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February, 4-7th, 2020

*“Ethics, Integrity And Management
In Health Profession”*

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STIKES WIJAYA HUSADA BOGOR



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In Health Profession”***

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In Health Profession”*

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P R A K A T A

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Prosiding ini merupakan prosiding yang diterbitkan oleh STIKes Wijaya Husada sebagai sarana untuk menyajikan perkembangan ilmu pengetahuan dan teknologi dalam pelayanan kesehatan. Dalam proses pengerjaannya, tentunya tidak sedikit halangan, namun dengan bantuan berbagai pihak yang tidak pernah berhenti dapat teratasi.

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Selamat membaca & semoga bermanfaat

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THE CORRELATION LEADERSHIP STYLE OF THE HEAD ROOM WITH THE COMPLETENESS OF NURSING CARE DOCUMENTATION IN HOSPITAL

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ABSTRACT

Leadership style is very influential on the quality of nursing care documentation so that it can benefit nursing care, education and research. Documentation of nursing care can be used as a reference for learning for students and practitioners of nursing, because in it contains all forms of nursing activities for clients. The contents of the nursing care documentation are useful for member general description of the nurse's duty in providing nursing care to the client. This study aims to determine the relationship between the relationship of leadership style space head with the completeness of nursing care documentation.

This type of research is descriptive quantitative analytic with cross sectional research design. The population in this study amounted to 90 respondents. The method of sampling in this study was Quota Sampling technique with 73 respondents. Data collection was obtained through questionnaires in the form of questionnaires. Analysis of the data used is univariate and bivariate (Cramer).

The results of the leadership style research at PMI Hospital have a democratic leadership style of (49.3%) and the completeness of nursing care documentation in class III hospitalization rooms (72.6%) documentation of nursing care is incomplete. Cramer's results were obtained $P = 0.000$ which is smaller than 0.05 of 73 respondents who chose the democratic leadership style with the completeness of nursing care documentation as many as 36 respondents (49.3%).

H_0 is accepted, which means that the statistical test shows that there is a relationship between the leadership style of the head of the room and the completeness of nursing care documentation in class III inpatient rooms at PMI Bogor City Hospital in 2019. It can be used as a reference in completing nursing care documentation so that it can provide information and input for institutions researched land specifically at the PMI Hospital of Bogor City.

Keywords : Leadership style, documentation, nursing care

PRELIMINARY

Documentation of nursing care is a record of the responses / responses of clients to the activities of the implementation of nursing as a whole, systematic and structured as accountability for actions taken by nurses against clients in carrying out nursing care using the nursing process approach.¹

Documentation of nursing care is a statement about an event or activity that is authentic by taking written notes. Documentation of nursing care contains the results of nursing activities undertaken by

nurses to clients ranging from assessment to evaluation.

Documentation of nursing care is a means of communication from one profession to another related to client status. As a communication tool, the writing in the nursing care documentation must be clearly readable and may not use unusual terms or abbreviations, also contain clear, explicit and systematic descriptions.²

Documentation of nursing care can also be used as evidence at any time in court if a lawsuit is made by the client or family. Therefore the nursing care documentary records must be clear,

complete, objective, the time must be clearly written (day, date, month, year, hour) signed by the health care provider through therapeutic interaction with the client.²

Documentation of nursing care can be used as a reference for learning for students and practitioners of nursing, because in it contains all forms of nursing activities for clients. The contents of the nursing care documentation is useful for member general description of the nurse's duty in providing nursing care to the client.²

The impact of nursing care documentation if done incomplete will be able to reduce the level of nursing services because it will not be able to identify the extent of the success of nursing care that has been given. In the legal aspect the nurse does not have written evidence if one day the client demands dissatisfaction with nursing services

Leadership style is very influential on the quality of nursing care documentation so that it can benefit nursing services, education, and research.⁴

Leadership style, basically contains the understanding as an embodiment of the behavior of a leader, which involves his ability to lead. This embodiment usually forms a certain pattern or form. A leader has a strategic role that is as a manager, should have competence in accordance with the demands of development and excellent service in the present and future so that they can better understand the duties and functions as a leader. One of them is the ability of a leader in fostering and nurturing and influencing the motivation of subordinates to participate in achieving organizational goals.⁴

Leadership style is a way used by a leader in influencing the behavior of others. A leader has certain characteristics, understanding the characteristics of one's leadership must be understood that

leadership has three components, namely leader, follower, and the situation of someone who is said to be a good leader in one situation and with certain followers as well as that in other situations and followers.⁴

Leadership style is a set of characteristics that are used by leaders to influence subordinates so that organizational goals are achieved or it can also be said that the leadership style is a pattern of behavior and strategies that are preferred and often applied by a leader.

The results of this study are comparable to the research conducted Revina Sinaga, 2016 examines "The Relationship Between Leadership Style of Head of Room with Completeness of Nursing Care Study Documentation in Inpatient Room at Mardi Lestari Public Hospital Sragen" with the results of 51 respondents who chose an authoritarian leadership style of 35.29% and documentation of nursing care documentation incomplete at 92, 15%. The results of the study using the Lambda test obtained p value of $0.019 > 0.05$ so that there is a relationship between the leadership style of the head of the room with the completeness of the documentation of nursing care assessment.

Based on the results of a preliminary study conducted on Monday, August 19, 2019 there were 10 nurses implementing respondents in the class III inpatient room of PMI Bogor City Hospital. Obtained a leadership style using a democratic leadership style and from 10 respondents obtained the observation of nursing care documentation 8 respondents did complete documentation and 2 respondents were incomplete in the assessment section in carrying out nursing care documentation.

Based on the description above, the researcher is interested in finding out

whether there is a relationship between the leadership style of the head of the room and the completeness of the nursing care class documentation for inpatient class III in 2019 PMI Bogor City Hospital.

RESEARCH METHODS

This type of research is a type of quantitative research or traditional methods, because this method has been used long enough so that it has been transmitted as a method for research.⁶

The design of this research is analytic descriptive research which is a study to find out whether or not there is a relationship between variables. The time approach used in this study is cross-sectional.⁶

Cross sectional is a study to study the dynamics of the correlation between the approach, observation, and data collection at one time.⁶ This design is to determine the relationship of leadership style with the

quality of nursing care documentation in class III inpatient rooms in Bogor City PMI Hospital in 2019.

This research was conducted on 11,12,13,14,15 September in class III inpatient rooms at the Bogor City PMI Hospital in 2019. The population in this study was nurses in class III inpatients in the City of Bogor PMI Hospital with 90 nurses from 3 class III inpatient rooms.⁶ In this study using Quota Sampling, there is a limitation on the sampling quota that the selected sample must be a certain number (quotum) of each predetermined subgroup of a population.

The variables of this study consisted of the frequency of leadership style of the headroom with the completeness of nursing care documentation. Data processing and data analysis using computerized data. The

analysis consists of univariate and bivariate analysis, where bivariate analysis uses the Proceeding International Seminar

"Ethics, Integrity And Management In Health Profession" (4-7 February 2020)

Creamer V statistical test to analyze the relationship between the frequency of the leadership style of the headroom and the completeness of nursing care documentation in class III inpatient rooms at the PMI Hospital in Bogor.

In this study, the location determined to conduct research is in the Bogor City PMI Hospital. Retrieval of data in this study using Quota Sampling with 73 respondents nurses implementing in class III inpatient rooms. Data was collected on 11,12,13,14,15 September 2018. Data was collected by the researcher.

RESEARCH RESULT

Table 1 Frequency Distribution Based on Gender

Gender	Frequency	Percentage (%)
Male	28	38.4
Girl	45	61.6
Total	73	100

Source: Computer Data Processing

Based on table 1. about the frequency distribution of the characteristics of respondents by sex, of the 73 respondents mostly female, that is 45 (61.6%) respondents.

Table 2 Frequency Distribution Based on Age

Age	Frequency	Percentage (%)
23-33 years	44	60.3
34-44 years old	21	28.8
45-50 years	8	11.0
Total	73	100

Source: Computer Data Processing

Based on table 2 about the frequency distribution of respondents' characteristics based on age, of the 73 respondents mostly aged 23-33 years as many as 44 (60.3%) respondents.

Table 3 Frequency Distribution Based on Education

Education	Frequency	Percentage (%)
Bachelor	9	12.3
Diploma	64	87.7
Total	73	100

Source: Computer Data Processing

Based on table 3 about the frequency distribution of respondents' characteristics based on education, of the 73 respondents most of the last Diploma education nurses were 64 (87.7%) respondents.

Table 4 Frequency Distribution Based on Length of Work

Length of working	Frequency	Percentage (%)
5-10 years	40	54.8
11-15 years	20	27.4
16-25 years	13	17.8
Total	73	100

Source: Computer Data Processing

Based on table 4. about the frequency distribution of the characteristics of respondents based on length of work, of the 73 respondents most of the 5-10 years of

Table 5 Frequency distribution of the leadership style of the head of the room with the complete documentation of nursing care in class III hospitalization in the PMI Hospital of Bogor City

No	Leadership style	Frequency	Percentage (%)
1.	Authoritarian	23	31.5
2.	Democratic	36	49.3
3.	Laissez-Faire	14	19.2
Total		73	100

Source: Computer Data Processing

Based on table 5. of 73 respondents stated that the frequency distribution of the leadership style of the head of the room with the completeness of nursing care documentation in class III inpatient rooms at the PMI Hospital in Bogor City. There are 36 respondents (49.3%) democratic leadership style.

Table 6. Frequency distribution of completeness of nursing care documentation in class III hospitalization in Bogor PMI Hospital

No	Complete documentation of nursing care	Frequency	Percentage (%)
1.	Uncomplete	53	72,6
	Complete	20	27,4
		73	100

documentation in class III hospitalization in Bogor City PMI Hospital. There were 53 respondents (72.6%) completeness of nursing care documentation was incomplete.

Table 7. Analysis of the relationship between the leadership style of the room chief and the completeness of nursing care documentation in class III inpatients at PMI Bogor City Hospital

Leadership Style	Nursing Care Documentation		Total
	Uncomplete	Complete	
	n %	n %	
Authoritarian	23 31,5	0 0,0	23 31,5
Democratic	19 26,0	17 23,3	36 49,3
Laissez-faire	11 15,1	3 4,1	14 19,2
Total	53 72,6	20 27,4	73 100

Source: Computer Data Processing

Based on table 7. about the results of the bivariate test the relationship of leadership style of the head of the room with the completeness of nursing care documentation in class III inpatient in Bogor PMI Hospital in 2019 of 73 respondents (100%) with authoritarian leadership style can be known as incomplete nursing care documentation 23 respondents (31.5%).

Based on the results of the Cramer statistical test the bivariate analysis table is obtained P Value = 0.000 where a <0.05, so Ha is accepted which means the statistical test shows there is a relationship between the leadership style of the head of the room with the completeness of nursing care documentation in the class III inpatient hospital at PMI of Bogor City.

DISCUSSION

1. Characteristics of Research Subjects by Gender

The results obtained from 73 respondents found respondents with a percentage of 45 (61.6%) femalesex and 28 respondents with a percentage (38.4%) male sex.

2. Characteristics of Research Subjects Based on Age

From the results of the value P current age characteristics of nurses from 73 respondents obtained the results of 44 respondents with a percentage (60.3%) aged 22-33 years, 21 respondents with a percentage of 28.8% aged 34-44 years and 8 respondents with a percentage value (11, 0%) 45-50 years old.

3. Characteristics of Research Subjects Based on Education

From the results of the current characteristics of nurse education from 73 respondents it was found that 64 respondents with a percentage (87.7%) of nurses mostly had the latest educational status Diploma while the Bachelor only 9 respondents with a percentage of 12.3%) of 73 respondents. Educational status influences leadership style.

4. Characteristics of Research Subjects Based on Length of Work

From the results of the characteristics of the current work duration of nurses from 73 respondents found 40 respondents with a percentage (54.8%) 5-10 years, 20 respondents with a percentage (27.4%) 11-15 years and 13 respondents with a

percentage (17.8 %) 16-25 years which is very influential on the completeness of nursing care documentation.

5. Univariate Results

a. Leadership style of the head of the room in class III inpatient at PMI Hospital of Bogor City

Based on table 4.5 about the distribution of leadership style of head room in class III inpatient at Bogor PMI Hospital in 2019 out of 73 respondents showed that respondents chose leadership style as 36 respondents (49.3%).

The results of this study are comparable to the research conducted by Muhammad Shiqibul Iza Zulfikhar, 2016 contributions on "Leadership Style of the Head of Space with Work Motivation of Implementing Nurses in Surakarta Islamic Hospital" by obtaining the results of the p-value (0.024). This can be seen by 56 respondents choosing the leadership style to change as many as 49 (87.5%) respondents.

Leadership Style is a set of characteristics that are used by leaders to influence subordinates so that organizational goals can be used as well as making sure the leadership style is the pattern and strategy needed and implemented by the leader.

From the results of the study it can be concluded between the theory and the results of research that influence leadership style in class III inpatient rooms at the PMI Hospital decision.

b. Completeness of Nursing Care Documentation in class III hospitalization in PMI Hospital of Bogor City

Based on table 4.6 about the frequency distribution of completeness

of nursing care in class III inpatients at the Bogor City PMI Hospital in 2019 out of 73 respondents showed 53 respondents (72.6%). the completeness of the nursing care documentation is incomplete.

The results of this study with research conducted by Suprati, 2016 research on "Documentation of Nursing Care Standards in Mamuju Indonesia Regional General Hospital" of 135 respondents showed 91 (97.8%) respondents. Complete documentation of nursing care is incomplete.

Documentation of nursing care is a display of care or care of nurses in providing nursing care processes to patients while the patient verifies at the hospital. The quality of nursing care documentation can be seen from the completeness and accuracy of the nursing care process given to the patient, which completes the assessment, diagnoses nursing, action plans and evaluations.

From the results of the study it can be concluded between the theory and the results of research that have an impact on nursing care in inpatient rooms class III in Bogor City PMI Hospital that is obtained the incomplete results of nursing care documentation.

6. Bivariate Results

The relationship between the leadership style of the room chief and the completeness of nursing care documentation in class III hospitalization at PMI Hospital of Bogor City.

Bivariate analysis results obtained from 73 respondents, there were 53 (72.6%), respondents who have an authoritarian leadership style with p value $0,000 \leq 0.05$. Which

means that there is a relationship between the leadership style of the head of room and the completeness of nursing care documentation in class III inpatients at PMI Hospital of Bogor City.

The results of this study are comparable to the research conducted by Revina Sinaga, 2016 examining the "Relationship between the Leadership Style of the Head of the Room and the Documentation of Nursing Care Study Documentation in the Inpatient Room of Mardi Lestari Public Hospital Sragen" with the results of 51 respondents who chose an authoritarian leadership style of 35.29% and 92.15% incomplete documentation of nursing care assessment. The results of the study using the Lambda test obtained p value of $0.019 > 0.05$ so that there is a relationship between the leadership style of the chief of space with the completeness of the documentation of nursing care assessment.

Leadership Style is a set of characteristics that are used by leaders to influence subordinates so that organizational goals are achieved or it can also be said that the leadership style is a pattern of behavior and strategies that are preferred and often applied by a leader. A leadership style that shows, directly or indirectly, about a leader's belief in the abilities of his subordinates.

From the results of the study it can be concluded between theory and research results that influence

leadership style with the completeness of nursing care documentation in class III inpatient rooms at PMI Hospital of Bogor City that is obtained from the p value = 0,000 of a (< 0.05) which means there is a relationship between the independent variable and the dependent variable.

The results obtained from the completeness of nursing care documentation that is educational factors and length of work that affect the completeness of nursing care documentation.

RESEARCH LIMITATIONS

This research has been attempted and carried out in accordance with scientific procedures, however it still has limitations namely: In this study, there are limitations in using a questionnaire that is sometimes the answers given by the sample look at his friend even though it has been explained in advance how to fill it out.

RESEARCH IMPLICATIONS

1. For Science

Can be used as information material and is used to develop knowledge about nursing management that recognizes the leadership style of the head of the room with the complete documentation of nursing care, as well as material and sources of discussion to broaden the results of previous research.

2. For the heads of rooms in PMI Hospital

The head of the room in order to implement a democratic leadership style that can lead to the completeness of nursing care documentation, can be used as an evaluation in providing information to provide input so that it better understands how to apply

appropriate leadership styles so that the completeness of the nursing care documentation is complete.

CONCLUSION

1. It is known that the frequency distribution of the leadership style of the head of room in class III inpatient rooms at the PMI Hospital from 73 respondents showed that respondents who chose the democratic leadership style were 36 respondents (49.3%).
2. It is known that the frequency distribution of completeness of nursing care documentation in class III inpatients at the PMI Hospital in Bogor City in 2019 from 73 respondents showed 53 respondents (72.6%). the completeness of the nursing care documentation is incomplete.
3. The Relationship between the Leadership Style of the Head of the Room and the Completeness of Nursing Care Documentation in class III hospitalization in Bogor PMI Hospital in 2019 of 73 respondents who chose the leadership style with the completeness of nursing care documentation as many as 36 respondents (49.3%) ie obtained results from p value = 0,000 of a (<0.05) which means there is a relationship between the independent variable and the dependent variable.

SUGGESTION

1. For Science
Provides a reference in completing nursing care documentation. This research can add insight into nursing management science.
2. For users
It is expected that the results of this study can provide information and input for the researched land institutions especially at PMI Hospital. Nurses in

understanding nursing management can provide appropriate documentation of nursing care.

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CORRELATION BETWEEN THE MOTIVATION OF NURSES WITH THE FULFILLMENT OF SPIRITUAL NEEDS IN PATIENTS

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ABSTRACT

Nursing views humans as a holistic creature that includes bio-psycho-socio-spiritual-cultural. Nursing care given by nurses not only focuses on biological aspects but also psycho and spiritual. Factors affecting nurse performance in nursing care are motivation, incentive, and work facilities. The nurse's motivation in something that moves or encourages nurses to do something that arises internally and externally directly related to the client. Good motivation, able to make nurses to fulfill spiritual needs. The fulfillment of spiritual needs is very important because it can improve the patient's quality of life. To know the correlation of the motivation of nurses with the fulfillment of spiritual needs in patients in the hospitalization CVE and Pavo A RSUD Bogor City.

Quantitative research with descriptive analytical design using cross sectional design. The population in this research is all nurses in the inpatient room CVE and Pavo A. Sampling technique uses total sampling by the amount of 38 respondents. Data measurement tools using questionnaires and analyzed with the correlation test of Kendall Tau.

The majority of respondents have high motivation (55,3%) and the majority of respondents performed sufficient spiritual needs (52,6%). There is a significant correlation between the motivation of nurses with the fulfillment of spiritual needs in patients in the hospital CVE and Pavo A RSUD Bogor City in 2019 with value $P = 0,000 (< 0,05)$. Value OR = 152,000.

There is a correlation between the motivation of nurses with the fulfillment of spiritual needs in patients in the hospital CVE and Pavo A RSUD Bogor City, so the nurse should improve the motivation of work to provide the fulfillment to needs spiritually in patients.

Keyword : Motivation, Nurse, Needs Fulfillment Spiritual.

PRELIMINARY

Nursing is a form of professional health service that is an integral part of health services based on knowledge and nursing tips that are shown to individuals, families, and the community both in a healthy or sick condition and covers the entire life process. Nursing views humans as holistic creatures that include bio-psycho-socio-spiritual-cultural.¹

Nurses are health professionals who interact with patients at all times in providing comprehensive nursing care.

Nursing care provided by nurses can not be separated from the spiritual aspects that are an integral part of nurses' interactions with clients. The nurse strives to help meet the client's spiritual needs, even though the nurse and client do not have the same spiritual or religious belief. The factors that can affect the performance of nurses in providing nursing care are motivation, incentives, and work facilities.²

The results of research from Nurlina, Hadju and Nonjti (2013) that affect the performance of nurses in the application of

nursing care standards namely motivation, showed that the majority of respondents with high motivation were 77 people (95.1%) and the performance of nurses in applying nursing care standards properly as many as 73 people (90.1%) with a value (OR) of 18.250 and p value of 0.026.³

The research of Badi'ah et al in Tricahyono shows that there is a significant influence between internal motivational factors and external motivational factors on the performance of nurses in providing nursing care in the inpatient ward of Bantul Senopati Hospital.

According to Carson in Hamid (2008) spiritual need is the need to maintain or restore beliefs and fulfill religious obligations, as well as the need to get forgiveness or forgiveness, love, establish a relationship of trust with God.² Spiritual needs are one of the basic needs needed by someone and must be fulfilled. Spiritual aspects can help to excite the patient in the healing process.

