 291/EC/KEPK/FK-UNDIP/VIII/2021. Interviews were conducted by previously giving informed consent to participants and lasted for 20 minutes. conducted by

RESULTS

This research was conducted in Indonesia, precisely at Hospital X located in Solo Baru, by interviewing one participant who was a nurse with the initials A so that the researchers found three main topics.

Organizational policy (job design and compensation)

Nurse A worked at X Solo Baru hospital for 3 years, was 26 years old, and was educated as

a Nurse. Nurse A is willing to participate in an interview about turnover intention. A recent graduate who was very happy initially got a job at X Solo Baru Hospital because they were bonafide and trusted. This nurse said that getting a job is a dream after graduating from college to improve self-quality, as she said in the following quote.

"I was very happy when I was accepted to work as a nurse at hospital X in Solo Baru because it was my first time working at a hospital. Because at that time I was a fresh graduate, I needed income. I hope to give my best and try as optimally as possible. The skills and knowledgethat I learned during the study are expected to be applied in hospital X, so that the hospital can develop (P1)."

Nurse A revealed that the hospital's policy initially ran normally and there were no visible deviations before it became clear that the hospital had policies that were by the rules, the ruleswere always changing and always suddenly by current conditions without any prior socialization. This inconsistent policy made nurses at hospital X, including nurse A, feel unwilling to work any longer. The policies made by the management were felt to be troublesome and confusing for nurses.

"The policies and regulations at the beginning of my work at hospital X were running normally because hospital X was a new hospital that was less than 4 years old. Hospital X's policies may still adopt the policies of other hospitals. But in my second year working, there are policies and rules that I think are disturbing, such as Standard Operating Procedures (SOPs) are always changed at any time, even in one month the SOPs can be changed many times. I don't think this is appropriate because the SOP is the nurse's reference in providing nursing care. If the SOP is inconsistent, how will we provide quality nursing services according to procedures? This makes it difficult for staff so that they become confused and afraid to act because the rules and policies are inconsistent and always changing (P2)."

Nurse A is increasingly uncomfortable at work because she is tired of a lot workload. There is no opportunity to rest to make the body relax and fit again. Heavy work with an imbalance between the number of nurses working with patients being treated. Nurse A needed time to take a break from work but there was not enough time for her. The work was done wholeheartedly by nurse A but there was no good feedback from hospital X in providing goodcompensation. So that the turnover intention is getting higher.

"There is always an intention to make a turnover from the hospital. The policies and rules made by management make me depressed. I feel thatwork is not flexible, not happy, I feel pressured, and I am required to comply with SOPs. Unfortunately, these SOPs always change in such a short time. We are confused about which reference to follow. If the question about feeling depressed was asked to 20 other nurses who work at hospital X, I'm sure 18 out of 20 nurses, or even all nurses want to get out of the hospital immediately. Hospital management does not provide good compensation for nurses, for example, HRD cuts salaries at will not count and suddenly the salary that is earned a month is cut just like that. Salary cuts are made unilaterally without considering that the nurse is sick. Nurses are sick because they treat too many patients and are not balanced with the number of nurses especially the patients being treated are patients suffering from `COVID-19'. HRD is not allowed to deduct nurses' salaries due to unexpected illness. HRD should provide good compensation so that nurses can continue to be healthy and work optimally.

It would be better if the human resources were qualified, and already good in terms of education, they should be given the reward they deserve. HRD should not only take advantage ofemployees who have worked day and night and even overtime, but the rewards given are inappropriate. Patients continue to increase but HR is not added which has an impact on increasing working hours for nurses. Hospital X management also does not provide adequate rest hours, even though

nurses need time to rest so they can get back in shape and work well (P4, P6, P7)."

Leadership Style

In providing nursing care to patients so that they can be of quality, in addition to following procedures in the form of SOPs, nurse A must follow the guidelines of the head of the room who is nurse A's supervisor in the room. The head of the room must have leadership competence so that subordinates, especially implementing nurses, can do things correctly and not harm the hospital. Nurse A assumes that the head of the room who is the boss is incompetent and always provides a work atmosphere that makes nurses feel uncomfortable working.

"Bad experiences at work dominate more than good experiences. An example of a bad experience was in my room where the head of the room was not objective in judging. When there was an error, the head of the room did not find out who made the mistake and why it happened. The head of the room will blame innocent people without giving them a chance to defend themselves (P5, P6)."