Factors affecting nurses' willingness to provide spiritual care include: Awareness about spirituality, Lack of knowledge and training regarding spiritual nursing care, Lack of motivation, increased workload, and lack of time. Nurses see severe demands in providing physical care for patients as a barrier to taking time in providing patients with spiritual care.

The results of a preliminary study conducted by researchers at Bogor City Hospital obtained that nursing care related to fulfilling spiritual needs has not gone well because it considers spiritual needs only given to patients who need and who ask for nurses. The nurse also revealed that meeting the spiritual needs of the whole is not the duty of nurses but the task of spiritual experts. Researchers see that nurses when interacting with patients only focus on routine actions such as injection, giving medication, and documenting

nursing care. Researchers also obtained data from the Bogor City Hospital to make a policy of spiritual guidance by spiritual experts.

Based on the above incident, the researcher wanted to analyze the relationship between nurses' motivation and meeting the spiritual needs of patients in the CVE and Pavio A inpatients at Bogor City Hospital.

This type of research is quantitative research using descriptive analysis research methods. Quantitative research is research that emphasizes objective phenomena and is studied quantitatively.⁶ Descriptive method is a method that serves to describe or give an overview of the object under study through data or samples that have been collected as they are without analyzing and making conclusions that apply to general.⁷

RESEARCH METHODS

The research design used in this study is a correlational research design with cross sectional approach. Correlational research is a type of research designed to reveal correlative relationships between variables within a group. While the cross sectional study is a research design that emphasizes the measurement time or observation of independent and dependent variable data only once at a time (point time approach).⁸

This research was conducted in the Inpatient Room of CVE and Pavio A Bogor City Hospital on 22-24 August 2019. The population in this study were all nurses who worked in the inpatient room of CVE and Pavio A Bogor City Hospital with a total of 38 respondents, by taking total sampling technique of determining the sample by taking all members of the population as a sample so that the sample in this study amounted to 38 respondents.

The independent variable in this study is nurse motivation while the dependent variable in this study is the fulfillment of spiritual needs by nurses. The instrument used in this study was a questionnaire sheet. Data processing and data analysis using computer program SPSS for Windows 22 series. Analysis consists of univariate and bivariate, where bivariate analysis analyzes the relationship of nurses' motivation with meeting the spiritual needs of patients.

RESEARCH RESULT

Characteristics of respondents aim to provide an overview of the identity of respondents, while the respondents in this study were nurses in the Inpatient Room of CVE and Pavoio A Bogor City Hospital. According to data from the Bogor City Hospital there are 38 nurses on duty in the CVE Inpatient Room and Pavoio A Bogor City Hospital.

Table 1
Distribution Of Respondents According To Gender

No	Characteristics	Frecuency(n)	Presentage
Gender			
1	Male	9	23,7
2	Female	29	76,3
Total		38	100,0

Based on table 1 results of the frequency distribution characteristics of the 38 respondents studied, the majority of nurses who worked in the inpatient rooms at CVE and Pavoio A Bogor City Hospital, were dominated by women as many as 29 respondents (76.3%).

Table 2
Distribution Of Respondents According Age

Characteristics	f	%
1 < 30 Tahun	28	73,7
2 > 30 Tahun	10	26,3
Total	38	100

Based on table 2 the results of the frequency distribution characteristics of the 38 respondents studied, the majority of nurses working in the inpatient room at CVE and Pavoio A Bogor City Hospital, dominated by respondents aged <30 years as many as 28 people (73.7%).

Table 3
Distribution Of Respondents According Education

Characteristics	f	%
1 Diploma III	23	60,5
2 SI	15	39,5
Total	38	100,0

Based on table 3 the results of the frequency distribution characteristics of the 38 respondents studied, the majority of nurses who worked in the CVE and Pavoio A inpatient rooms in Bogor City Hospital, were dominated by DIII education as many as 23 respondents (60.5%).

Table 4
Distribution of Respondents According Job Status

No	Characteristics	f	%
1	employees	1	2,6
2	Un employees	37	97,4
Total		38	100,0

Based on table 4 the results of the characteristics of the frequency distribution of the 38 respondents studied, the majority of nurses working in the inpatient rooms of CVE and Pavo A Bogor City Hospital, were not yet state employees as many as 37 respondents (97.4%).

Table 5
Distribution Of Respondents
According length of working

No	Characteristics	f	%
Length of working			
1	> 1 year	5	13,2
2	< 1 years	33	86,8
Total		38	100,0

Based on table 5 the results of the frequency distribution characteristics of the 38 respondents studied, the majority of nurses who worked in the inpatient rooms of CVE and Pavo A Bogor City Hospital, had worked for > 1 year as many as 33 respondents (86.8%).

Of the 38 respondents most nurses had high motivation as many as 21 respondents (55.3%) Of the 38 respondents most of the fulfillment of spiritual needs in patients was enough as many as 20 respondents (52.6%).

The results of the bivariate analysis, from 38 nurses respondents who have high motivation so that the fulfillment of spiritual needs in patients is quite as many as 19 respondents (95.0%).

Based on the results of statistical tests using Kendall Tau obtained P value = 0,000 with a significant value is <0.05. OR value of 152,000, this explains that nurses who have high motivation have 152 times fulfilling spiritual needs well compared to nurses who have low motivation. Based on this study it can be concluded that there is a relationship between nurses' motivation and

the fulfillment of spiritual needs in patients, thus Ho is rejected and Ha is accepted.

DISCUSSION

a. Nurse Motivation

Motivation is a process in which the needs encourage a person to carry out a series of activities that lead to the achievement of certain goals, if successfully achieved, will satisfy or meet those needs.⁹

Work Motivation is a capital in moving and directing employees or workers to be able to carry out their respective duties in achieving goals with full awareness, enthusiasm and responsibility.¹⁰ According to the theory of the relationship of rewards to achievement, a person's motivation is strongly influenced by internal factors, namely, factors that arise from within a person include: perception, self-esteem, eternal expectations, needs, desires, job satisfaction, work performance produced and external factors namely, Factors arising from outside oneself include: the type and nature of work, the working group to which a person joins, the organization of the place of work, the general environmental situation, the applicable reward system and how to apply it.¹¹

Based on research results from 38 respondents, nurses who have high motivation are 21 respondents (52.6%) and nurses who have low motivation are 17 respondents (44.7%).

Hotmian's research entitled Relationship between Nurse Motivation and Spiritual Nursing Care for Patients in Kartika Husada Kubu Raya RST Inpatient Room. It was found that as many as 29 or (55.8%) nurses who have high motivation and 23 or (44.2%) nurses who have low motivation.

According to the researcher analysis, from the above quotation there is harmony

with the results of the research that the researchers did that is from 38 respondents who have high motivation namely 19 respondents or (95.0%) this is because nurses feel they have responsibility in their work, feel recognized their work by superiors, and have good interpersonal relationships with superiors and coworkers so that nurses have high work motivation. High motivation can make nurses have a high enthusiasm to provide the best service.

b. Meeting Spiritual Needs

Spiritual needs are the basic needs of every human being. If someone is in a state of illness, then the relationship with God is also getting closer to remembering someone in a state of illness becomes weak in all things no one can raise him from healing except the creator.¹²

Meeting spiritual needs is a processor way of meeting the need to find meaning in life, the need to love and be loved, the need for hope, the need for trust, the need for forgiveness, the need for creativity, the need to relate to God, and the needs in a community.⁴

Based on the results of research from 38 respondents, nurses fulfilled spiritual needs in sufficient patients, namely 20 people or (52.6%), and nurses fulfilled spiritual needs in patients who were low namely 18 respondents or (47.4%).

Tricahyono's research entitled Nurses' Motivation in Meeting Spiritual Needs of Clients in the Inpatient Room of the Balung Regional Hospital. It was found that as many as 26 people or (54.2%) nurses provided fulfillment.

Good spiritual needs, while 22 people or (45.2%) nurses provide fulfillment of spiritual needs that are lacking.

According to the analysis of researchers, from the quotations of these

theories there is harmony with the results of the study that is the data from 38 respondents it can be concluded that most nurses do fulfill spiritual needs in patients as many as 20 respondents or (52.6%). this is due to the attitude of nurses who want to fulfill spiritual needs to patients, nurses can communicate well with patients in meeting spiritual needs, and nurses know when to refer patients to clergy. So that nurses have enough competence in fulfilling the spiritual needs of patients in carrying out their duties as a provider of spiritual nursing care.

Relationship between Nurse Motivation and Spiritual Needs Fulfillment in Patients Motivation is psychological processes that cause stimulation, direction, and persistence of a voluntary activity directed at a goal. Motivation is an important part in improving performance, high nurse work motivation will improve nurse performance so that each task will be carried out properly.

Nurse motivation is something that moves or encourages nurses to do something that arises internally and externally to deal directly with clients and care for people who are sick, injured, and elderly.

Intrinsic motivation is a satisfying factor or motivating factor for individual achievement that comes from within the individual including achievement, recognition, responsibility, opportunities for advancement, and job satisfaction. Extrinsic motivation is an individual driving factor originating from outside the individual which includes compensation, work safety and safety,

working conditions, policies, status, and interpersonal relations.¹⁴

Tricahyono's research entitled *Nurses' Motivation in Meeting Spiritual Needs of Clients in the Inpatient Room of the Balung Regional Hospital*. stated that motivation in the Balung Hospital ward was significantly related to meeting the spiritual needs of the client. The higher the motivation of nurses, the higher the persistence of nurses in providing spiritual nursing care to patients.

Based on research results from 38 respondents, nurses who have high motivation are 21 respondents (52.6%) and nurses who have low motivation are 17 respondents (44.7%).

The research results of the researchers proved that nurses have high motivation because nurses feel they have responsibilities in their work, feel their work is recognized by superiors, and have a good interpersonal relationship with superiors and colleagues so that nurses have high work motivation. High motivation can make nurses have a high enthusiasm to provide the best service

Nurses as providers of nursing care view humans as individuals who have unique bio-psycho-socio-spiritual needs.² Nursing care provided by nurses cannot be separated from spiritual aspects which are an integral part of nurses' interactions with clients. The nurse strives to help meet the client's spiritual needs, even though the nurse and client do not have the same spiritual or religious beliefs

Meeting spiritual needs is a processor way of meeting the need to find meaning in life, the need to love and be loved, the need for hope, the need for trust, the need for forgiveness, the need for creativity, the need to relate to God, and the needs in a

community.⁴ In this research it was proven, patients interviewed by researchers said that they needed to fulfill spiritual needs and when they got it from nurses, they felt they had a better life expectancy.

From the research results of the researchers, of the 38 nurse respondents who fulfilled spiritual needs of patients as many as 20 respondents or (52.2%), this is because of the attitude of nurses who want to fulfill spiritual needs to patients, nurses can communicate with both to patients in meeting spiritual needs, and nurses know when to refer patients to clergy. So that nurses have enough competence in fulfilling the spiritual needs of patients in carrying out their duties as a provider of spiritual nursing care. From the results of a Hotmian study entitled *The Relationship between Nurse Motivation and Spiritual Nursing Care for Patients in the RST Kartika Husada Kubu Raya Inpatient Room*. Obtained the majority of respondents have high motivation (55.8%) and the majority of respondents provide good spiritual nursing care (63.5%). There was a significant correlation with the strength of the moderate correlation between nurses' motivation and the delivery of spiritual nursing care to patients in the Kartika Husada Kubu Raya inpatient ward with a value of $p = 0,000 (<0.05)$ and $r = 0.509$.

According to the analysis of researchers, from the quotations of these theories there is harmony with the results of the study, namely, from 38 respondents nurses who have high motivation so that the fulfillment of spiritual needs in patients quite as many

as 19 respondents or (95.0%), based on statistical test results using Kendall Tau obtained the value of P value = 0,000 with a significant value is <0.05. OR value of 152,000, This explains that nurses who have high motivation have 152 times the possibility of fulfilling spiritual needs well compared to nurses who have low motivation. Based on these studies the results show that there is a relationship between nurses' motivation and the fulfillment of spiritual needs in patients in the CVE Inpatient Room and Pavo A Bogor City Hospital in 2019.

Thus Ho is rejected and Ha is accepted. This is because nurses with high motivation show more fulfillment of sufficient spiritual needs. High motivation has high expectations that will improve the performance of nurses in improving the performance of nurses in accordance with the tasks and responsibilities given.

CONCLUSION

Based on the results and discussion of research on Nurse Motivation and Spiritual Needs Meeting in Patients in the Inpatient Room of CVE and Pavo A Bogor City Hospital, the following conclusions can be drawn.

1. A description of nurses' motivation in the CVE Inpatient Room and Pafilio A Bogor City Hospital. Shows that nurses who have high motivation, as many as 21 respondents (55.3%).
2. The description of fulfilling spiritual needs in patients in CVE and Pavo A hospitals in Bogor City Hospital shows that nurses fulfill sufficient spiritual needs, as many as 20 respondents (52.6%).

3. significant relationship is found between Nurse Motivation and Spiritual Needs Fulfillment in Patients in the Inpatient Room of CVE and Pavo A Bogor City Hospital in 2019 with p value = 0,000 (p value <0.05) so that Ha is accepted.

SUGGESTION

Based on the conclusion of the above research, there are several things that can be suggested for the development of research related to nurses' motivation and fulfillment of spiritual needs in patients in the CVE and Pavo A inpatients at Bogor City Hospital.

1. For Hospitals

The results obtained in this study can be used as an evaluation and reference material for hospitals related to nurses' motivation and the implementation of spiritual needs fulfillment by nurses in inpatients at Bogor City Hospital. Hospitals as holders and policy makers to be more careful and pay attention to the things that need to be evaluated related to nurses' motivation that is influenced by external extrinsic factors. The hospital should be able to meet and fix the deficiencies in the effort to fulfill the factors that influence the motivation of implementing nurses in Bogor City Hospital.

2. For Educational Institutions

The results and discussion of the research are expected to be a reference in improving student learning competencies related to meeting spiritual needs in hospitals.

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CORRALATION BODY MASS INDEX (BMI) WITH THE DIABETES MELLITUS INCIDENT

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ABSTRACT

Body mass index (BMI) values are obtained from measurements of body weight (BW) in kilograms and height (KH) in meters. Next measurement result are calculated based on the IMT formula. Diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia that occurs due to abnormal insulin secretion, insulin action or both. The influencing factors include body mass index, abnormal circumference, history of DM and others.

The purpose of this study was to determine the relationship between body mass index (BMI) with the prevalence of diabetes mellitus in Leuwiliang Distric Hospital, Bogor.

This type of research uses quantitative analytical research methods with a retrospective design. The method of sampling in this study was using total sampling technique which amounted to 30 respondents. The unifariate and bivariate data analysis used is the spearman rank rest.

Based on the results of the study concluded that there is a significant relationship between body mass index (BMI) with the includence of diabetes mellitus. Furthermore, known correlation coefficient of 0,000, this value indicates a high relationship between body mass index with the incidence of diabetes mellitus in Leuwiliang district hospital in Bogor Regency in 2019 with a p Value of $0,000 \leq 0,05$. One of the factors that influence the occurrence of DM is BMI, body mass index with obesity category tends to be more likely to develop diabetes mellitus, and most respondents who suffer from DM in Leuwiliang District Hospital with obesity BMI. Therefore it is expected that all respondents to improve their lifestyle, especially improve their diet, so they do not experience an increase in body mass index which will increase the chance of developing diabetes mellitus.

Keywords : BMI, DM incident

PRELIMINARY

Diabetes mellitus (DM) is a collection of symptoms that arise in a person caused by an increase in blood glucose levels due to a progressive decrease in insulin secretion due to insulin resistance.

World Health Organization (WHO) classifies DM sufferers in five clinical categories, namely insulin dependent DM (type 1 DM), insulin dependent DM (type 2 DM), DM related to malnutrition (MRDM), DM due to impaired glucose intolerance (IGT), and DM due to pregnancy (GDM). WHO predicts an increase in the number of

people with diabetes mellitus in Indonesia from 8.4 million in 2000 to around 21.3 million in 2030, while the International Diabetes Federation Agency (FDI) in 2009 estimates an increase the number of people with diabetes mellitus from 7.0 million in 2009 to 12.0 million in 2030.²

Body Mass Index (BMI) is the most recommended measurement as an evaluation of obesity and overweight in children and adults. This is because in addition to being easy and inexpensive, BMI levels are associated with body fat and risk factors for type II DM. Research that specifically examines the

relationship between BMI and DM events on a large scale is still not widely done, so researchers feel the need to research the relationship between BMI and DM events in adult populations in Indonesia. by analyzing data from wave 5.3 of the Indonesian Family Life Survey (IFLS).

Globally, an estimated 422million adults lived with diabetes in 2014, compared with 108 million in 1980. The prevalence of diabetes in the world (with standardized age) has nearly doubled since 1980, increasing from 4.7% to 8.5% in the adult population. This reflects an increase in risk related factors such as being overweight or obese. Diabetes caused 1.5 million deaths in 2012. Blood sugar higher than the maximum limit resulted in an additional 2.2 million deaths, by increasing the risk of cardiovascular and other diseases. Forty-three percent (43%) of these 3.7 million deaths occurred before the age of 70 years. The percentage of deaths due to diabetes that occurs before age 70 is higher in low and middle income countries than in high income countries.⁴

The number of diabetics in Southeast Asia has increased rapidly and is very worrying. The South China Morning Post released a report stating that the number of diabetics in Southeast Asia had increased by as much as 20 percent. Approximately 96 million people from the Southeast Asian population which reaches 670 million. One in 14 people suffer from diabetes, the majority suffer from type 2 diabetes, the type that can actually be prevented and avoided. That is, 450 million diabetics around the world, 20 percent of whom are from Southeast Asia, most of

whom live in Indonesia, Malaysia, Singapore and Thailand.

Indonesia also faces a situation with the threat of diabetes similar to the world. The International Diabetes Federation (IDF) Atlas 2017 reports that the Diabetes epidemic in Indonesia is still showing an increasing trend. Indonesia is the sixth ranked country in the world after China, India, the United States, Brazil and Mexico with the number of people with diabetes aged 20-79 years around 10.3 million people. In line with this, Basic Health Research (Riskesmas) shows a significant increase in the prevalence of Diabetes, from 6.9% in 2013 to 8.5% in 2018 so that the estimated number of sufferers in Indonesia reaches more than 16 million people who then the risk of other diseases, such as heart attacks, strokes, blindness and kidney failure can even cause paralysis and death. Indonesia experiences a double burden of health problems, where infectious diseases have not managed to reach the target of decreasing cases, and non-communicable diseases are increasing in prevalence. Non-communicable diseases (PTM) cause more deaths than any other cause, and it is projected that this number will continue to increase from 38 million deaths in 2012 to 52 million deaths in 2030. The four main PTMs are cardiovascular disease, cancer, chronic breathing, and diabetes mellitus (DM).

One of the PTM with a fairly high proportion in Indonesia and is the sixth highest cause of death in Indonesia is DM. The increase in the number of DM cases is closely related to a healthy lifestyle, including maintaining ideal body weight. In the world and Indonesia, graphs of obesity rates tend to

increase. This can lead to serious health problems because obesity is associated with metabolic, cardiovascular, hepatic, kidney, inflammatory response, and diabetes mellitus disorders.²

In West Java alone the incidence of diabetes tends to increase. The prevalence of DM according to the consensus of the arts of 2011 for residents aged over 15 years in 2013 was 6.9%, in 2018 8.5%. The prevalence of diabetes mellitus is based on the diagnosis of doctors in the population aged over 15 years by province 2013 to 2018 in 2013, 1.4%, in 2018 as much as 1.9%.⁴

The Bogor City Health Office (DHO) notes that the number of people with diabetes mellitus (DM) in Bogor is increasingly worrying. Now reaching 2,138 people. This number increased from 2016 which was only 2,093 people. Head of non-communicable diseases mental health city of health (DHO) bogor city, dr. Firy explained, that number could change, because it was only based on residents seeking treatment at the puskesmas. This number does not include residents who seek treatment at the hospital.⁶

In Leuwiliang District Hospital itself the incidence of diabetes mellitus is quite high and tends to increase every month. At the beginning of 2019 alone, based on data from January to June 2019 the incidence of diabetes mellitus in Leuwiliang District Hospital reached 2,615 people.

In accordance with the data above, it can be concluded that the incidence of diabetes mellitus is increasingly increasing, therefore researchers intend to conduct a study entitled "The Relationship of Body Mass Index (BMI)

to the Occurrence of Diabetes Mellitus". The research site was conducted at Leuwiliang District Hospital.

Based on this background the conclusion of the formulation of the problem in this study is "Is there a relationship between body mass index (BMI) with the incidence of diabetes mellitus in RSUP leuwiliang in 2019?" The purpose of this study was to determine the relationship between body mass index and the incidence of diabetes mellitus in Leuwiliang District Hospital in 2019.

RESEARCH METHODS

This type of research uses quantitative analytics. Analytic is research that tries to explore how and why health phenomena occur. Analytical research can be done quantitatively so that statistical analysis can be done. This method is called quantitative method, because the research data in the form of numbers and analysis using statistics. For the design of this study using a retrospective approach that is research that tries to look back (backward looking), meaning that data collection starts from the effects or effects that have occurred. Then the effect is traced back about the cause or the variables that influence the effect. In other words, in this retrospective study departing from the dependent variable, then the independent variable is sought.⁷

This research was conducted at Leuwiliang District Hospital in 2019. The population in this study were patients suffering from diabetes mellitus in the internal medicine room at Leuwiliang District Hospital as many as 30 people.⁸

This research variable consists of independent variables with the dependent variable. The independent variables are body mass index (BMI) and the dependent variable is diabetes mellitus. Data processing and data analysis using computerized with SPSS version 17. Data analysis consists of

univariate and bivariate analysis, where bivariate analysis uses Spearman rank statistical tests to analyze the relationship between body mass index and the incidence of diabetes mellitus in Leuwiliang District Hospital in 2019.

RESEARCH RESULT

1. Univariate Analysis

Based on the table of the distribution of BMI frequencies in Leuwiliang District Hospital above it is known that from 30 respondents the frequency distribution results obtained with excess body mass index categories were 12 people with a percentage of 40.0%.

Based on the frequency distribution table above it is known that the frequency distribution of the incidence of diabetes mellitus there are 18 (60.0%) respondents, with type 2 diabetes mellitus.

2. Bivariate Analysis

The Relationship between Body Mass Index (BMI) and the incidence of diabetes mellitus in Leuwiliang District Hospital Bogor. In 2019 it was known that the number of respondents was 30 respondents, there were 9 (30%) respondents who had type 2 diabetes with obesity BMI.

Significant relationship value using computerization obtained p value $0,000 \leq 0.05$ (alpha), meaning that H_a is accepted and H_0 is rejected. From these values, the results of the analysis state that there is a relationship between body mass

index and the incidence of diabetes mellitus in Leuwiliang District Hospital in 2019.

DISCUSSION

1. Univariate Analysis

a. body mass index

Based on research results from 30 respondents, stated that the majority of respondents with a body mass index were 13 (43.3%) and respondents with diabetes mellitus were 18 (60.0%). Body mass index is the value obtained from measurements of body weight (BW) in kilograms and height (TB) in meters.

Body mass index can be used to determine whether a person's body weight is ideal or not. Factors Affecting BMI are age, this condition is suspected due to slow metabolic processes, reduced physical activity, and frequency of more frequent food consumption, both sexes, BMI with overweight categories is more common in men, but the incidence of obesity is higher in women compared to men, the third is genetic, BMI is very closely related to the first generation of families, then eating patterns, fast food contribute to an increase in body mass index so that a

person can become obese, and the last activity physical, weight loss or prevention of weight gain can be done with physical activity about 60 minutes a day

Based on research results from 30 respondents, stated that the majority of respondents with a body mass index were 13 (43.3%) and respondents with diabetes mellitus were 18 (60.0%).

This is supported by Lindayati's research (2018) with the title Relationship of Body Mass Index with Blood Sugar Levels in Type 2 Diabetes Mellitus Patients in Wringinom Village, Kuripan Subdistrict, Probolinggo District, it was found that from half of the respondents the body mass index was 13 people (46.4 %). The above evidence is that most respondents are obese. This shows that the fat in the body is not good because someone who has never known how to measure a normal body mass index, it will have an impact on fat mass in the body so that a lot of people are obese, increased body weight and blood sugar levels in the body will be high quickly.¹¹

Based on the theory and the results of research that researchers have done in patients with body mass index who suffer from diabetes mellitus in Leuwiliang District Hospital in 2019 with 30 respondents that the majority of respondents with excess body mass index were 13 (43.3%). It was concluded that body mass index with excess body weight was 23-24.⁹

It was concluded that respondents at Leuwiliang District

Hospital were mostly obese, whereas respondents who were obese were caused by age and sex. Where the dominant respondent's age is more than 50 years, respondents who are 50 years old tend to be obese due to lifestyle and gender factors. Lifestyle and gender are factors of obesity, where women are more dominant with negative lifestyles, such as frequent consumption of fast food, junk food and rarely do activities such as sports.

b. The incidence of diabetes mellitus

Based on the results of research from 30 respondents, stated that the majority of patients suffering from diabetes mellitus as many as 18 respondents (60.0%) with type 2 diabetes mellitus. Definition according to the American Diabetes Association, diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia that occurs due to abnormal insulin secretion, insulin action or both.

Diabetes mellitus is also accompanied by disorders of carbohydrate, fat and protein metabolism caused by a relative or absolute deficiency of the insulin hormone. Factors affecting diabetes mellitus are body mass index, abdominal circumference, family history of DM, birth weight, stress, physical activity, exposure to cigarette smoke, alcohol consumption, sex, age, education, occupation, cholesterol level, and blood pressure.

Based on the results of Purwo Setiyo Nugroho's research, Anisa Catur Wijayanti (2018) with the title

Body Mass Index and its Relationship with Diabetes Mellitus at Age > 15 Years in Indonesia, Study Data Survey of Indonesian Family Life V based on research shows that the results of frequency analysis on diabetes mellitus variables get that respondents with diabetes mellitus were 229 (0.8%), the determination of the category of diabetes mellitus was based on a history of consuming diabetes mellitus drugs. While on the obesity variable, it was found that the obese respondents were 6,536 (21.7%), the determination of the obesity category was based on the Body Mass Index (Kg / m²) calculation.

Based on the results of the research and theory above, the research at Leuwiliang District Hospital with the results of the study conducted that of 30 respondents found 18 (60.0%) respondents with type 2 diabetes. It was concluded that respondents at Leuwiliang District Hospital mostly had type 2 diabetes, where respondents who suffer from type 2 diabetes were caused by BMI, age and sex. BMI with obesity category tends to have type 2 diabetes. Where the dominant age of respondents is more than 50 years, respondents who are more than 50 years old tend to have diabetes mellitus because the function of their organs has begun to decrease. Gender is also a factor in the occurrence of DM, where women are more dominant due to negative lifestyle, such as frequent consumption of fast food, junk food and rarely do activities such as sports.

2. Bivariate analysis

Bivariate analysis results obtained from 30 respondents, it is known there are 9 (30.0%) of respondents experiencing type 2 diabetes with obesity BMI with a p value of $0.000 \leq 0.05$. Which means there is a relationship between body mass index with the incidence of diabetes mellitus.

Body mass index is the value of body mass index (BMI) obtained from measurements of body weight (BB) in kilograms and height (TB) in meters.⁹ Factors that influence BMI are age, this condition is suspected because of the slow process metabolism, reduced physical activity, and frequency of food consumption that is more frequent, both sexes, BMI with overweight category is more common in men, but the incidence of obesity is higher in women compared to men, the third is genetic, BMI is very closely related to the first generation of family, then eating patterns, fast food contribute to the increase in body mass index so that a person can become obese, and finally physical activity, weight loss or prevention of weight gain can be done with physical activity around 60 minutes a day.¹⁰

Definition according to the American Diabetes Association, diabetes mellitus is a group of metabolic diseases characterized by hyperglycemia that occurs due to abnormal insulin secretion, insulin action or both. Diabetes mellitus is also accompanied by disorders of carbohydrate, fat and protein metabolism caused by a relative or absolute deficiency of the insulin hormone

Factors affecting diabetes mellitus are body mass index, abdominal circumference, family history of DM,

birth weight, stress, physical activity, exposure to cigarette smoke, alcohol consumption, sex, age, education, occupation, cholesterol level, and blood pressure.

This is supported by NineLuthansa's research, Dibyo Pramono (2017) based on the research conducted found that the most respondents in this study were mostly women totaling 16,015 respondents (53.1%). Women have a high risk of developing diabetes mellitus because pregnancy has a risk of developing diabetes mellitus, besides that women have the opportunity to have a risk of having a greater body mass index. Table 2 explains that most respondents are aged <40 years, but the risk of developing diabetes mellitus increases with age starting from 35 years.⁵

Based on the results of the research and theory above, the researchers conclude that there is a harmony between the theory and the results of the study, namely that known Correlation Coefficient (correlation coefficient) of 0.598, this value indicates a high relationship between body mass index with the incidence of diabetes mellitus in Leuwiliang District Hospital, Bogor Tahun 2019 significant value (2-tailed) is 0,000. There were 9 (30%) respondents who had type 2 diabetes with obesity BMI.

CONCLUSION

1. It is known that the frequency distribution of body mass index is 13 (43.3%) respondents.
2. It is known that the frequency of diabetes mellitus distribution is 18 (60.0%) respondents.
3. The relationship between Body Mass Index

(BMI) and the incidence of diabetes mellitus in Leuwiliang District Hospital Bogor. In 2019 it is known that the number of respondents is 30 respondents, there are 9 (30%) respondents who have type 2 diabetes with obesity BMI. Based on the results of bivariate analysis using the Spearman rank test, the value of p value is $0,000 \leq 0,005$ (alpha) so that H_a is accepted. Shows that there is a relationship between body mass index and the incidence of diabetes mellitus in Leuwiliang District Hospital, Bogor Regency in 2019.

SUGGESTION

1. For Educational Institutions

It is expected to provide reference material and reading material for surgical medical nursing courses, as well as a reference in carrying out further research on body mass index with diabetes mellitus.

2. For Research Sites

Can provide the latest knowledge that can be used in hospitals especially Leuwiliang Regional Hospital generally other hospitals and can provide knowledge for patients seeking treatment at Leuwiliang District Hospital.

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THE CORRELATION AGE AND GENDER WITH STROKE INCIDENT

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ABSTRACT

Background : Stroke in Indonesia become increasingly important and urgent. Because now the amount stroke sufferers in Indonesia most in Asia. Amount stroke sufferers with average old 45 years and over more increasing and often happens to men compared to women.

Objective : With this research can know relationship age, gender with incident stroke on patient at room ICU hospital PMI bogor city.

Method : Research method is quantitative with a descriptive design with cross sectional analysis approach. The population in this study is stroke patients in the ICU Room PMI Hospital Bogor City. Amount samples in this research is 35 people. Research time that is August 2019 – September 2019. Univariate analysis used for describe porposi respondent by way of frequency distribution.

Result and Conclusion : Research results from 35 respondents, the correlation frequency gender with the incidence of stroke in patients in room ICU hospital PMI bogor city a total of 13 (37,1%) respondents experienced a stroke non hemoragic the greater one occurs in men. Significant relationship value by using computerization get $p = 1,000 \geq 0,05$ (alpha), that means H_a rejected and H_o accepted. From this value, the result of the analysis showed that there was not the correlation between the frequency of gender and the incidence of stroke patients in the ICU room of the PMI hospital in Bogor city 2019. Of that value the results of the analysis stated there is no gender frequency relationship with a stroke in patients in the room ICU hospital PMI bogor city 2019. And the results of the analysis also obtained value OR of 4,698 that means gender frequencymen often experience stroke event non hemoragic. Relationship with age frequency of stroke in patients in the room ICU hospital PMI bogor city there are 16 (45,7%) respondents experience an incident stroke non hemoragic in late adulthood the greater one. Significant relationship value by using computerization get $p = 0,000 \leq 0,05$ (alpha), that means H_a accepted and H_o rejected. **Suggest** : Continuous health education needs to be held related to risk factors related to events stroke for stroke patients and individuals who have risk factors.

Keywords : Stroke event, frequency of age and gender

PRELIMINARY

The number of stroke sufferers around the world under the age of 45 continues to increase. At an international conference of neurologists in the UK it was reported that there were more than 1,000 stroke sufferers aged less than 30 years. The world health agency predicts that deaths from stroke will increase alongwith deaths from heart disease and cancer of approximately 6 million in 2010 to 8 million in 2030.¹

The incidence of stroke both first time attacks and re-attacks are more

common in men. Epidemiological research shows that cardiovascular disease is smaller in premenopausal (Pre-MW) women compared to men of the same age. Estrogen plays an important role as a vasodilator of blood vessels (Masood, Roach, Beauregard, et al, 2010)².

According to the Indonesian Stroke Foundation (Yastroki)³, the problem of stroke in Indonesia is becoming increasingly important and urgent, because now the highest number of stroke sufferers in Indonesia is in Asia. The number of stroke patients with an average

age of 60 years and over is in second place in Asia, while 15-59 years is in fifth place in Asia⁴.

The results of epidemiological studies also indicate that the risk of death in the 5 years post stroke is 45 - 61% and the occurrence of stroke and recurrence of stroke is 25 - 37%. Some other studies mention that the incidence of recurrent stroke is not much different between men and women. The number of men is quite higher than that of women, with percentages of 56.2% and 43.8%, respectively. These results are in line with previous studies⁵ comparing recurrent strokes often appear more in men than women with a percentage of 60.5% and 54.1%.

Based on data in developed countries like the United States, in 2002, stroke was ranked as the third leading cause of death after heart disease and cancer. In 2006, 700,000 people suffered strokes each year with 550,000 among them new stroke cases (HS Dourman, 2013) ⁶. From the south east medical information center (SEAMIC) data it is known that the largest stroke death rate occurred in Indonesia, which was then followed sequentially by the Philippines, Singapore, Brunei, Malaysia, and Thailand⁷.

According to the characteristics and age of stroke prevalence that often occurs at age 75+ (50.2%) with a ratio of women 10.9% and men 11.0%. In urban areas the prevalence of stroke is 12.6% while in rural areas it is 8.8% ⁸.

According to the Ministry of Health Riskesdas RI data, (2018) ⁹ the prevalence of non-communicable diseases such as stroke has increased, based on the diagnosis of stroke re-examination is the main cause of death at the age of 45-54

years (15.4% of all deaths). According to Nably (2012) ¹⁰, stroke is a condition that occurs when blood supply to a part of the brain is suddenly disrupted, because some brain cells die due to obstruction of blood flow due to blockage or rupture of cerebral blood vessels. While WHO¹¹, defines that stroke is the interruption of blood flow to the brain, generally due to rupture of blood vessels to the brain or due to blocked blood vessels to the brain so that the supply of nutrients and oxygen to the brain is reduced.

Based on the cause, stroke is divided into 2, namely ischemic or non-haemorrhagic stroke and haemorrhagic stroke. Ischemic stroke occurs due to blocked blood vessels of the brain by plaque (material consisting of protein, calcium, and fat) which causes the flow of oxygen through the arteries to be obstructed. The haemorrhagic stroke is a stroke caused by rupture of blood vessels in the brain¹².

This secondary stroke can be more fatal than the first stroke, due to the increasing extent of brain damage that occurs due to previous stroke¹³. The most influential risk factors for recurring stroke are hypertension, then followed by other risk factors namely diabetes, cardiac abnormalities, hypercholesterolemia, smoking habits, alcohol use, obesity, physical activity, regularity of taking medication and stress¹⁴.

Stroke is a functional brain disorder that occurs suddenly (within seconds) or quickly (within a few hours) with clinical signs and symptoms both focal and global that lasts more than 24 hours, caused by obstruction of blood flow to the brain due to bleeding (hemorrhagic stroke) or blockage (ischemic stroke) with symptoms and signs according to the part

of the brain affected, which can heal completely, heal with disabilities, or die¹⁵.

Approximately 32% of strokes are caused by embolism, which is the closure of the arteries by blood clots released from other places in the circulation. Stroke bleeding is around 20% of all stroke events¹⁶.

Stroke is a clinical syndrome characterized by acute loss of brain function and can cause death¹⁷. Stroke is a condition that results in a person experiencing paralysis or death due to bleeding disorders in the brain that cause brain tissue death¹⁸. Strokes occur due to blood vessels that carry blood and oxygen to the brain become blocked and rupture, lack of oxygen causes the function of body movement control that is controlled by the brain not functioning¹⁹.

Stroke is the third leading cause of death in the world after coronary heart disease and cancer in both developed and developing countries. One in 10 deaths are caused by stroke²⁰. Globally, 15 million people have strokes every year, one third die and the rest experience permanent disability (Stroke forum, 2015). Stroke is a major cause of preventable disability²¹.

In Indonesia, the tendency of stroke prevalence per 1000 people reaches 12.1 and for every 7 people who die, 1 of them has a stroke²². In a survey at Vermont Hospital, strokes at a young age constituted 8.5% of all hospitalized patients; intracerebral hemorrhage strokes were found in 41% of patients, with the most common causes being aneurysms, AVM (arteriovenous malformation), hypertension, and tumors. Subarachnoid hemorrhage is present in 17% of patients, and ischemic stroke occurs in 42% of patients²². The incidence of ischemic

stroke under 45 years is only about 5% of all events of ischemic stroke²³.

In the condition of oxygenation enough aerobic metabolism occurs from 1 mole of glucose to produce energy in the form of 38 moles of adenosine triphosphate (ATP) which among others are used to maintain ion pumps (Na-K pump), transport neurotransmitters (glutamate, etc.) into cells, protein synthesis, lipids and carbohydrates, as well as the transfer of substances in cells, are producing 2 ATP energy from 1 mole of glucose²⁴.

An increase in blood carbon dioxide levels causes vasodilation of blood vessels and an increase in oxygen causes vasoconstriction. Nitric-oxides are localized vasodilators released by vascular endothelial cells²⁵.

Arteriosclerosis occurs because of the accumulation of fat found in the walls of blood vessels so that it blocks the flow of blood to the brain. Atherosclerosis can also cause an inadequate supply of cerebral tissue blood, thereby risking the ineffectiveness of brain tissue perfusion²⁶.

Lifestyle is often the cause of various diseases that attack productive age, because the younger generation often adopts unhealthy eating patterns by frequently consuming foods high in fat and cholesterol but low in fiber. Besides consuming a lot of cholesterol, they consume too much sugar so that it will cause obesity which results in the accumulation of energy in the body²⁷.

Gender variable is not a risk factor for stroke in early adulthood. While the results of the study²⁸ state that the incidence of stroke is higher in men than in women. Based on the Primary Stroke Prevention Guidelines²⁹, stroke risk factors are divided into two namely, risk

factors that cannot be modified and which can be modified.

The incidence of stroke is higher in males than females with an average of 25%-30%. Although men are more vulnerable than women at a younger age, women will catch up after they reach menopause. This is the hormone that plays a role in protecting women until they pass through childbirth³⁰.

There is considerable variation in the incidence of stroke between different ethnic groups. People from African races have a higher risk for all types of strokes compared to people from Caucasian races. This risk is at least 1.2 times higher and even higher for ICH (Intracerebral Hemorrhage) stroke³¹.

It has been suggested that strokes with bloodlines are related. In this case hypertension, diabetes, and defects in blood vessels become genetic factors that play a role. In addition, lifestyle and eating habits in the family that have become difficult to change habits also increase the risk of stroke³². Smoking is a real cause of stroke that occurs more in early adulthood than older people. The risk of stroke will decrease after quitting smoking and is clearly visible in the period 2-4 years after stopping smoking. Keep in mind that smoking triggers the production of fibrinogen (blood clotting factors) more so that it stimulates atherosclerosis³³.

Stroke not only attacks people who are sick but also can attack physically healthy people as well. Strokes come suddenly in a moment., A few minutes, hours or half a day. This can be caused by several factors including high stress³⁴. According to Goldzmidt and Caplan (2011)³⁵ to detect and evaluate strokes as follows: History of disease, physical

examination, laboratory examination. The main purpose of early evaluation is to identify the type of stroke and determine whether the patient meets the criteria for thrombolytic therapy or other therapies. A history of illness or early physical examination is also used in assessing the extent of neurological dysfunction and identifying risk factors for atherothrombosis and accompanying medical conditions, and imaging. According to Muttaqin (2008)³⁶ and Batticaca (2008)³⁷, the management of stroke patients, are: Medical / pharmacological management and nursing management. According to Lingga (2013: 71-81)³⁸, the impacts caused by stroke include: paralysis and communication disorders. Common complications resulting from inadequate rehabilitation measures, various advanced complications of stroke due to immobilization are as follows³⁹: Decubitus ulcers, contractures and shoulder pain, proneal nerve pressure can cause foot drop, osteopenia and osteoporosis, depression and other psychological effects, al incontinence and constipation, and senile after stroke.

According to the large Indonesian dictionary, lifestyle is the daily behavior of a group of people in society⁴⁰. A healthy lifestyle includes healthy eating habits, regular physical activity, non-smoking behavior, non-alcoholic behavior, and stress control⁴¹. Primary data is data collected directly by researchers against the target to answer the problem or the purpose of research conducted⁴². Editing is the most important part to achieve the main goal before further data processing, where researchers must review the completeness in the data⁴³.