The head of the room does not guide and teach the right things to employees. When something goes wrong, the head of the room always blames the employee. The head of the room does not set a good example for employees to follow.

"I'm feeling pressed by the way the room's leader is being treated. Everyday, the head of the room is irritated because of ambiguities. Employees who work like adults do not need to be chastised in the same way that kindergarten children are. Even though the head of the room does not provide adequate guidance, I understand my role as a nurse. In judging the nurses, the ward's head is biased and not objective (P9)."

Work environment

Nurse A stated that a comfortable and safe work environment would make her feel at home at work. On the other hand, a bad work environment will make employees feel uneasy and finally decide to leave their jobs. Nurse A's work environment is not favorable because she is under pressure and is not regarded as a competent employee, prompting her to consider leaving for another hospital.

"In the new room, even though I've only been on the roll for 3 months, I feel comfortable, safe, and at home. Although the work is heavier than previous room, I feel comfortable in my room, there is no pressure, and the atmosphere is very comfortable. When going to work there is no burden and feeling of laziness, there is only enthusiasm for work because the work atmosphere is very supportive and does not pressure me. The head of the room gives rewards and always mingles with other employees. If there is an error, the head of the room assesses objectively and generalizes his employees, and does not discriminate. This kind of work environment makes me feel at home, safe, and comfortable because the work environment is good and conducive (P.10)."

DISCUSSION

Several elements impact nurses' inclination to transfer from one institution to another. The influencing factors are hospital management paying less attention to nurses by not providing appropriate rewards or compensation, hospital policies deemed inappropriate and uncertain (always changing), a perceived leadership style that does not reflect a good leader, and a work environment that is not conducive.

Employees' desire to shift employment, one of which stems from extrinsic variables such as organizational policies, salary, and career growth. One example of an organizational policy that might influence a nurse's inclination to leave work is job design. The desired job design is a leader who enriches nurses' work by giving independence, trust, and chances for employee self-development, in this instance nurses (7). Nurses who are given a clear job design by their organization will better understand and understand what work their obligation is so

that responsibility for work will eventually lead to job satisfaction because they believe the work, they do is not boring and always receives support from the leadership. Compensation is one of the factors that motivate workers to stay with a company. The concept of compensation is extensively defined, including terms such as prizes, salaries, incentives, allowances, and facilities. Employees utilize the money to satisfy their requirements, therefore if remuneration is provided by the business following employee expectations, the urge to leave work will never arise. Employees are driven to work when they are paid well, which leads to a high level of responsibility, which enhances job satisfaction and eliminates the urge to leave employment (7).

A leader's leadership style may be classified into various categories, including situational, transactional, transformational, servant, and visionary leadership. Leadership is linked to nurse job satisfaction, boosting productivity and work effectiveness, hence increasing nurse retention. Good leadership has a beneficial impact on the work environment, job happiness, organizational commitment, and nursing performance, resulting in nurses not wanting to quit their jobs (8). Nurses who work in hospitals demand good leadership; leaders must exhibit a leadership style that may offer inspiration to work, make nurses feel wanted, and ultimately promote job satisfaction.

One of the elements that contribute to nurses still feeling at home in a hospital is the work environment is supportive. The work environment is an external element that influences how people execute their jobs, therefore influencing an organization's performance. According to research, a poor and uncomfortable work atmosphere causes employees to feel unwelcome in a business, causing them to consider quitting (9). Organizations or hospitals where nurses work must establish a pleasant and conducive ambiance or environment, one that is safe and comfortable, so that nurses feel at home and do not consider leaving the institution where they work (10).

CONCLUSION

Nurses' desire to change employment is influenced by numerous factors, including organizational characteristics, leadership styles, and work environment. Organizations or hospitals where nurses work must provide the best, namely organizational aspects, nurses should be provided the remuneration or rewards needed so that job satisfaction can be achieved, and ultimately the urge to leave work can be avoided. In leadership style, hospitals should develop dependable and dependable leaders who can inspire nurses to perform effectively and efficiently. In the workplace, hospitals should create a safe and comfortable atmosphere for nurses to work in, reducing the nurses' urge to change employment to other hospitals.

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Author's contributions

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Ethical clearance

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