Bivariate analysis was performed with the chi square test which was used to test the hypothesis of a significant relationship between the factors testing the difference in proportions or two more groups of samples, with the two variables being categorical variables⁴⁴.

Thrombus in the heart is usually examined by echocardiography. Atrial fibrillation occurs in 17% of stroke patients, 18% in ischemic stroke patients, and 11% in bleeding stroke patients. In most cases of atrial fibrillation occurs in patients who have not suffered a stroke and some cases of atrial fibrillation as a cause of stroke⁴⁵.

Research conducted by Siti Alchuriyah and Chatarina Umbul Wahjuni (2016) taken from 2012-2013 medical record data. The results of this study indicate that the total 60 respondents obtained the case group age <50 years by 15 respondents or 25% and the control group \geq 50 years by 45 respondents or 75%. In most sexes are men, both from the control group or case group. As many as 33 respondents or 55% were male and the remaining 27 respondents or 45% were female. In the case group (<50 years) the male sex is higher (53%) than the female sex (46.7%). Based on the results of a preliminary study conducted on Monday, August 12, 2018 there were 140 patients affected by stroke in the ICU room at PMI Hospital Bogor City. From February 20 people, March 18 people, April 36 people, May 24 people, June 16 people, and July 26 people.

From what has been stated above, the authors are interested in conducting research on "The Relationship of Age, Gender With Stroke Events in Patients in ICU Room, Bogor PMI Hospital" with the

aim of finding out whether there is a relationship between age, sex and the incidence of stroke in ICU room, PMI Hospital, Bogor City.

RESEARCH METHODS

The design of this study uses quantitative research with descriptive analytic design with cross sectional approach where the independent and related variables are. This study is intended to determine the relationship between age and sex on the incidence of stroke. And understanding of cross-sectional is a type of research that observes population data or samples once at the same time. In this type the independent and dependent variables are assessed simultaneously at one time, so there is no follow up.

RESEARCH RESULT

Based on table 4.1, it is known that the majority of respondents in late adulthood are 16 (45.7%) greater than the age of young adults and middle adults. Based on table 4.2, it is known that the majority of male respondents are 18 (15.4%) greater than women.

Based on table 4.3 it is known that the frequency distribution of stroke events in patients in the ICU room of PMI Bogor City Hospital amounted to 25 (71.4%) of respondents who experienced a non-hemorrhagic stroke and there were 10 (28.6%) respondents who had a hemorrhagic stroke.

Based on table 4.4 it is known that the relationship between age frequency and stroke incidence in patients in ICU room of PMI Bogor City Hospital with a total of 35 respondents, 16 (45.7%) respondents experienced a greater

incidence of non-hemorrhagic stroke in late adulthood.

Based on table 4.5, it is known that there is a relationship between gender frequency and the incidence of stroke in patients in the ICU room of PMI Bogor City Hospital with a total of 35 respondents, 13 (37.1%) respondents experienced a greater incidence of non-hemorrhagic stroke occurring in men. Significant relationship value using computerization obtained $p = 1,000 \geq 0.05$ (alpha), meaning that H_a is rejected and H_o is accepted.

From these values, the results of the analysis state that there is no relationship between the frequency of sex with the incidence of stroke in patients in the ICU room of the PMI Hospital in Bogor City non-hemorrhagic stroke.

DISCUSSION

Stroke event

Based on the research results of 35 respondents, stated that the majority of non-hemorrhagic stroke events had a frequency of 25 (71.4%) respondents and 10 (28.6%) respondents experienced hemorrhagic stroke events. Based on the theory and results of research that have been conducted by researchers at the Bogor PMI Hospital with the number of respondents 35 most of the 18 (51.4%) respondents who experienced a non-hemorrhagic stroke are more common in men who are late adult age between 46 years and over. According to researchers, stroke is a disease that threatens death and disability.

Age Frequency

Based on the results of research from 35 respondents, stated that the

majority of patients who suffered a stroke in late adulthood were 16 (45.7%). The number of stroke patients with an average age of 60 years and over is in second place in Asia, while 15-59 years is in fifth place in Asia. According to researchers age is divided into young adults (21 - 35 years), middle adults (36 - 45 years), and late adults (46 years and above).

Sex Frequency

Based on the results of research from 35 respondents, stated that the majority of patients who had a stroke occurred in men as many as 18 (51.4%). According to male researchers, they are more likely to have a stroke which was initially caused by a bad lifestyle pattern. Bivariate Analysis of the Relationship Between Age Frequency and Stroke Incidence in Patients in ICU Room, Bogor PMI Hospital

Obtained from 35 respondents, there were 16 (45.7%) respondents who experienced a non-hemorrhagic stroke that occurred in late adulthood with a p value of $0,000 \leq 0.05$, which means there is a relationship between the incidence of stroke and age. This result was supported by previous researchers with the title relationship between age, sex, and hypertension with the incidence of stroke. The result is that in 77 stroke patients, the incidence at the age of 40 - 55 years was 25 patients (32.5%) and the incidence at age > 55 years was 52 patients (67.5%). Based on the results obtained p value = 0.031, so it can be concluded that there is a relationship between age and the incidence of stroke and is more common in late adulthood.

Bivariate Analysis of the Relationship between Gender Frequency and Stroke Occurrence in Patients in ICU Room, PMI Hospital, Bogor City

Obtained from 35 respondents, there were 18 (51.4%) who were male greater than 17 (48.6%) with p value = $1,000 \geq 0.05$ which means there was no relationship between types sex with the incidence of stroke and an Odd Ratio (OR) score of 4.698 which means that the incidence of stroke often occurs in men compared to women. Based on the results of the research and theory above, the researcher concludes that there is harmony between the theory and the results of the study, namely that gender frequency does not have a significant relationship between sex with the incidence of stroke with a p value ≥ 0.05 . With more common in men compared with women.

CONCLUSION

1. Known results of the frequency distribution of respondents based on age characteristics in stroke patients amounted to 10 (28.6%) respondents at young adulthood, totaling 9(25.7%) respondents at middle adulthood and 16 (45.7%) respondents with highest frequency according to age 46 years and above
2. It is known that the results of the frequency distribution of respondents based on sex characteristics in stroke patients amounted to 18 (51.4%) with the highest frequency according to gender, namely male and totaled 17 (48.6%) according to female sex.
3. The results of the frequency distribution of respondents regarding the occurrence of stroke in patients by 25 (71.4%) of respondents who

experienced a non-hemorrhagic stroke and 10 (28.6%) of respondents who experienced a hemorrhagic stroke.

4. It is known that the frequency distribution of age relationship with the incidence of stroke in patients amounted to 16 (45.7%) respondents who experienced a greater non-hemorrhagic stroke in late adulthood, 9 (25.7%) respondents who experienced a non-hemorrhagic stroke at age middle adults and 10 (28.6%) respondents had hemorrhagic strokes in young adulthood. The value of this relationship is significant with $p = 0,000 \leq 0.05$ (alpha) meaning that H_a is accepted and H_o is rejected.
5. It is known that the results of the frequency distribution of sex relations with the incidence of stroke in patients in the ICU room of PMI Bogor City Hospital amounted to 18 (51.4%) of respondents which occurred in men is greater than that of women amounted to 17 (48.6%) respondents. The value of this relationship is not significant with $1,000 \geq 0.05$ (alpha) means that H_a is rejected and H_o is accepted.

SUGGESTION

1. For Educational Institutions It is necessary to hold continuous health education related to the risk factors associated with the incidence of stroke for stroke patients and individuals who have risk factors.
2. Health Service Institutions Discharge planning for stroke patients and individuals who have risk factors needs to be made so that continuity of

nursing can be carried out at home properly.

3. Stroke clubs need to be formed so that patients can socialize with other people who have the same problem, so they can exchange experiences related to risk factors and how to handle or control them.
4. It is necessary to increase the vigilance of nurses to the patient's condition, especially patients who have risk factors and patients who have suffered a stroke.

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THE EFFECT OF MOZART CLASSICAL MUSIC TO THE SLEEPING QUALITY OF THE PATIENTS

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ABSTRACT

The sleeping quality of someone is good if it is showed the signs lack of sleeping and don't have problems in his/her sleeps, their. The sleeping quality refers to individual that increase to the REM sleeping phase. The quality is the NREM number of stages and REM that experienced by someone in his/her sleeping cycle, and the sleeping quantity is the total duration of sleeping that spent by someone in a day. A person's body during sleeping will have changed the physiology process such as the decreasing of blood pressure and pulse rate, overcome the peripheral blood vessels, sometimes there is increasing of traktus gastrointestinal activity, the relaxation of the muscles, and metabolism basal rate (BMR) decreasing 10-30%. The aim is to know the effect of mozart classical music to the sleeping quality of the patients that hospitalized in PMI hospital Bogor 2019. To know the effect of mozart classical music to the sleeping quality of the patients that hospitalized in PMI hospital.

The kinds of this research is pre experimental with one group pre post test design and it is held in PMI hospital Bogor in September 2018 with 25 patients that hospitalized by using federer. The instrument that is used are observation sheet and questionnaire. The measuring instrument that is used in this research is The Pittsburgh Sleep Quality Index (PSQI).

The univariate analysis research result before doing the mozart classical music therapy that said good quality sleep there are 8 persons (32%) and bad quality sleeping there are 17 persons (68%). After doing the mozart classical music therapy said that the good quality sleeping there are 22 persons (88%) and the bad quality sleeping there are 3 persons (12%). The bivariate analysis using Shapiro Wilk test with the result $0,000 < 0,05$, the *h*₀ test using Wilcoxon with *P* value $0,001 < 0,05$ then can be conclude that *H*_a is accepted.

The conclusion is the influence of classical music therapy mozart on sleeping quality in hospitalized in PMI hospital Bogor 2019. Advice is used as additional material to enrich knowledge and as a reference for emergency science on non-pharmacological sleep quality management.

Keywords : Mozart Classical Music Therapy, Quality Sleeping

PRELIMINARY

Rest and sleep are basic needs that absolutely must be met by everyone. With enough rest and sleep, the new body can function optimally. Rest and sleep have different meanings in each individual. In general, rest means a state of calm, relaxed, without emotional pressure, and free from feelings of anxiety. So resting does not mean not doing any activity¹.

Whereas Sleep is the status of change of consciousness when individual perceptions and reactions to the environment decrease. Sleep is characterized by minimal physical activity, varying levels of consciousness, changes in the body's physiological processes,

and decreased response to external stimuli. Nearly one third of our time, we use to sleep. This is based on the belief that sleep can restore or rest physically after a day of activities, reduce stress and anxiety, and can increase the ability and concentration when trying to do daily activities¹.

A person's body during sleep will experience changes in physiological processes such as a decrease in blood pressure and pulse, overcome peripheral blood vessels, sometimes an increase in activity of the intestinal tract, relaxation of skeletal muscles, and basal metabolic rate (BMR) decreases by 10-30%²

Quality is a very complex phenomenon involving various domains, among others, an assessment of sleep duration, sleep disturbance, latency period of sleep, sleep dysfunction during the day, sleep efficiency, sleep quality, use of sleeping pills. So if one of the seven domains is disrupted it will result in a decrease in sleep quality³.

A person's sleep quality is said to be good if it does not show signs of sleep deprivation and does not experience problems in sleep, sleep quality refers to individuals experiencing an increase in REM sleep phase. The quality and quantity of sleep a person has where the quality of sleep is the number of NREM and REM stages a person experiences in his sleep cycle, and the quantity of sleep is the amount of sleep a person spends in a day⁴.

Non-pharmacological cure of sleep disorders is needed to minimize the effects of pharmacological therapy. Non pharmacological therapy can be done by giving music therapy. Music has long been a part of human life that is able to keep someone entertained. Music can also be a therapy. Music is given to improve, maintain and restore one's mental, physical, emotional, and spiritual health. Music therapy is included in complementary therapy, in which music therapy is a technique used to cure an illness by using certain sounds or rhythms. The type of music used, instrumental in music therapy can be adjusted to your liking, such as classical music, slow music, orchestras, and other modern music. Soft and regular music such as instrumental and classical music is music that is used for music therapy⁵.

According to Campbell listening to Mozart classical music for 30 minutes before bedtime can affect heart rate, causing calm because music with soft rhythm that is heard through the ear will directly enter the brain and directly processed so as to produce a good effect on the health of postoperative patients. Complaints of postoperative patients such as disturbed sleep patterns are caused by

pain in the scar. Listen to Mozart's classical music to improve, maintain, and restore mental and physical health so that patients feel less pain in postoperative wounds. Mozart classical music that is listened to postoperative patients has a slow tempo so as to calm the mind, stabilize blood pressure and expedite the circulation of white blood cells in the surgical wound to accelerate wound healing.

The results of research conducted by Hendrik, prove that there is an effectiveness of classical music on the quality of sleep by listening to classical music able to calm the mind, lower blood pressure and stabilize heart pressure so that inpatients are right to start sleeping and stabilize heart pressure so that inpatients are right for start to sleep and never wake up in the middle of the night. Patients who listen to classical music Mozart provide a relaxed psychological condition and a feeling of comfort.

Based on the results of a preliminary study at the 2019 Bogor PMI Hospital in the Seruni ward of 10 respondents 2 respondents had a stroke, 3 respondents had respiratory problems and 5 respondents had hypertension. From 10 respondents 6 respondents who listened to music before going to sleep and 4 respondents who did not listen to music before going to sleep, the time needed to sleep for > 20 minutes there were 7 respondents while the time needed to sleep for < 20 minutes there were 3 respondents, for regarding questions about the feeling of listening to classical music Mozart there were 6 respondents who slept listening to music and 4 respondents who could not sleep when listening to music.

Based on the above phenomenon, the research is interested in conducting research with the title "The Effect of Mozart Classical Music Therapy on Sleep Quality in Patients in the Inpatient Room at the PMI Hospital".

RESEARCH METHODS

This study uses experimental research with a pre-experimental design research design. While the design of this research design uses one-group pre-post test design, because pre-experimental does not require control⁶.

One group pre-post design is research with one group of subjects that is treated or intervened which is measured before and after treatment. The hallmark of this research is to use a causal relationship by involving a group of subjects. Subjects were observed again after the intervention. This design was used to determine the effect of mozart classical music therapy on sleep quality in patients in the inpatient room at PMI Hospital.

RESEARCH RESULT

1. Characteristics of Respondents

Based on table 1 shows that the majority of male respondents were 13 respondents (52.0%).

Based on table 2 shows that the majority of respondents aged 31-40 years were 12 respondents (48.0%).

Based on table 3 shows that the majority of respondents with high school education were 10 respondents (40.0%).

Based on table 4 shows that the majority of respondents with the work of Housewives as many as 10 respondents (40.0%) and with Workers as many as 10 respondents (40.0%).

2. Normality Test

Data normality testers in this study used the Shapiro Wilk test. The Shapiro Wilk test was used because the sample in this study was included in a small sample of 25 study subjects (<50). Testing is done using the help of the SPSS program.

Based on Table 5 the Tests of Normality shows that the analysis of normality tests in the pre-test and post-test intervention groups is known to be a significant value of 0,000 or a significant

value <0.05. So it can be concluded that the data in this study are not normally distributed, the statistical method used is the Wilcoxon Signed Ranks Test.

3. Univariate Analysis

Based on table 6 shows that the quality of sleep before performing classical music therapy mozart as many as 17 respondents (68.0%).

Based on table 7 shows that the quality of sleep after performing classical music therapy mozart as many as 22 respondents (88.0%).

4. Bivariate analysis

Effects of Mozart Classical Music Therapy on Sleep Quality

Based on Table 8 Effect of Mozart Classical Music Therapy on Sleep Quality in Inpatients at 2019 PMI Bogor Hospital it can be seen that there is a difference between changes in sleep quality forpretest and posttest and these differences after the Wilcoxon test is obtained p-value = 0.001 which means p -value <0.05 so that the decision taken is H_a accepted and H_o rejected. So it can be concluded that there is an effect of Mozart's classical music therapy on sleep quality in inpatient rooms at PMI Bogor Hospital.

DISCUSSION

1. Frequency Distribution of Sleep Quality Before Mozart's Classical Music Therapy

Based on table 6 shows that patients with poor sleep quality are 17 people, patients who have good sleep quality are 8 people. Before being given classical music therapy mozart to inpatients, pre-test is done first. In the pre-test results there are non-parameters obtained, the total mean of sleep quality is 1.00 (SD = 0,000). This is in accordance with the provision of mozart classical music therapy to 25 people treated in the inpatient room. From the interview results, respondents said that

they felt their sleep quality was poor, most respondents complained that their sleep quality was poor.

This is in accordance with research conducted by Yasinta Nadu (2018) the quality of sleep of patients before doing classical music therapy Mozart on 30 respondents was poor sleep quality.

Sleep quality is everyone's ability to maintain a state of sleep and to get the appropriate REM and NREM sleep stages. Sleep quality is a condition that is experienced by individuals to get freshness and fitness when awakened from sleep. A person's sleep quality is said to be good if it does not show signs of sleep deprivation and has no problems sleeping.

There are 8 factors influencing the quality of sleep, namely disease factors, environmental factors, motivational factors, exercise factors and fatigue, psychological stress factors, alcohol factors, nutritional factors, drug factors.

This is in line with the theory that rest and sleep have different meanings in each individual. In general, rest means a state of calm, relaxed, without emotional pressure, and free from feelings of anxiety. So resting does not mean not doing any activity, sleep is a status change of consciousness when individual perceptions and reactions to the environment decline. Sleep is characterized by minimal physical activity, varying levels of consciousness, changes in the body's physiological processes, and decreased response to external stimuli. Sleep is one of the body's very complex biological rhythms. Circadian synchronization occurs if the individual has a sleep-wake pattern that follows the biological clock the individual will wake up at the highest physiological and psychological rhythm or most active and will sleep at the lowest rhythm.

Based on the discussion and theory above, it can be concluded that the quality of sleep felt by inpatients is poor sleep

quality. This is caused by the status of change of consciousness when individual perceptions and reactions to the environment decrease. but the physiology of sleep is a regulation of sleep activities by the relationship of a celebrity mechanism that alternately activates and presses the brain to sleep and wake up. One of these sleep activities is regulated by the reticular activation system which is a system that regulates all levels of central nervous system activities including alertness and sleep. Thus, systems in the brain stem that regulate cycles or changes in sleep are RAS and BSR.

2. Frequency Distribution of Sleep Quality After Mozart's Classical Music Therapy

Based on table 7 shows that the results of the study have improved After the classical music therapy mozart conducted on respondents who slept well as many as 22 people (88.0%), patients who slept poorly as many as 3 people (12.0%). The results obtained from the total mean of a decrease in sleep quality is 1.44 (SD = 0.507).

This is in accordance with research conducted by Yasinta Nadu (2018), after being given classical mozart music therapy patients experience good sleep quality after listening to mozart classical music because as many as 99.0% of patients sleep soundly even without using sleeping pills while in hospital .

Music therapy is included in complementary therapy, in which music therapy is a technique used to cure an illness by using certain sounds or rhythms. The type of music used, instrumentalia in music therapy can be adjusted to your liking, such as classical music, slow music, orchestras, and other modern music. Soft and regular music such as instrumental and classical music is music that is used for music therapy. 5. mozart classical music for 30 minutes before

going to sleep can affect heart rate, causing calm because music with soft rhythm that is heard through the ear will go straight into the brain and directly processed so as to produce a good effect on patient health.

Based on the description above it can be concluded that the classical music therapy Mozart affects the quality of sleep. Sleep quality of 17 respondents is poor sleep quality has increased to 22 respondents whose sleep quality is good. Improved sleep quality before and after therapy is caused by the effects of Mozart's classical music. With the help of Mozart classical music one's mind becomes soothing, listening to Mozart classical music can make people more relaxed and comfortable.

3. The Effect of Mozart Classical Music Therapy on Sleep Quality in Inpatients at PMI Bogor

Based on table 8 the quality before and after giving classical music therapy Mozart to inpatients at PMI Bogor Hospital shows that a decrease in sleep quality after classical music therapy and improved sleep quality has been tested using the Wilcoxon signed ranks test concluded that the administration of Mozart classical music therapy increased significantly (p -value = 0.001 which means p -value < 0.05). So that the decision that H_a took was accepted and H_o was rejected. To test this hypothesis the Wilcoxon signed ranks test was used because the values before and after the treatment were not normally distributed ($p < 0.005$).

So it can be concluded that there is an influence of classical music therapy on the quality of inpatient sleep at PMI Bogor Hospital.

This research is in line with what was done by Yasinta Nadu on "The Effect of Mozart's Classical Music Therapy on

Sleep Quality in Postoperative Patients at Batu Baptist Hospital". This type of research is Pre-Experimental with One Group Pre-Post test design. The sample in this study were 30 postoperative patients. The results showed that before listening to classical Mozart music therapy, most 21 (70.0%) postoperative patients experienced poor sleep quality and after listening to classical music therapy. Mozart almost all 25 (83.3%) postoperative patients experienced good sleep quality. Paired t-test results obtained p -value = (0,000) $< (0.050)$ so that it can be concluded that there is an influence of classical music therapy on sleep quality in postoperative patients at the Baptist Hospital of Stone.

Non-pharmacological cure of sleep disorders is needed to minimize the effects of pharmacological therapy. Non pharmacological therapy can be done by giving music therapy. Music has long been a part of human life that is able to keep someone entertained. Music can also be a therapy. Music is given to improve, maintain and restore one's mental, physical, emotional, and spiritual health. Music therapy is included in complementary therapy, in which music therapy is a technique used to cure an illness by using certain sounds or rhythms. The type of music used, instrumental in music therapy can be adjusted to your liking, such as classical music, slow music, orchestras, and other modern music. Soft and regular music such as instrumental and classical music is music that is used for music therapy.

Sleep is a status change of consciousness when an individual's perception and reaction to the environment decreases. Sleep is characterized by minimal physical activity, varying levels of consciousness, changes in the body's physiological processes, and decreased response to external stimuli. Nearly one

third of our time, we use to sleep. This is based on the belief that sleep can restore or rest physically after a day of activities, reduce stress and anxiety, and can increase the ability and concentration when trying to do daily activities.

Sleep quality is everyone's ability to maintain a state of sleep and to get the appropriate REM and NREM sleep stages. Sleep quality is a condition that is experienced by individuals to get freshness and fitness when awakened from sleep. A person's sleep quality is said to be good if it does not show signs of sleep deprivation and has no problems sleeping.

There are 8 factors influencing the quality of sleep, namely disease factors, environmental factors, motivational factors, exercise factors and fatigue, psychological stress factors, alcohol factors, nutritional factors, drug factors.

Based on the discussion and theory above, there is an effect of mozart classical music on improving the sleep quality of patients in the inpatient room in this study with data before doing mozart classical music therapy for respondents with good sleep quality of 8 people (32.0%), patients with poor sleep quality were 17 people (68.0%). After performing classical music therapy on respondents who had good sleep quality were 22 people (88.0%), patients who had poor sleep quality were 3 people (12.0%). This shows that there are changes in the quality of sleep before and after the administration of classical music mozart. Improving the quality of sleep because of the classical music mozart can make a person more relaxed.

From the description above it can be concluded that there is harmony between theory and research results, because the provision of classical music therapy mozart basically influences the quality of sleep of inpatients. Because mozartclassical music can calm the mind so as to

provide calm that makes the brain receive new input, relax and sleep effect.

CONCLUSION

1. It is known that the frequency distribution before performing classical mozart music therapy for inpatients at PMI Bogor Hospital in 2019 from 25 respondents 8 respondents who had good sleep quality and 17 respondents who had poor sleep quality.
2. It is known that the frequency distribution after performing classical mozart music therapy in inpatients at PMI Bogor Hospital in 2019 from 25 respondents 22 respondents who had good sleep quality and 3 respondents who had poor sleep quality.
3. There is an influence between classical music therapy with a decrease in the pain scale of postoperative patients at PMI Hospital in 2019, it can be seen that there is a difference between the change in pain scale for pretest and posttest and the difference after being tested using Wilcoson test obtained p -value = 0.001 which means p -value < 0.05 so the decision taken is H_0 accepted and H_1 rejected. So it can be concluded that there is an influence of classical music therapy on reducing the level of pain scale in postoperative patients in Bogor PMI Hospital .

SUGGESTION

1. For Educational Institutions

For educational institutions to increase the capacity and quality of education so that the information from the results of this study can be used as additional material to enrich the knowledge and reference needs of emergency nursing on non-pharmacological sleep quality

management with classical music therapy mozart and its effects on sleep quality.

2. For Health Services

For health services, especially nursing can improve the quality of nursing care provision, especially the nurse's independent intervention in the management of non-pharmacological sleep quality. Nurse independent intervention or non-pharmacological therapy so that there are alternatives other than drugs that sometimes cause side effects. From the results of the study showed that mozart classical music therapy can help sleep quality to be more relaxed. To improve sleep quality, classical mozart music can be played before going to sleep.

3. For Respondents

The results of this study are expected to be input for patients treated in the inpatient room to help sleep quality by combining medical and non-medical treatment.

4. For Further Researchers

The results of this study are expected to be used as basic data for further research in the same scope.

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CORRELATION HYGIENE AND SANITATION BEHAVIOR WITH ESCHERICHIA COLI BACTERIAL CONTAMINATION ON STREET VENDORS

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ABSTRACT

Food is important for human health. Hygiene and sanitation behavior is important in determining the quality of food where the bacteria Escherichia Coli as an indicator of pollution and contamination of food that can cause (food borne diseases) congenital diseases Food. From the inspection of food samples on the surveillance program of food processing in the street vendors are done in the find of food samples contaminated with bacteria Escherichia Coli. The purpose of this research is to know the correlation of hygiene and sanitation behavior with bacterial contamination Escherichia Coli on street vendors in the working area of Puskesmas Bogor Utara.

This type of research utilizes methods of analytic with Cross Sectional design. The sample in this study amounted to 20 respondents using the Total Sampling technique. Data collection instruments Use a kuisoner sheet of hygiene and sanitation behavior. The analysis used is univariate and sufficient using Chi Square collation test.

The results of the study were get for the hygiene behavior variables of 20 respondents that had a negative behaviour of 11 people (100%) and negative sanitation variables as much as 10 people (90.0%). Result in Get hygiene behavior correlation with bacterial contamination Escherichia Coli ρ value = 0.450 which means ρ value (> 0.05) so that there is no connection, while the sanitary correlation with bacterial contamination Escherichia Coli ρ value = 1 which means ρ Value (> 0.05) so there is correlation. From the results of the study can be concluded between the theory and the results of the research that the variable hygiene behavior and the sanitary variables do not have a significant correlation with bacterial contamination Escherichia Coli.

The research that is expected can be used as input material to improve the work evaluation for BPOM (Food and Drug Control agency) in order to improve food safety and the health department to improve the work evaluation with The Puskesmas in order to improve the quality of hygiene and sanitation behaviour of street vendors, especially in the city of Bogor.

Keywords : Hygiene behaviour, Sanitation, Escherichia Coli

PRELIMINARY

Hygiene and sanitation have the same goal and are closely related to one another, namely protecting, maintaining and enhancing the degree of human health (individuals and communities). But in its application, the terms hygiene and sanitation have differences, namely hygiene is more directed towards human activity (individuals and communities), while sanitation is more focused on human environmental factors. Food Sanitation Hygiene is an effort to control food factors,

people, places and equipment that can or may cause illness or health problems.¹

Street food itself has become an inseparable part of human life. Consumption of food snacks in the community is no doubt always increasing from time to time given the increasing mobility of the community so they do not have time to process their own food² Seeing businesses in the food sector every year tends to increase, ranging from hawker foods to restaurants / restaurants. Food snacks as one of the community services in the field of food, whose existence is often

still far from meeting the requirements required for health so that the impact of health problems in the form of disease to the community. Increasing community needs for food provided outside the home, the products provided by companies -companies and individuals engaged in the business of providing food for public use (food snacks).

To ensure that these primary needs are met, one aspect that must be considered is food safety. Food safety is very much needed in preventing biological, chemical and other contamination which can disturb, harm and endanger human health. To control the risk factors for foodcontamination, both from food ingredients, people, places, and equipment so that the food is safe for consumption, the government implements the Food Sanitation Hygiene program.³

Foodborne disease is one of the most and most burdening public health problems that have ever been encountered in modern times. The disease causes many casualties in human life and causes a great amount of suffering, especially among infants, children, the elderly and those whose immune systems are impaired.⁴ Street Vendors (PKL) is an informal sector business in the form of a business which is sometimes also a producer. Some settled in certain locations, others moved from one place to another (using bunkers, pushcarts) selling food, drinks and other consumer goods at retail. (PKL) Generally, the small capital is sometimes only a tool for capital owners to get just a commission in return or effort.³

Lack of knowledge and ignorance of food handlers for safe handling of food has resulted in cases of foodborne illness. To prevent contamination of contamination into food, education and training on food safety are important and effective choices. Education for food handlers and consumers

regarding ways of handling hygienic food is a crucial element in preventing the contamination of pathogenic agents into food / drinks.⁴

Several factors that become one of the causes of the presence of Escherichia coli bacteria are hygiene behavior, food sanitation, environmental sanitation, temperature, and humidity. The main factors that cause food contamination that cause food borne disease are foodborne diseases such as diarrhea or food poisoning, accompanied by cross-contamination due to bad personal hygiene of street vendors in processing food and storing it in bad temperatures due to street vendors only modest capital can have the opportunity to occur growth of pathogenic bacteria

One of the bacteria often used as indicators of food pollution is Escherichiacoli or better known as Escherichia Coli. bacteria that are common and live in the human intestine. Escherichia Coli bacteriacan cause health problems such as diarrhea if it enters the digestive tract, both through drinks and food.

Rules regarding the presence of Escherichia Coli bacteria in food and drinks. According to Law No. 715 / Menkes / Sk / V / 2003 Concerning Sanitary Hygiene Requirements for FoodService Escherichia Coli bacteria number on food must be 0 / gram of food sample and on beverage Escherichia Coli number must be 0/100 ml sample drink.⁶

Bogor City Health Office in 2018 recorded a suspected poisoning case originating from Tutut (rice conch) which was eaten during breaking the fast that occurred in Kampung Sawah, Tanah Baru Village, North Bogor District, Bogor City. In this case, 85 residents in threeneighboring neighborhoods namely RT 01, 02 and 05 in Rw 07. The rice field village is not the location of the tutut producer, one of the traders who caused 85 poisoning

residents to have been selling for six years, but this time it was only the food causing problems for citizens. This tutut trader gets from a supplier and then resells the tutut for Rp.2,000, - per plastic bag, in addition to the kiosk he owns, the tutut supplier also entrusts his merchandise at several other kiosks located in Kampung Sawah, North Bogor.⁷

The Bogor City Health Office has conducted laboratory tests on tutut preparations which caused dozens of residents in Kampung Sawah, Bogor Utara District, to be poisoned. laboratory results show, in the processed tutut that is ripe it contains three types of bacteria namely *Escherichia Coli*, salmonella and shigella.⁷

In a preliminary study the researchers conducted in July while carrying out an internship by conducting field observations from 5 traders 3 of whom their personal hygiene was far from eligible due to the cleanliness of their long and dirty nails. Food handlers hygiene practices related to hand washing behavior with soap every time they touch food are also found to be lacking because they do not wash hands before and after processing food in terms of processing they also do not use clean equipment such as (forks, spoons, food tongs and appropriate gloves) because they only sell on modest carts with minimal facilities and equipment. Therefore, researchers are interested to know "The Relationship between Hygiene Behavior and Sanitation with *Escherichia Coli* Bacterial Contamination in Street Vendors in the Work Area of North Bogor Health Center in 2019."

Based on the background stated above, the formulation of the problem in this research is "Is there a relationship between hygiene and sanitation behavior with contamination of *Escherichia Coli* bacteria in street vendors in the North Bogor Public Health Center in 2019".

RESEARCH METHODOLOGY

This type of research is Analytical Research with a quantitative approach that uses Cross Sectional design.⁸ This study aims to obtain a picture by studying the dynamics of the correlation between risk factors and effects, using a method of approach, observation or data collection at one time (point time approach). That is, each research subject was only observed once and measured the character's status or subject variables at the time of examination. This does not mean that all research objects are observed at the same time

In this study, the independent variable data is hygiene behavior and merchant sanitation, while the dependent variable is the contamination of *Escherichia Coli* bacteria in street vendors in the North Bogor Public Health Center .

The sampling technique is Non Probability Sampling using the Total Sampling method. The number of samples in this study were all street vendors who were fostered by the North Bogor Puskesmas in the working area of the North Bogor Puskesmas which were 20 traders.

In this study primary data were obtained from questionnaires or distributing questionnaires to respondents, namely street vendors who were fostered in the working area of North Bogor Health Center, while secondary data were obtained from North Bogor Health Center, which were the results of UPTD Regional Health Laboratory Laboratory (LAKBKESDA) food samples from traders who are fostered in the working area of the North Bogor Public Health Center by taking food or beverage samples.

RESEARCH RESULT

a. Univariate Results

The Frequency Distribution of Street Pedestrian Hygiene Behavior in the Work Area of the North Bogor

Health Center shows that of the 20 respondents there were 11 respondents having negative behavior (55.0%).

The Frequency Distribution of Street Vendor Sanitation in the Bogor Puskesmas Work Area shows that of the 20 respondents there were 11 respondents who had negative sanitation (55.0%).

Frequency Distribution of Escherichia Coli bacteria in Street Food Traders Samples in the Work Area of North Bogor Health Center was found that the highest was positively contaminated with Escherichia Coli bacteria as many as 19 snacks (95.0%).

b. Bivariate Results

Based on table 4.13 the frequency distribution of the relationship between hygiene behavior with Escherichia Coli bacterial contamination in street vendors in the North Bogor Public Health Center in 2019 shows that with statistical tests of 20 respondents who have negative behavior with positive Escherichia Coli bacterial contamination, there are 11 respondents (100 %). Chi Square test results obtained p value = 0.450, which means P value (> 0.05) so that there is no relationship between hygiene behavior of street vendors with contamination of Escherichia Coli bacteria in street vendors in the North Bogor Public Health Center.

Based on table 4.14 the distribution of the frequency of sanitation relations with Escherichia Coli bacterial contamination in street vendors in the working area of North Bogor Health Center in 2019 shows that the statistical test of 20 respondents who have Negative sanitation with positive Escherichia Coli bacterial contamination is 10 respondents (90, 0%). Chi Square Test results obtained p value = 1, which means P value (> 0.05) so that there is

no relationship between sanitation and Escherichia Coli bacterial contamination in foot traders in the working area of North Bogor Health Center.

DISCUSSION

A. Univariate Results

1. Hygiene behavior of street vendors in the working area of North Bogor Puskesmas

Hygiene behavior of food processing staff is an activity of the food processing power itself or the activity of food processing power can be seen directly to anything related to the health of people or those who do everything about food in a food operation.⁹

Based on the results of the assumptions of this study, it can be concluded that the hygiene behavior of street vendors in the working area of the North Bogor Health Center in 2019 showed that of the 20 respondents there were 11 respondents who had negative behaviors (55.0%) and the results were in line with the research conducted by Arief Rakhman Judges who point out that some of the street vendor's behavior has negative behavior. The behavior of the street vendors touch food directly without the help of equipment such as spoons, forks and tongs, scratching or touching members of the body when preparing food and smoking and chewing food when processing food.

2. Street Vendor Sanitation in the Work Area of Bogor Utara Health Center.

Sanitation is a public health effort that focuses on supervision of various environmental factors that affect the degree of human health, while the factors that affect sanitation are rubbish bins, sanitation, clean water supply and density of flies or disease vectors.¹⁰

Based on the results of the assumptions of this study, it can be

concluded that the sanitation of street vendors in the working area of the North Bogor Health Center in 2019 showed that of the 20 respondents there were 11 respondents who had negative sanitation (55.0%) and the results of this study were in line with Wahyu Dwi Atmiati that Sanitation street vendors in the existence of trash bins in some of their selling areas are not yet sufficiently available, because they themselves only provide unprotected and closed trash bins so that it is easy as a pollutant media, thus their dirty situation also invites the existence of flies as vectorsof disease.

B. Bivariate Results

1. Relationship between Hygiene Behavior with Escherchia Coli Bacterial Contamination in Street Vendors in the Work Area of North Bogor Health Center.

Based on the assumptions of this study, it can be concluded that there is no relationship between hygiene behavior of street vendors with Escherichia Coli bacterial contamination in street vendors in the area of North Bogor Health Center in 2019 and the results of this study are in line with Dewi Fadilah Firdaus's research that other factors cause the presence of bacteria Escherichia Coli in food is not only a hygiene behavior of traders but also comes from the factor of the bacteria are already naturally in the food itself, foodstuffs that will carry their own microflora for life and these microflora will be in food products, foodstuffs stored in a humid room will easily absorb water so that water activity increases, increased water activity will cause microbes to grow easily and cause damage to the food

itself, temperature is also an environmental factor that affects microbial growth.

Escherchia Coli bacteria will grow and develop at 37°C, whereas Escherchia Coli bacteria can die by cooking food at 70°C, it can be assumed as a factor there is no relationship between behavior with Escherichia Coli bacterial contamination in terms of naturally occurring on food, the environment and when the food is cooked by traders or when the sword treats food poorly.

2. Relationship between Street Vendor Sanitation and Contamination of Escherichia Coli bacteria in Street Vendors in the Work Area of Bogor Utara Health Center

Based on the results of the assumptions of this study, it can be concluded that there is no relationship between sanitation of street vendors with contamination of Escherichia Coli bacteria in street vendors in the area of North Bogor Health Center in 2019 and the results of this study are consistent with Azzahra Pratiidina that other factors cause the presence of Escherichia Coli bacteria the food is not only a factor that affects sanitation from the trash, sanitation of clean water and density of flies or disease vectors originating from traders but also from sanitation factors where sales are a situation where the location of the place of sale is protected from pollution caused by dust or smoke. The cleanliness of the place of sale also determines the quality and safety of food produced.

Conversely, microorganisms grow well in humid and warm environments, containing good nutrients such as food and dirty environments. Therefore, food is very easy to be attacked by microorganisms, especially fruits and vegetables if they are in a dirty environment. sanitation, a selling place for traders, on the side of the road by only selling on a makeshift cart.

CONCLUSION

1. It is known that the frequency distribution of the hygiene behavior of street vendors in the working area of the North Bogor Health Center shows that of the 20 respondents there were 11 (55.0%) street vendors who had negative behaviors.
2. It is known that the frequency distribution of street vendor sanitation in the working area of the North Bogor Health Center shows that of the 20 respondents there were 11 (55.0%) street vendors who had negative sanitation.
3. It is known that the frequency distribution of Escherichia Coli bacteria in 20 food samples of the traders the highest results were positively contaminated by Escherichia Coli bacteria in 19 (95.0%) food samples.
4. There is no relationship between hygiene behavior with Escherichia Coli bacterial contamination in street vendors in the working area of North Bogor Health Center with Statistical Tests of 20 respondents who have negative behavior with the highest

proportion having positive Escherichia Coli bacterial contamination as many as 11 people (100 %). Statistical test results obtained ρ value = 0.450, which means P value (> 0.05) so that there is no relationship between hygiene behavior of street vendors with Escherichia Coli bacterial contamination in street vendors in the North Bogor Public Health Center

5. There is no relationship of sanitation with contamination of Escherichia Coli bacteria in street vendors in the working area of the North Bogor Health Center in 2019 of 20 respondents who have Negative Sanitation with the highest proportion having positive Escherichia Coli bacterial contamination of 10 people (90.0%). Statistical test results obtained ρ value = 1, which means P value (> 0.05) so that there is no relationship between sanitation and Escherichia Coli bacterial contamination in foottraders in the working area of Bogor Utara Health Center.

SUGGESTED RESEARCH

1. For Theoretical
 - It is expected to be useful as literature material to be used as a source of information about hygiene and sanitation as a source of material development for students and to be made into knowledge about environmental health
2. For Practitioners
 - a. For STIKes Wijaya Husada Bogor Institute
 - It is expected to provide more knowledge and learning material

input than is currently available. Further research needs to do further research with the same type of research but with different methods and make deeper observations, so that it can provide more accurate research specifically about the hygiene relationship of Escherchia Coli contamination in food or drink.

b. For North Bogor Puskesmas

It is expected for the North Bogor Health Center, to be able to work together with parties in the new Tanah Kelurahan, Cimapar and Cibuluh, to be able to oversee food or beverage traders who sell in the environment around the North Bogor Puskesmas working area by conducting continuous visits to make it more monitored movement of food traders centers in the neighborhood around the working area of the North Bogor Puskesmas.

c. For street vendors in the North Bogor Public Health Center

It is expected that street vendors can follow every counseling or training related to food / beverage sanitation hygiene, understand and apply hygiene and sanitation, as well as maintain environmental cleanliness and clean behavior to prevent contamination of food.

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THE CORELATIONOF URINARY INCONTINENCE WITH DEPRESSION LEVEL IN ELDERLY

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ABSTRACT

Urinary incontence is a disorder of bladder function, which provides problems with sleep disorders, skin problems, physical problems, social isolation, and psychological problems. Based on population projection data, estimated in 2017 there are 23.66 million people in Indonesian elderly people (9.03%). Prediction of elderly population in 2020 (27.08 million), 2025 (33.69 million), year 2030 (40.95 million) and year 2035 (48.19 million).

To see the urinary incontence relationship with depression level in the elderly in the village of Cilebut west of Sukaraja District Bogor West Java in 2019.

This research is an analytical deskriptif study, with a correlation design. The population of this research is the elderly who are in the village Cilebut West Sukaraja District Bogor West Java and who entered the criteria of inclusion as much as 73 sampling. Data retrieval using a questionnaire of 23 questions. Data analysis techniques using Chi Square analysis (X²).

There is a significant relationship between the urinary incontence with depression level in the elderly in the village of West Cilebut Sukaraja District Bogor Regency West Java, which is shown with the results of the Chi-Square there are as many as 21 respondents (52.5%). In the statistical test, the result of Ho was rejected and Ha received, where $p\text{-value} \leq \alpha$, then the significant $P\text{-value} \leq 0.05$. Thus, in conclusion of statistical test, there is a link between urinary incontence with depression rate in elderly in rural Cilebut West District Sukaraja Bogor District, 2019. These results are expected to add insight to the elderly about urinary incontence and depression so that age is not worried when experiencing the problem.

Keywords : elderly, urinary incontence, depression

PRELIMINARY

Based on population projection data, it is estimated that in 2017 there were 23.66 million elderly people in Indonesia (9.03%). Prediction of the number of elderly population in 2020 (27.08 million), 2025 (33.69 million), 2030 (40.95 million) and 2035 (48.19 million).¹

Data from the World Health Organization (WHO) in 2015 showed that aging experienced the highest level of expectation since 2000. The population of elderly people in the world also experienced an increase every year, in 2013 the highest proportion was obtained in the elderly at 8.1% of the total population.²

The increasing number of elderly people needs serious handling because scientifically the elderly experience a decrease both in terms of physical, biological, and mental. This is inseparable from economic, social, and cultural issues, so there is a need for family participation and social roles in handling because it is the main support system for the elderly in maintaining their health. The role of the family in the care of the elderly among other physical care, psychological care, social care, spiritual care. Nurses have an important role to play in the health of the elderly, namely improving the quality of the elderly and creating independence for the elderly in the maintenance and handling of

physical and mental health problems, so as to be able to utilize various resources available in the family and community.

Aging is a process that occurs continuously and continuity, then will cause anatomical, physiological, and biochemical changes in the body so that it will affect the overall function and ability of the body. Incontinence is a condition where the urine is involuntary clear and objective and becomes a social and hygienic problem. Epidemiologically urinary incontinence is the excretion of urine is the expenditure of urine that is not controlled in the period of a year or more than episodes in a month.⁵

Urinary incontinence in the elderly population is a serious problem. The National Kidney and Urologic Diseases Advisory Board says there are around 13 million individuals in the United States suffering from urinary incontinence, with the highest incidence occurring in the elderly who are either being treated at nursing homes or not. In all, it is estimated that about half of the elderly who are treated at home or in nursing homes experience incontinence.⁷

Depression is a type of emotional disturbance that includes psychological components: distress, depressed, sad, hopeless, and unhappy, as well as somatic components: anorexia, constipation, moist skin, blood pressure and decreased pulse rate.⁴

Depression is a disorder of feeling (effect) characterized by a dysforic effect (loss of excitement / arousal) accompanied by other symptoms, such as sleep disturbance and decreased appetite.⁶

The results of this study are in line with Devrisa Nova Fernandes in 2014 entitled *The Relationship Between Urinary Incontinence and the Degree of Depression in Aged Women*

Next at the Dharma Bakti Surakarta Nursing Home and the Posyandu under the

guidance of the Surakarta Manahan Health Center. The results showed that moderate depression is the most frequent degree of depression experienced by elderly women by 25 respondents (34.25%). Consisting of 22 elderly age groups. While the smallest percentage is severe depression by 9 respondents (12.33%).

Based on the results of a survey conducted in the District of West Cilebut Village Sukaraja District Bogor Regency West Java in 2019 in August it was found that the number of elderly people in the West Cilebut Village Sukaraja District Bogor Regency during the study found 90 elderly. From the elderly data after conducting a preliminary study, as many as 73 elderly people experienced Urinary Incontinence.

Based on the results of observation that have been made in the District of West Cilebut Village Sukaraja District Bogor Regency West Java in 2019 there are some elderly who experience depression. The elderly suffer more depression in those who are immobilized or have chronic diseases. Elderly who are immobilized, all day just lying in bed. Likewise with the elderly who have chronic diseases such as arthritis. They don't get along with other elderly people because of their limitations or illness. Under these circumstances, signs of depression are often seen. So many elderly people are identified as having signs and symptoms of depression but they are not given any medical or nursing care to cure them.

The impact of depression on the elderly is very bad. Untreated depression causes increased use of health and medical facilities, negatively affects quality of life and increases mortality. Whereas with prolonged urinary incontinence that is not handled properly will indirectly affect the quality of life of a person, causing life

problems in terms of medical, social, economic and psychological.

Based on the description above this makes researchers interested in taking this title to be the basis of research, is there a relationship between Urinary Incontinence and the Depression Level in the Elderly in the Region of West Cilebut Village Sukaraja District Bogor Regency WestJava.

RESEARCH METHODS

This type of research uses quantitative analytics. Analytic is research that tries to explore how and why health phenomena occur. Analytical research can be done quantitatively so that statistical analysis can be carried out.

The research design is the final result of a decision stage made by the researcher relating to how the research can be applied. The approach taken is cross sectional.

Cross sectional is a study to study the dynamics of correlation to find out the relationship between urinary incontinence and the level of depression in the elderly by approaching, observing or collecting data at the same time. This design is to find out the relationship between urinary incontinence and the level of depression in the elderly of Cilebut Barat Village, Sukaraja District, Boogor Regency, West Java .

This research was conducted on September 13-20 in the Region of West Cilebut Village Sukaraja District Bogor Regency West Java in 2019. The population in this study were the elderly in the West Cilebut Village Region Sukaraja District Bogor West Java with a total of 90 elderly from several Rw in the village In this research using Quota Sampling, there is a limitation on the sampling quota that the selected sample must be a certain number (quotum) from each predetermined subgroup of a population.

RESEARCH RESULT

Based on the frequency distribution of urinary incontinence by sex in the West Cilebut Village Region Sukaraja District Bogor Regency West Java, shows that of the 73 respondents most of the respondents were Elderly Women as many as 38 respondents (52.1%).

Distribution of Frequency of Urinary Incontinence in the West Cilebut Village Area Sukaraja District Bogor Regency West Java shows that of the 73 respondents most respondents experienced severe Urinary Incontinence as many as 41 respondents (56.2%).

Based on the frequency distribution of depression levels in the Cilebut Barat Village Region, Sukaraja District, Bogor Regency, West Java, shows that of the 73 respondents namely the number of elderly people who experienced severe depression as many as 55 respondents (75.3%).

The Relationship between Urinary Incontinence and Depression Level in the Elderly in the District of West Cilebut Village, Sukaraja District, Bogor, West Java, shows that from 73 respondents, the number of elderly women who experience depression due to severe incontinence was 21 respondents (52.5%).

From the results of statistical tests using Chi-square shows the value p -value = 0,000, which means value-value <0.05 , so the decision taken is H_a accepted H_o rejected, which means there is a significant relationship between Urinary Incontinence with the Depression Level in the Elderly in West Cilebut Region Sukaraja District Bogor Regency West Java.

DISCUSSION

1. Characteristics of Research Subjects by Gender

Obtained the results of 73 respondents found the majority of respondents, namely Elderly Women as many as 38 respondents (52.1%), while Elderly Men as many as 35 respondents (47.9%).

2. Univariate Results

Based on the results of the study showed that of 74 respondents in the West Cilebut Village Area Sukaraja District Bogor Regency West Java it can be seen that 41 respondents (56.2%) who experienced severe incontinence in the West Cilebut Village Region Sukaraja District Bogor Regency West Java. It's only natural that the elderly are not in a serious physical or mental illness condition that requires them to get serious health care. Environmental factors, environmental factors that are clean, healthy and conducive contribute to contribute to one's health level. The quality of health services in the West Cilebut Village Area Sukaraja District, Bogor Regency, West Java, the better the elderly, the easier it is to check and control the health conditions of the elderly.

The results of this study are inversely proportional to Angelina Mediatrix Wilson, Rina kudre, Fanly Onibala in 2017 *The Relationship of Urinary Incontinence With Depression Rates in the Elderly at Bethania Lembean Werdha Nursing Home*. The results showed that of the total 39 respondents (100%) there were 29 respondents (74.4%) experiencing mild urinary incontinence. Whereas 10 respondents (25.6%) experienced severe urinary incontinence.

Urinary incontinence in the elderly population is a serious problem. The National Kidney and Urologic Diseases Advisory Board says there are around 13 million individuals in the United States suffering from urinary

incontinence, with the highest incidence occurring in the elderly who are either being treated at nursing homes or not. In all, it is estimated that about half of the elderly who are treated at home or in nursing homes experience incontinence.⁸

Incontinence is a condition wherein urine is seen involuntarily clear and objective and become social and hygienic problems. Epidemiologically, urinary incontinence is the excretion of urine is the excretion of urine that is not in control within a year or more than episodes in a month.⁹

Urinary disorders or urinary incontinence is defined as a condition where a person cannot control urination.¹⁰ Although urinary incontinence is not a life-threatening disease, incontinence can affect a person's psychological condition. Refusal from the community, limited social activity due Unusual fear feelings control urination. This is what will cause psychological disorders such as depression.¹¹

The factors that influence this condition are caused by too much urinary tract muscles to hold urine when there is pressure. Bladder muscles can weaken due to various factors, for example, due to labor, excess body weight, or complications from surgery.

Based on the results of the frequency distribution and the percentage of types of urinary incontinence in the elderly in the Region of West Cilebut Village, Sukaraja District, Bogor Regency, West Java, the majority of respondents experienced urgent urinary incontinence. Urinary urinary incontinence is the most common type of incontinence in the elderly in the village. Urinary incontinence urgency is involuntary urine output, urine discharge before

reaching the toilet, the need to rush to go to the toilet, and the inability to hold urine. Old people in the village of West Cilebut, District of Sukaraja, Bogor Regency could not hold their urine until they entered the toilet. Urine will come out when they are on their way to the toilet and when they open their pants and clothes when they reach the toilet.

Based on the results of the research assumptions that researchers can conclude that the occurrence of severe urinary incontinence can be caused by decreased resistance to the urethra and bladder estuary. As well as the unstable bladder detrusor muscles that react to urinate or urinate before they enter the toilet, and without being noticed by the elderly the clothes / pants they wear are wet because urine cannot be held by the elderly.

b. Depression on Lasia in the West Cilebut Village Region Sukaraja District Bogor Regency West Java

Based on the results of the study showed that of 73 respondents, stated that the majority of those experiencing depression were 55 respondents (75.3%) in the West Cilebut Region Sukaraja District, Bogor Regency, West Java. This can be seen from the advanced age in the Region Cilebut Barat Village Sukaraja District Bogor Regency West Java experiences depression, sadness, loss of life passion, no enthusiasm, and feel helpless, feel failure and guilt, do not feel satisfied with life, are useless and hopeless.

The results of this study are in line with Devrisa Nova Fernandes in 2014 entitled *The Relationship Between Urinary Incontinence and the Degree of Depression in Older Women at the Dharma Bakti Surakarta Nursing Home and Posyandu under the guidance of the Manahan Public Health Center*

Surakarta. The results showed that moderate depression is the most frequent degree of depression experienced by elderly women by 25 respondents (34.25%). Consisting of 22 elderly age groups. While the smallest percentage is severe depression by 9 respondents (12.33%).

Depression is a word that has many nuances of meaning. Most of us have felt sad or annoyed, lead a life full of problems, feel disappointed, lost and frustrated, which easily leads to unhappiness and despair. However, in general this feeling is quite normal and is a healthy reaction that lasts quite short and easily dispelled. Depression is a disorder of feeling (effect) characterized by a dysforic effect (loss of excitement / arousal) accompanied by other symptoms, such as sleep disturbance and decreased appetite.⁶ Depression is a type of emotional disturbance that includes psychological components: distress, depressed, sad, hopeless, and unhappy, as well as somatic components: anorexia, constipation, moist skin, blood pressure and decreased pulse rate⁶

Depression is not a condition due to a single pathology, but is usually multifactorial. In old age, where environmental stress often causes depression and adaptability has decreased, due to depression in old age is often not as good as young age.¹² The factors that influence are economic status, and social support, physical illness, urinary incontinence, gender, marital status, geographics, age.

Based on the results of research that the elderly experience changes such as vision and hearing disorders, the limitation is at risk of causing depression in old age. Depression in the elderly in the area of West Cilebut

Village Sukaraja District Bogor Regency according to the characteristics of depression in the elderly is more common in women. It is suspected that women seek treatment more often so that depression is diagnosed more frequently, and states that women experience environmental stressors more frequently and lower threshold for stressors in men. Also emphasized is severe anxiety, anxiety, disability, continuing social activities, work and household affairs. This makes it easy for old people to feel bored so that the emergence of sadness, depressed, pessimistic, and others. Thus it is only natural that respondents who experience depression in the West Cilebut Village Region Sukaraja District Bogor Regency West Java is very high 55 respondents (75.5%).

Based on the results of research on the assumptions that researchers can conclude that the occurrence of depression in the elderly due to urinary incontinence that can cause an attitude of withdrawal in the elderly because they consider themselves smelly and useless in the environment where they live, and the elderly have difficulty in facing and continuing good activities social and their work as usual.

2. Bivariate Results

Based on the results of the study, it can be concluded that there are 21 respondents (52.5%) Elderly who experience severe urinary incontinence with depression is more common in the elderly women, while when researching the elderly laiki only 17 respondents (51.5%) were found. This suggests that urinary incontinence with a degree of depression is often experienced in older women than in elderly men.

The results of this study are in linewith Desby Juananda, Dhany Febriantara

with the title Urinary Incontinence in the Elderly in Pani Werdha, Riau Province in 2017. The research subjects were divided into two groups, namely the elderly who experienced urinary incontinence and non-urinary incontinence. Based on age classification, the elderly are divided into three age groups, namely ederly (60-75 years old), old (75-90 years old), very old(> 90), whereas based on the sexes of the elderly the elderly are classified into male and female. In this study it was found that urinary incontinence was experienced by (53.33%) and mainly women (56.25%).

As for those that affect urinary incontinence with increasing age, the bladder capacity decreases. Remaining urine in the bladder after each urination tends to increase and irregular contractions of the bladder muscles become more frequent. The occurrence of urinary incontinence which results in the elderly woman appearing with insecurity to socialize with other people, even to the point that they have no function to live.

RESEARCH LIMITATIONS

This research has been attempted and carried out in accordance with scientific procedures, however it still has limitations, namely: data collection is only based on the contents of the questionnaire not by observation, so that only answers based on the answers that have been provided, At a age that is less cooperative it is difficult to communicate, especially for respondents who can not read, the language written is not the same as the language said.

IMPLICATIONS

In studies of elderly who experience severe urinary incontinence withdepression, health services need to provide therapy to elderly people who experience severe urinary incontinence in the form of counseling about urinary incontinence,

bladder training, pelvic floor muscle training, habit training, prompted voiding, biofeedback therapy, electrical stimulation, neuromeduling. So that the number of elderly who experience depression due to severe urinary incontinence, one effort that can be given by the family is social support and attention to the elderly, so that the elderly does not experience severe depression resulting in increased suicide rates.

CONCLUSION

1. Distribution of Frequency of Urinary Incontinence in the Elderly in the Region of West Cilebut Village, Sukaraja District, Bogor Regency in 2019 shows that of the 73 respondents most respondents experienced severe urinary incontinence as many as 41 respondents (56.2%).
2. Distribution of Urinary Incontinence Frequency in Lasia by sex in the area of West Cilebut Village Sukaraja District Bogor Regency shows that of the 73 respondents most of the respondents were elderly women as many as 38 respondents (52.1%).
3. Frequency Distribution of Depression Levels in the Elderly in the Region of West Cilebut Village Sukaraja District Bogor District Year shows that of the 73 respondents most of the respondents are 55 respondents (75.3%) who experience depression.
4. The Relationship between Urinary Incontinence and the Level of Depression in the Elderly in the West Cilebut Village Region Sukaraja District Bogor District is known that from 73 respondents found the majority of elderly people experience severe urinary incontinence with the level of depression in elderly women as many as 21 respondents (52.5 %). From the results of statistical tests using Chi-square

address value P -value = 0,000, which means <0.05 , so the decision taken is H_0 rejected, which means that there is a significant relationship between Urinary Incontinence with Depression Level in Lansia in the Village Area Cilebut Barat Sukaraja District Bogor Regency.

SUGGESTION

1. Nursing Student Wijaya Husada After reading the results of this study, it is expected that Wijaya Husada students can increase their knowledge by reading the results of other studies specifically about the Relationship of Urinary Incontinence and the Depression Level in the Elderly in the Region of West Cilebut Village, Sukaraja District, Bogor Regency, West Java, thereby expanding knowledge and adding new knowledge to students especially about nursing care subjects.
2. For the West Cilebut Village Region, Sukaraja District, Bogor Regency It is hoped that this research will be able to provide information to all related parties as one of the provisions in efforts to improve the incidence of anemia in pregnant women and can help carry out health service delivery to pregnant women.
3. For Researchers It is expected that the results of this study can provide information and input for the researched land institutions, especially in the West Cilebut Village, Sukaraja District, Bogor Regency, the elderly can change their mindset so that they do not feel depressed because of the health conditions they suffer

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THE EFFECT OF LEMON AROMATHERAPY AGAINST VOMITING INTENSITY OF PREGNANT MOTHERS

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ABSTRACT

The incidence of nausea and vomiting reaches 12.5% of the number of pregnancies in the world. Pregnancy nausea and vomiting or nausea and vomiting of pregnancy (NVP) are the most common complications during pregnancy of up to 85% in pregnant women. In the United States and Canada, there are around 400 and 350,000 pregnant women who are affected every year due to nausea, vomiting. Reports show that in Indonesia, almost 50-90% of pregnant women experience nausea and vomiting in the first trimester (the first 3 months of pregnancy). This situation will improve at 12-16 weeks gestational age. This situation occurs in about 60-80% of primigravida and 40-60% occurs in multigravida. This study aims to determine the effect of lemon aromatherapy on the intensity of nausea and vomiting in first trimester pregnant women at BPM Nina Marlina.S.ST Bogor district in 2019.

The method used is a pre-experimental design with One-Group pre-post test. The sample used 20 respondents in first trimester pregnant women with nausea and vomiting in BPM Nina Marlina S.ST Bogor Regency using Total observation sheet.

Of the 20 respondents (100%) it was found that the post-test results of pregnant women Sampling technique. The instrument used to an with nausea and vomiting scale decreased consisting of 16 (80%) respondents after being given lemon aromatherapy. The statistical test shows that H_0 is rejected and H_a is accepted, where the p-value obtained in this study is 0.006, which means ≤ 0.05 . So that the final conclusion of the statistical test is the effect of lemon aromatherapy on the intensity of nausea and vomiting in first trimester pregnant women at BPM Nina Marlina S.ST Bogor Regency in 2019. It is expected that lemon aromatherapy can be considered as a standard of care for pregnant women with nausea and vomiting and can be recommended as an intervention in obstetric care for pregnant women with nausea and vomit trimester I.

Keywords : nausea, vomiting, lemon aromatherapy

PRELIMINARY

Pregnancy is a physiological process that occurs in women due to fertilization between male sex cells and female sex cells. In other words, fertilization of the ovum by spermatozoa, thus undergoing nidation of the uterus and developing until the birth of the fetus.¹ Every pregnant woman will experience the process of body adjustment to pregnancy according to the trimester stage being undertaken. The first trimester is the beginning of the trimester which gives rise to various responses in pregnant women. The most influential

response in pregnant women is nausea and vomiting.

According to WHO (World Health Organization) the incidence of nausea and vomiting reaches 12.5% of the total number of pregnancies in the world.³ Nausea and vomiting of pregnancy or nausea and vomiting of pregnancy (NVP) are the most common complications during pregnancy up to 85% in pregnant mother. In the United States and Canada, around 400 and 350,000 pregnant women are affected every year due to nausea, vomiting. Reports show that in Indonesia, almost 50-90% of

pregnant women experience nausea and vomiting in the first trimester (the first 3 months of pregnancy). This situation will improve at 12-16 weeks gestational age. This situation occurs in about 60-80% primigravida and 40-60% occur in multigravida.⁴

Nausea and vomiting are common discomforts experienced by 50% of pregnant women. Generally the most severe in the first trimester of pregnancy. Vomiting occurs when the vomiting center in the medulla or chemoreceptor trigger zone located in the fourth ventricular lateral wall is stimulated. However, the etiology of nausea and vomiting has not been proven. But according to estimates, this condition can be caused by high levels of hCG (Human Chorionic Gondotropin) ⁵

Nausea and vomiting during pregnancy have a significant impact on family life, the ability to perform normal daily activities can be disrupted, social functioning and the development of stressful situations. Pregnant women must be able to adapt to nausea and vomiting, if not able to adapt can cause adverse effects both for pregnant women and the fetus they contain. Pregnant women who experience nausea and vomiting really need adequate nutrition for the mother's body and nutrition for the fetus in the womb. If nutritional intake decreases it will experience weight loss and this will also adversely affect the fetus it contains.

In medical science, treatments that can reduce nausea and vomiting in pregnant women include pharmacological therapy and non-farmakologis therapy. Pharmacological therapy is performed by administering antihistamines, corticosteroids, antimetics, and anticholinergics. And non-pharmacological therapy which is done by way of regulating

the diet (eat a little but often, avoid foods that smell pungent and sharp like spicy food, fatty foods, bersantan, and oily, immediately after waking up eating a cookie before starting the activity), and finally Non-pharmacological therapies that are often used to reduce nausea and vomiting are complementary therapies (ie lemon aromatherapy, ginger and peppermint) .⁷

Because aromatherapy is recognized as an effective herbal treatment for treating nausea and vomiting. Aromatherapy means the use of essential perfume oils for therapeutic or medical purposes. It is effective for relaxation, reduce pain and stress, improve coping mechanisms and improve fitness.

Of the various types of aromatherapy that are often used to treat nausea and vomiting, namely lemon aromatherapy, which is one of the alternative methods that provides a sense of relax and calm by stimulating the limbic system of the brain. Lemon aromatherapy also plays a role in refreshing the mind, reducing depression, and reducing emotions. The juice of the citrus family has a refreshing aroma and has antiseptic, stimulant and tonic properties with a significant effect on the entire digestive tract. Stimulant aromas such as the smell of citrus limon oil will affect the locus ceruleus which then releases serotonin and endorphins.⁹ So that the nausea of vomiting can decrease due to a sense of relax and stable emotions. Smell can have a negative or positive influence on mood on natural feelings and well-being sensations, and the aroma of certain essential oils has been shown to affect neurological function.

Lemon essential oil (citrus lemon) is one of the most widely used herbal oils in pregnancy which is considered a safe drug in pregnancy. According to a study 40% of

women have used the scent of lemon to relieve nausea and vomiting, and 26.5% of them have been reported as effective ways to control the symptoms of nausea and vomiting.¹¹

One of the effectiveness of the chemical content in lemon essential oil is that it can affect the activity of the functioning of the brain through the nervous system associated with the sense of smell. This response will stimulate an increase in neurotransmitter activity, which is related to the recovery of psychological conditions such as emotions, feelings, thoughts, and desires

When essential oils are inhaled, they enter the nasal cavity and stimulate the limbic system in the brain. The limbic system is an area that affects emotions and memory and is directly related to the adrenal, hypothalamic pituitary gland, parts of the body that regulate heart units, blood pressure, stress, memory, hormonal balance, and breathing. Lemon itself is one type of other herbs, especially for pregnant women who are experiencing nausea, vomiting.

According to research conducted by Astriana (2015) shows differences in the frequency of nausea before and after the administration of lemon aromatherapy at BPS Varia Mega Lestari, S.ST., M.Kes. This study looked at the effect of the treatment given that the total mean before administration of lemon aromatherapy was obtained 4.53 times the frequency of nausea and vomiting, then obtained the mean after administration of lemon aromatherapy frequency of nausea 3.13 times a day with a p-value of 0.000. These results indicate that the frequency of nausea and vomiting of respondents average before and after administration of lemon aromatherapy has a significant difference because the p value

obtained p-value <0.05, which means that the administration of lemon aromatherapy can reduce the frequency of nausea and vomiting in pregnancy.¹²

Nursing actions taken at BPM Nina Marlina.S.ST to reduce nausea and vomiting in pregnant women so far are still using nursing measures with pharmacological management, namely the administration of nausea and vomiting, namely with vitamin B6 and Metocloropamide.

Based on the results of a preliminary study conducted in July - August 2018 at BPM Nina Marlina.S.ST, the average number of visits of first trimester to third trimester pregnant women was 118 pregnant women. In August, K1 (first trimester) visit data showed that pregnant women with nausea and vomiting consisted of 20 pregnant women. Pregnant women say that nausea, vomiting is felt in the morning until sometimes it interferes with daily activities, some say nausea and vomiting are felt when they smell bad or even food odor. Pregnant women who were questioned by researchers said that they did not yet know an alternative way to relieve or relieve nausea and vomiting apart from using drugs taken from midwives, or there were even some pregnant women who only silenced them. Based on the background of the problems above, researchers were interested in conducting research with the title " Effect of Lemon Aromatherapy on the Intensity of Nausea and Vomiting in Trimester I pregnant women in BPM Nina Marlina.S.ST Bogor Regency in 2019 until the feeling of nausea and vomiting are felt gone.

RESEARCH METHODS

The type used in this study is experimental or experimental research.

Experimental research is a study by conducting experimental activities (experiments), which aim to find out the symptoms or effects that arise, as a result of the existence of certain treatments or experiments.¹³

This study uses a Pre-experimental research design. While the design of this research design uses One-Group pre-posttest design, because pre-experimental does not require control.

This research was conducted on September 4, 2019 at BPM Nina Marlina S.ST Bogor Regency. The population in this study was pregnant women with nausea and trimester I.

The variables of this study consisted of independent variables, namely the treatment of lemon aromatherapy in BPM Nina Marlina S.ST Bogor Regency. The dependent variable in this study was pregnant women with first trimester nausea and vomiting in BPM Nina Marlina S.ST. The analysis consists of prerequisite tests and hypothesis tests, where the prerequisite test techniques consist of normality tests and homogeneity tests. Normality test is to find out whether the data is normally distributed so that it can be used in parametric statistics, if the data is not normally distributed, non-parametric statistics can be used. In this normality test using the Shapiro-Wilk test. Homogeneity test is to test the similarity of some parts of the sample, so that the generalization of the population can be done. Homogeneity test uses the formula of Levene's test. Influence or not on the administration of lemon aromatherapy to the intensity of nausea and vomiting in first trimester pregnant women at BPM Nina Marlina S.ST Bogor Regency.

Based on the frequency distribution of nausea intensity of vomiting in first

trimester pregnant women, it is known that most of the intensity scale of nausea and vomiting before lemon aromatherapy is given (scale 7-9) controlled severe nausea, namely as many as 10 people (50%).

Based on the frequency distribution of the nausea intensity of vomiting in first trimester pregnant women it is known that most of the intensity scale of nausea and vomiting after lemon aromatherapy is given (scale 1-3) mild nausea and vomiting as many as 9 people (45%).

Based on the analysis of the results of the intensity of nausea and vomiting before and after treatment, a significant value of 0.000 is known.

Based on the analysis of the Effect of Lemon Aromatherapy on the Intensity of Vomiting Nausea in Trimester I Pregnant Women in BPM Nina Marlina S.ST Bogor Regency, it is known that the post-test results of pregnant women with permanent nausea and vomiting are 4 (20%) respondents, and pregnant women with nausea and vomiting decreased consisting of 16 (80%) respondents. With a significant value of 0.006.

DISCUSSION

1. Interpretation

a. Characteristics of Intensity of Nausea and Vomiting Before Lemon Aromatherapy is Given

Based on table 4.2 shows that pregnant women who experience mild nausea and vomiting (scale 1-3) are 4 respondents, moderate nausea and vomiting (scale 4-6) are 6 respondents, and controlled severe nausea and vomiting (scale 7-9) are 10 respondents.

In accordance with research conducted by Melinda Susanti (2017) with the title "granting lemon

inhalation aromatherapy to reduce nausea and vomiting in the first trimester of pregnancy in BPM Istiantul Kebumen Regency" to determine the scale of nausea and vomiting before lemon aromatherapy given, the majority in the controlled weight category (scale 7- 9) done using the NRS (Numeric Rating Scale) observation sheet.

In medical science, treatments that can reduce nausea and vomiting in pregnant women include pharmacological therapy and non-farmakologis therapy. Pharmacological therapy is performed by administering antihistamines, corticosteroids, antimetics, and anticholinergics. And non-pharmacological therapy which is done by way of regulating the diet (eat a little but often, avoid foods that smell pungent and sharp like spicy food, fatty foods, bersantan, and oily, immediately after waking up eating a cookie before starting the activity), and finally Non-pharmacological therapies that are often used to reduce nausea and vomiting are complementary therapies (ie lemon aromatherapy, ginger and peppermint).⁷ Because aromatherapy is recognized as an effective herbal treatment for treating nausea and vomiting.

The intensity of nausea and vomiting in each pregnant woman is different. In this study, before lemon aromatherapy was given to first trimester pregnant women, pre-test was performed first. The pre-test results showed that the mean total of the intensity of the nausea scale of vomiting in first trimester pregnant women was 3.30 (SD = 0.801). This is in accordance with the provision of

lemon aromatherapy to 20 respondents who experienced nausea, vomiting, from the results of interviews with using the observation sheet to the most respondents contained nausea and vomiting with controlled weight (scale 7-9).

b. Characteristics of Intensity of Nausea and Vomiting after Lemon Aromatherapy.

Based on table 4.3 shows the results of the research on the nausea scale of vomiting of pregnant women trimester I overcome the decline. Before given aromatherapy lemon pregnant women who released mild nausea, vomiting as many as 4 (20%) respondents, moderate nausea and vomiting as many as 6 (30%) respondents, and controlled severe nausea and vomiting as many as 10 (50%) respondents.

In accordance with research conducted by Melinda Susanti (2017) with the title "granting lemon inhalation aromatherapy to reduce nausea and vomiting in the first trimester of pregnancy at BPM Istiantul Kebumen Regency" to study the nausea scale given by lemon aromatherapy given in the mild category (scale 1-3) done using the NRS (Numeric Rating Scale) observation sheet.

Lemon essential oil (lemon) is one of the most widely used herbal oils in pregnancy which is considered a safe drug in pregnancy. According to a studio, 40% of women have used the scent of lemon to relieve nausea and vomiting, and 26.5% of them have agreed as an effective way to regulate it.

One of the chemical reserves in lemon essential oil can affect the work activities of the brain through the nervous system associated with the sense of smell. This response will encourage an increase in neurotransmitter activity, namely regarding psychological recovery such as emotions, feelings, thoughts, and desires

When essential oils are inhaled, they enter the nasal cavity and stimulate the limbic system in the brain. The limbic system is an area that deals with memory and memory and is directly related to the adrenal, pituitary hypothalamus, body parts related to the heart unit, blood pressure, stress, memory, balance hormones, and breathing. Lemon itself is one of the other types of herbal plants, specifically for pregnant women who are being improved with nausea and vomiting

In this study after being given aromatherapy lemon pregnant women who were asked to nausea vomiting with a scale of Nausea Vomiting as much as 1 (5%) respondents, Light Nausea Vomiting as many as 9 (45%) respondents, Medium Nausea Vomiting as many as 8 (40%) respondents, Vomiting Nausea Controlled Weight of 2 (10%) respondents. In the post-test results obtained results are the average total results of the scale of pregnancy in first trimester pregnant women is 2.55 (SD = 0.759).

c. Analysis of the Effect of Lemon Aromatherapy on the Intensity of Vomiting in First Trimester Pregnant Women in BPM Nina Marlina S.ST Bogor Regency.

Based on table 4.7 the results of the analysis of researchers obtained respondents who use lemon aromatherapy to the intensity of nausea and vomiting in pregnant women after given nausea vomiting training decreased by 16 (80%) respondents, while those who used nausea and vomiting remained as many as 4 (20%) respondents. The significant value obtained is 0.006, which means that the p-value ≤ 0.05 , then H_a is accepted and H_0 is rejected. Need additional assistance in the administration of lemon aromatherapy to the intensity of the release of nausea in trimester I pregnant women.

This study discusses the research conducted by Siti Cholifah namely "the influence of lemon aromatherapy to reduce nausea and vomiting in first trimester pregnant women" with the results before giving aromatherapy Means \pm SD 23.33 \pm 3.913, then after aromatherapy assistance means \pm SD 13.67 \pm 4.071. Wilcoxon Sign Rank Test results with significance level $\alpha = 0.05$ obtained $p = 0.001$ ($P \leq 0.05$) then H_a is accepted and H_0 is rejected, which means there is aromatherapy nausea and vomiting in first trimester pregnant women I.

Most of primigravida has not been able to replace with the hormones estrogen and human chorionic gonadotropin (hCG) so that it is more common in nausea, vomiting. In primigravida usually choose information and poor communication and provide care to help affect the perception of women with nausea and throwing variations. While the multigravida already has experience, information and knowledge about the

problem of sagging nausea able to overcome the symptoms. 10 requires nausea, vomiting needed by primigravida pregnant women is more increased than in multigravida pregnant women.

Nausea and vomiting are common discomforts experienced by 50% of pregnant women. Nausea and vomiting during pregnancy have a significant importance on family life, the ability to perform reliable daily activities, social functions and stress development. In medical science, treatment that can reduce nausea and vomiting in pregnant women is given pharmacological therapy and non-farmakologis therapy.

Reducing the intensity of nausea slows the effects of lemon aromatherapy, lemon aromatherapy also eliminates thoughts, decreases depression, and reduce emotions. Lemon juice contains aroma and has antiseptic, stimulant and tonic properties with beneficial effects on the entire digestive tract. A stimulating aroma like limon orange oil will affect the locus seruleus which then releases serotonin and endorphins. 9. Sense of nausea can turn into a stable and stable sense of stability. Smell can give a negative or positive impression on mood or feelings and well-being, and the aroma of certain essential oils has been shown to affect neurological function

RESEARCH LIMITATIONS

Researchers are aware that in this study many things happen and are inhibiting This is not due to intentional factors, but because of limitations in conducting research.

a. Location Limitations

In addition to being conducted at BPM Nina Marlina S.ST Bogor Regency also conducted at the home of the respondent. Therefore, researchers improve the limitations in conducting research because they have to do from one respondent's house to another respondent's house.

b. Limited time

Research conducted by researchers is hampered by time, because the time used is very limited. So researchers only have the time in accordance with the relevant research. Although the time spent by researchers is quite short, but can meet the requirements in scientific research.

RESEARCH IMPLICATIONS

The results showed that there was an influence of lemon aromatherapy on the intensity of nausea and vomiting in first trimester pregnant women at BPM Nina Marlina S.ST Bogor Regency in 2019. Thus as a health worker, handling nausea in first trimester pregnant women as an alternative in midwifery care is expected to be recommended as a nurse's intervention in her nursing care. Care or care for trimester pregnant women I am very important in health care, professional and satisfying services do not have to be expensive. However, lemon aromatherapy to reduce nausea and vomiting can be done in a simple way, relatively inexpensive, and can be done independently by nurses or patients.

The effects of lemon aromatherapy not only reduce the intensity of nausea and have no side effects, but can also provide calm, relax, reduce pain and stress, and can also improve fitness.

CONCLUSION

Based on the discussion previously described, the conclusions from this study can be drawn as follows:

1. Before given lemon aromatherapy intervention during pre-test a small portion of respondents (20%) relied on mild throwing nausea, a small portion of respondents (30%) controlled severe vomiting.
2. After the lemon aromatherapy intervention was given during the post-test most of the respondents (45%) relied on mild nausea throwing, a small portion of respondents (5%) had no difficulty in nausea and vomiting, a small portion of respondents (50%) used nausea moderate vomiting, a small proportion of respondents (10%) are lower controlled.
3. It is known that the post-test results of pregnant women with permanent nausea and vomiting are 4 (20%) respondents, and pregnant women with nausea and vomiting decreased consisting of 16 (80%) respondents. It is undeniable that there are benefits of lemon aromatherapy to intensive nausea and vomiting in first trimester pregnant women with a significant value of 0.006 or a P value of 5 0.05.

SUGGESTION

In connection with the above conclusions, there are several things that can be supported for the development of the results of this study of the intensity of the release of trimester I pregnant women.

1. For Institutions

It is hoped that lemon aromatherapy can be considered as a permanent treatment for pregnant women with nausea and vomiting and can be recommended as an intervention in obstetric care for pregnant women with nausea and vomit trimester I.

2. For pregnant women Trimester I

It is expected for first trimester pregnant women who experience nausea to vomit during pregnancy to use lemon romatherapy in dealing with nausea and vomiting.

3. For Other Researchers

It is expected to be a reference material in conducting further research that is better related to lemon aromatherapy and nausea and vomiting in first trimester pregnant women.

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THE CORRELATION OF ROLE OF PARENTS AND PHUBBING BEHAVIOR IN STUDENTS

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ABSTRACT

Trem "phubbing" devired from the word "phone" which depict insulting someone in a social environment by paying attention to a cellphone, and talking to that person directly. The role of parents is very important in this case, because parents should be able to maintain control of the cell phone used by their children so that it does not cause phubbing, in addition to self-prevention methods phubbing can also be prevented through parents so that the child can according to what his parents say.¹⁴

The general purpose of the study was to determine the correlation of the role of parents with phubbing behavior in the level II students of Diploma 3 study program on stikes wijaya husada Bogor .

This type of research uses descriptive analytic cross sectional approach. The population in the study were 60 respondents and the samples in this study were 52 respondents using simple randomnessampling technique. Data collection was obtained from questionnaires.

Based on the results of the study note that of the 52 respondents most of the respondents were negative the role of parents as many as 29 respondents (55.8%) and from 52 respondents known to be negatife phubbing behavior as many as 32 respondents namely (66.8%). Based on statistical tests using the Chi-Square test p value = 0.068 and $\alpha = 0.05$ thus H_0 was accepted and H_a was rejected, so it was concluded that there was no significant correlation between the role of parents with phubbing behavior in second level students of Diploma 3 study program STIKes nursing Wijaya Husada Bogor.

This conclusion shows the value ($p = 0.068$) which means that H_0 is accepted and H_a is rejected or there is no significant relationship between the role of parents with phubbing behavior in level II diploma 3 students of nursing STIKes wijaya husada Bogor.

It is suggested to be able to increase the study of knowledge and benefits in the development of mental health sciences and provide a contribution, guidance and benefits in as well as program planning regarding the significant correlation between the role of parents with phubbing behavior in second-level students of diploma 3 study program STIKes wijaya husada Bogor.

Keywords : Perilaku phubbing, the role of parents

PRELIMINARY

The term phubbing comes from the words "phone" and "snubbing", which describe the act of insulting someone in a social environment by paying attention to a cell phone, not talking to that person directly¹.

This term was originally campaigned by Macquarie Dictionary to represent the problem of smartphone abuse that continuoesto grow in social situations². In social interaction, "phubber" can be defined as someone who starts Phubbing, and "phubbee"

can be defined as a person who is a recipient of Phubbing³ behavior. Apart from the large number of social media applications for chatting that are fun and addictive, it turns out that Phubbing is also a reason for someone to distance the other person on purpose.¹

This usually happens if there are new people who are not liked or do not feel comfortable participating in the chat. For couples, this is done if you are feeling bored and prefer to look for excitement from a third person. Phubbing if done once or twice may

still be tolerable for a partner or friend, but if done consistently risks damaging the quality of the relationship. The long-term effect is that it becomes normal and understandable, even communication is not necessary. The worst thing is someone will be shunned and will not be included again.¹

The development of technology and information in the world is experiencing very rapid progress, which is marked by progress in the field of information and technology. The Indonesian nation is one of the nations involved in the advancement of information and technology media. Gadgets are a very popular technology nowadays, both adults and children use gadgets where many gadget products make children their target market. And children have now become active consumers of gadget users⁶ almost all circles of society have gadgets. The fact is that gadgets are not only used by adults or the elderly among teenagers (12-21 years) and adults or elderly (60 years and over) ⁻¹

But in children (7-11 years) and more ironically, gadgets are used for children (3-6 years) who should not be eligible to use gadgets.⁷ Survey conducted by the Indonesian Internet Providers Association (APJII) related to internet users in 2016 Indonesian children begin to come into contact with the internet. Based on Indonesian internet user statistics, APJII classifies nine age categories from children to parents

As a result, the productive generation aged 25-29 years old is the top with a total of 24 million. The figure of 24 million is rivaled by internet users in the range of 35-39 years. Then followed behind 30-34 years which reached 23.3 million. Then, underneath in sequence followed by 20-24 years (22.3 million), 40-44 years (16.9 million), 15-19 years (12.5 million), 45-49 (7.2 million), 50

years and over (1.5 million), and 10-14 years with 768 thousand. Statistics of Indonesian internet users seen from that age are of the total number of Indonesian internet users 132.7 million.¹

The number of internet users has experienced a growth of 51.8% from the 2014 APJII survey by recording 88 million users.⁸ Humans want to socialize or communicate with other humans, so they know their environment and want to know what happens curiosity forces humans to socialize or communicate in life sociable. People who have never communicated with others will be isolated from their social influence, which will lead to mental depression, which in turn will lead people to lose their soul balance. From human life, communication is an eternal part like breathing, where humans want to live, communication or socialization is needed so that many experts consider that communication is a very fundamental requirement for someone in social life.¹

The development of technology has unknowingly affected every aspect of human life, especially students of technology products such as mobile phones that have become human needs in carrying out life activities. The use of mobile phones in the community at this time is no longer a strange or new thing.⁹ People are more preoccupied with gadgets or smartphones compared to having to talk with or make connections with the environment. While one form of an agreed indicator of communication is that which is agreed between the recipient and the recipient of the message. If an individual uses a smartphone while engaging in conversation it is not possible they cannot use the maximum information and as a result their interlocutors must repeat the same.

The results of the study of the STIKes Wijaya Husada Bogor on 2 September 2019, there were 10 students, 4 men, 6 women, said there were those who were too mobile and some said they were not too mobile, there were 6 students who often bought cellphones, and 4 students said they did not use the main cellphone too often, then 5 students said the role of parents, 5 students said they had no relationship with parents. And students say it's too cool with their own cellphones, the reason students are also cool students must be all in his cellphone with all the grips on his cellphone.²

The role of parents is very important for this, because parents should be able to access the cell phone that is used can not cause phubbing, in addition to how to save yourself phubbing can also prevent through parents so that parents can advise.

Prevention that discusses problems with certain hours, if in Muslims an example of a small thing by reprimanding the main cell phone at the hour of worship, can be seen on cell phones and worship first.²

Maybe this if conveyed by parents continuously, to the child it will be listed regularly, and gradually the child will definitely be ready with it, not only worship jam but also when chatting with parents, adults, even friends don't move mobile phones, because this points to the beginning of phubbing.²

However, if a parent only broadcasts his son alone, without paying attention to himself, does the habit of playing with a cell phone, then the child will not obey what the parent asks, so here the child and the parents will be better off if they are related to the dangers of phubbing for the environment around us to be more alert.²

RESEARCH METHODS

This type of research uses a descriptive quantitative analytic design that is a research method that aims to see the phenomena that occur on a particular topic and discuss about how the phenomenon can occur. Then do the dynamics analysis between phenomena or between independent variables with the dependent variable.

Population is a generalization area that consists of: objects or subjects that have certain qualities and characteristics determined by researchers that have been studied and collected previously.⁷ The population in this study are students of STIKes Wijaya Husada Bogor who need 60 students (3 level 3 student students) class A & B) in 2019 which is phubbing.

The sample is part of the number and characteristics possessed by the population.¹⁶ The sample used in this study were students at STIKes Wijaya Husada Bogor. Sampling is by simple random sampling, by taking a simple random sample. By using the Slovin formula⁷.

So that the sample characteristics do not deviate from the population, then before taking a sample it is necessary to determine the inclusion criteria as well as the exclusion criteria.⁷

The independent variable is a variable that is determined by the value of another variable⁸. The independent variable (independent) in this study is the role of parents. The dependent variable determined is determined by other variables¹⁵ The variable taken (dependent) in this study is the behavior of phubbing.⁷

Data collection methods in this study use the type of data used in this study using primary data and secondary data. Primary data is data obtained or collected by researchers

directly from the data source. Primary data is also called original data or new data that has the properties Up to date⁷. Primary data from this study are the results of the questionnaire.

Secondary data is data obtained from the research site. Secondary data in this study are data on the number of Diploma II level 3 students from STIKes Wijaya Husada Bogor.

The tool used to determine the relationship of the role of parents with changes in phubbing behavior in students is to use a questionnaire that must be filled in by giving a checklist. In phubbing behavior the measuring instrument used was a questionnaire consisting of 20 statements. Consists of 11 negative statement items (+) and 9 positive statement items (-). Negative items are given a score of 1 for very frequent, 2 for frequent, 3 for occasional and 4 for notas frequent. While positive items are given a score of 4 for strongly agreeing, 3 for agreeing, 2 for disagreeing and 1 for strongly disagreeing.

The validity test of the planned instrument will be carried out at STIKes Wijaya Husada Bogor. With the number of respondents 20 people so, if $r_{count} > 0.444$ then the instrument is valid.

The questionnaire trial for validity was conducted at level II of Nursing STIKes Wijaya Husada Bogor against 20 respondents on September 24, 2019. The results of the questionnaire validity regarding the role of parents were obtained by the calculation formula which was then compared with the r table Product Moment with a significant 5% obtained r tables .444. From the questionnaire the role of parents 20 statements to 18 statements, because there are 2 statements that are not valid, which has a count < 0.444 is number 2 (056), 7 (076). Therefore statements number 2 and 7, are declared invalid.

Statements that are not used in data collection so that the number of questionnaire questions becomes 18 questions.

Reliability is a reliable instrument is an instrument that, if used several times to measure the same object, will produce the same data.¹⁵ It is stated reliable if $r_{alpha} > 0.60$. based on calculations obtained by alpha the role of parents (0.949) > 0.60 , so the role of parents is said to be reliable⁷.

Data analysis consists of univariate analysis which is used to determine the form of univariate analysis depending on the type of data. For numerical data the mean or mean, median and standard deviation values are used. In general, this analysis only produces the frequency distribution and percentage of each variable.¹⁵ Bivariate analysis to see whether there is an influence between the independent variable and the dependent variable. The statistical test to determine the relationship of the role of parents with phubbing behavior, to determine the relationship of the role of parents with phubbing behavior using the chi-square test. Chi-square test is a statistical technique used to test hypotheses if the population consists of two or more classes in the form of categorical⁸.

The normality test uses the Kolmogrov Smirnov test, the homogeneity test of this data is carried out to find out whether the population in this study is homogeneous or not. Homogeneity test is intended to test a sample of some parts of the sample, so that the generalization of the population can be done. Bivariate analysis Analysis used of two variables that are thought to be related or correlated. Bivariate analysis was carried out to see the relationship between the role of parents and phubbing behavior in the level II students of diploma 3 study program on stikes wijaya normal nursing⁸.

RESEARCH RESULT

The number of respondents in the study were 60 students (all diploma students 3 level II class A & B) in 2019 who were Phubbing. Based on the frequency distribution of the Role of Parents Level II Diploma 3 Nursing STIKes Wijaya Husada Bogor it is known that of the 52 respondents most respondents did not pay attention as many as 29 respondents (55.8%).

Based on the frequency distribution of Phubbing Behavior in Level II Diploma 3 Nursing of STIKes Wijaya Husada Bogor in 2019, from 52 respondents and it is known that the majority of respondents have 32 subnegative behaviors, namely (66.2%).

Based on statistical test results of the Relationship between the Role of Parents with Phubbing Behavior in Secondary Students of Diploma 3 Nursing Study Program in STIKes Wijaya Husada, Bogor in 2019. Of the 52 respondents, most of the respondents' role of parents is not attentive and have a negative behavior of phubbing as many as 18 respondents (67.8%) and Statistical test results obtained p value = 0.068, which means p value < 0.05 so that there is no relationship between the role of parents with the behavior of phubbing in level II students of Nursing Diploma 3 Study Program at STIKes Wijaya Husada Bogor.

DISCUSSION

The discussion is the gap that arises after the researcher conducts the research then compares the results of the study. This study is a study of the Relationship between the Role of Parents and Phubbing Behavior in Secondary Students of Nursing Diploma 3 Study Program STIKes Wijaya Husada Bogor.

1. Univariate analysis

a). Frequency distribution of Level II Diploma 3 Nursing Parents at STIKes Wijaya Husada

Based on table 4.1 frequency distribution based on the Role of Level II Parents Diploma 3 Nursing of STIKes Wijaya Husada Bogor in 2019, it is known that of the 52 respondents the majority of respondents were negative phubbing as many as 29 respondents (55.8%). This study is comparable to the study conducted by Meily Nirnasari (2012) who examined the "Relationship between the Role of Parents with Independence of Children Mental Retirement Ages 7-12 Years in SLB Negeri Tanjungpinang City" This research method uses cross sectional method. Retrieval of data using a questionnaire. Analysis technique uses chi-square. Obtained the data most of the role of parents is not as much attention as many as 35 respondents (62.5%) and have the role of parents as much as 21 respondents (37.5%).

The role is the set of behavior that is expected to be owned by people who are sovereign in the community. Parents are people who are given responsibility to care for and educate their children to become mature and useful humans in the future. Parents are indeed a very important role and very influential in the formation and development of their children.²

In preventing phubbing behavior, it can be noticed especially from his family, especially a parent. Parents are the most important thing in bringing children to be a good individual. Children tend to imitate what is seen from their parents, parents must participate in providing prevention of phubbing behavior with an approach to their children.

Based on univariate results, that of the 52 respondents who have the role of parents who are not concerned is greater than those who are concerned. This can be seen by looking at the results of the questionnaire about the role of parents, obtained data that most students have the role of parents who do not care as much as 29 respondents (44.2%) and most of the attention of 23 respondents (55.8%). So it can be concluded that the role of parents can influence the behavior of phubbing in STIKes Wijaya Husada Bogor students.

In the questionnaire the role of parents from questions number 1-20 obtained the lowest score is a matter of numbers "my parents were angry when I got a bad score in campus" where parents should make an approach with the child then give motivation and encouragement to be more active in learning and instilling meaning important from the education and knowledge they get in campus⁴.

b). Frequency distribution of Phubbing Behavior for Diploma II Level 3 Nursing Students of STIKes Wijaya Husada Bogor

Based on frequency distribution of Phubbi Behavior in Level II Diploma 3 Nursing of STIKes Wijaya Husada Bogor in 2019, from 52 respondents and it is known that the majority of respondents have positive Behavior phubbing behavior as many as 49 respondents namely (94.2%).

This study is in line with research conducted by Beauty Manumpil (2015) with the title "The Relationship of Using Gadgets and the Level of Student Achievement in SMA Negeri 9 Manado" The method used is cross sectional method with data collection through questionnaires. Technical analysis using chi-square. Obtained most of the data using mobile phones and have a high value of

30 respondents (73.2%) and those who have a low value of 11 respondents (26.8%).

Phubbing is the neglect of one's behavior in the environment by turning attention to the cellphone. Phubbing can be described as an individual who looks at his cell phone while talking to an individual who sees a cellphone when talking to others

Phubbing can affect children in various fields, such as academically, socially, mentally, and also physically. Where the inherent feeling of phubbing behavior is very strong. This problem is due to the social interaction of children and parents is not good and the child lacks proper attention.⁶

Based on univariate results, that out of 52 respondents who have positive phubbing behavior is greater with negative phubbing behavior. This can be seen from the results of the phubbing behavior questionnaire, the data obtained that the majority of students had positive phubbing behavior of 49 respondents (94.2%) and negative phubbing behavior of 3 respondents (5.8%) so that it can be concluded that positive phubbing behavior can be influenced by people old.

In the phubbing behavior questionnaire from 1-17, the lowest score is question number 3 which contains "do you often read the news with your cellphone" that students should add more insight into their cellphones instead of just making online games and social media activities, here students must be more careful in carrying out social media, reading some news is very important for himself and others.

Analisa bivariat

The Relationship between Parents' Roles and Phubbing Behavior in Secondary Students of Diploma 3 Nursing Study Program at STIKes Wijaya Husada Bogor

Based on the statistical test results of the Relationship between the Role of Parents with Phubbing Behavior in Secondary Students of Diploma 3 Nursing Study Program STIKes Wijaya Husada Bogor in 2019. Of the 52 respondents most of the respondents were negative phubbing behavior with 18 respondents (67.8%) and most of the respondents were negative has the role of parents as many as 18 respondents (67.8%). Statistical test results obtained p value = 0.068, which means p value <0.05 so that there is no relationship between the role of parents with phubbing behavior in second-level students of Diploma 3 Nursing Study Program at STIKes Wijaya Husada Bogor in 2019.⁸

The results of this study can be attributed to the research journal conducted by Hestina (2015) which examines "The Relationship of the Role of Parental Guidance to Student Achievement in Class Xi of Light Vehicle Engineering at Smk 45 Wonosari" but there is no relationship with phubbing behavior, that the role of parents is not a concern and not related to learning achievement. The method used is analytic descriptive with cross sectional approach. Analysis technique uses chi-square. The results show that there is no relationship between the role of parental guidance and the learning achievement of students in class xi in light vehicle engineering at 45 wonosari. Negative phubbing is a term of indifferent action in someone in an environment because it is more focused on gadgeted than on building a conversation. This term began to boom along with the booming smartphone on the market. Negative phubbing behavior is the result of a social learning process through observation of the social world. A common trigger of phubbing is when a person experiences a

certain emotional state, which is often seen is angry emotions. Feeling angry continues to desire to vent in a particular form for a particular object.

A good family relationship is influenced by the positive treatment of parents towards their children, for example being fair in giving attention and affection to their children. The treatment of attention from parents will affect the relationships of other family members. This will have a negative impact on phubbing behavior on students⁷

Based on the discussion above the researchers analyzed from 52 respondents that between the role of parents with phubbing behavior did not have a significant relationship. Chi-Square test results obtained $p = 0.068$, which means p value <0.05 with a Coefficient Contingency value of 0.949 then H_0 is accepted and H_a is rejected. So that there is no relationship between the role of parents with phubbing behavior in the level 2 students of diploma 3 study program nursing STIKes wijaya husada bogor in 2019 the correlation is weak.

RESEARCH LIMITATIONS

There is no perfect human being, even with researchers, the limitations of research are the difficulties or obstacles that researchers face when conducting research. The researcher realizes that this study has limitations that can hinder and influence research, namely.

The time available in carrying out this research is very short, because research is difficult to do outside of class hours, so researchers look for free time in the middle of class hours to do research, and researchers conduct data collection themselves so that the quality of data collected is still less than expected.

In collecting data researchers only use questionnaires and do not conduct in-depth research so that the truth is very dependent on the honesty of the respondents

CONCLUSION

1. Known frequency distribution based on the Role of Level II Parents Diploma 3 Nursing of STIKes Wijaya Husada Bogor in 2019, it is known that of the 52 respondents most of the respondents were negative phubbing as many as 29 respondents (55.8%).
2. It is known that the frequency distribution of Phubbing Behavior in Level II Diploma 3 Nursing of STIKes Wijaya Husada Bogor in 2019, from 52 respondents and it is known that the majority of respondents have positive Behavior phubbing behavior as many as 49 respondents namely (94.2%).
3. Results of analysis of the Relationship between the Role of Parents with Phubbing Behavior in Level II Students of Diploma 3 Nursing Study Program at STIKes Wijaya Husada Bogor in 2019 out of 52 respondents the majority of respondents were positive phubbing behavior with 13 respondents (66.7%) and most of the negative respondents had a degree of role elderly, as many as 18 respondents (67.8%). Statistical test results obtained p value = 0.068, which means p value <0.05 then H_0 is rejected and H_a is accepted so that there is no relationship between the role of parents with phubbing behavior in Level II Diploma 3 Nursing Study Program at STIKes Wijaya Husada Bogor in 2019 with a weak correlation .

SUGGESTION

1. For STIKes Wijaya Husada
This research is expected to be an input for mental nursing disciplines Relationship between the Role of Parents with Phubbing Behavior in Second Level Students Diploma 3 Nursing Study Program STIKes Wijaya Husada Bogor .
2. For STIKes Wijaya Husada Bogor Students
It is hoped that this research can be a lesson for students of STIKes Wijaya Husada Bogor to limit playing mobile phones so that no phubbing behavior arises, with a reasonable duration and frequency because in addition to being able to have an impact on psychological development it can also affect the health effects that will be caused.
3. For Future Researchers
The next researcher is expected to be used as a reference material, and can be used as motivation to develop innovations and new methods related to this research.

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THE CORRELATION OF EXCLUSIVE BREASTFEEDING TO UPPER RESPIRATORY TRACT INFECTION DUE TO INFANTS AGE 7 – 12 MONTH

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ABSTRACT

Upper respiratory tract infection (ISPA) is a main disease among children in developing countries including in Indonesia. Acute respiratory infection are primary infection of the laryngeal service, and the nose frequently secretes this disease often found in infants and children. Breastfeeding is a natural food for newborn particularly in the first month of live. This is not only for the child but also for mother, family and the country.

The study aims to determine the correlations of exclusive breastfeeding with the incidence of Upper respiratory tract infection (ISPA) in infants 7-12 months in the work area of the Bunar community health center. This Study uses quantitative analytical methods with cross sectional research design and uses total sampling. Population in the study were 43 respondents and sampel in this study were 43 respondents data collection was obtained using checklist sheet.

Based on the results of research with the cramer v test on 43 respondents obtained from the data distribution of exclusive breastfeeding as many 26 (60.5%). Respondents were not exclusive breastfeeding. And the frequency distribution of ISPA occurrences as many 23 (53.5%) non respected respondents. Statistic test result obtained $p = 0.000$ which means value < 0.05 results H_0 is rejected an H_a accepted in other a correlations between exclusive breastfeeding with the incidence of ISPA 7-12 month in the working as areas of the bunar puskesmas in cigudeg sub district of bogor in 2019.

From this study it can be concluded that the majority of mothers who do not give exclusive breastfeeding to their baby. Baby those who do not get exclusive breastfeeding will have a risk 0.023 times to experience ISPA compared to those given exclusive breastfeeding.

Keyword : Upper respiratory tract infection, Exclusive breastfeeding

PRELIMINARY

Health development as part of efforts to develop a complete human being, among others, is carried out through child health efforts carried out as early as possible since the child is still in the Department of Health's womb. Infectious disease is a major cause of high morbidity morbidity and mortality rates, especially in developing countries. Infectious disease is a disease caused by microorganisms, both bacterial, viral, and fungal. Common cold, also called Upper Respiratory Infection (ARI), is a primary infection of the

nasopharynx and nose that often secretes fluids. this disease is often found in infants and children

Acute Respiratory Infection (ARI) is an infectious disease where morbidity and mortality is still high. In Indonesia, the case of death due to ARI is still quite high, which is about 4 out of 15 million estimated deaths in children aged less than 5 years every year two-thirds occur in infants. Acute respiratory infections (ARI) is one of the main diseases that cause infant death and often ranks first in morbidity. Early treatment of ARI is proven to reduce

mortality. Stating that in Indonesia ARI and pneumonia is the third leading cause of death in children under the age of five, which is as much as 14%. Episodes of colds in toddlers in Indonesia are estimated at 3 to 6 times per year.

Efforts to prevent ARI earlier are expected to prevent ARI complications in infants that can have fatal consequences such as pneumonia in addition to other complications such as acute otitis media (OMA) and mastoiditis although the eradication of ARI disease has been developed since 1984, along with the launching of the eradication of ARI disease at the global level. by WHO but until now ARI is still called the forgotten plague of The Forgotten Pandemic.²

Acute Respiratory Infection (ARI) is one of the main diseases the cause of infant mortality and often keep the first order of illness for toddlers. Early treatment of ARI is proven to reduce mortality. stated that in Indonesia ARI and pneumonia is the third leading cause of death in children under the age of five, as many as 14% .³

The most severe cause of ARI is infection with streptococcus pneumoniae or Haemophilus influenzae. Many deaths due to pneumonia occur at home, including after experiencing pain for several days. The ISPA limitation program specifically has been started since 1984, with the aim of trying to reduce morbidity and mortality rates especially for infants and toddlers caused by ARI, but it seems that the morbidity and mortality rate is still high. In general there are 3 (three) risk factors for ARI, namely environmental factors, individual child factors, and behavioral factors. These factors are very closely related to the incidence of ARI.⁴

A survey of the proportion of Early Breastfeeding Initiations in infants aged 0-23 months according to the results of the 2018 Riskendras in Indonesia showed an

increase from (2013) 34.5 to 58.2% (2018), while the number of infants aged less than 6 months who were given Partial breastfeeding was 9.3% Predominant breastmilk 3.3% and Exclusive breastfeeding 37.3%. however this figure is lower because the national target for exclusive breastfeeding coverage in 2019 is 80%. ARI is still a public health problem in Indonesia, especially in infants. According to the results of Riskendras 2018, ARI is the number two killer of children under five (13.2%) after diarrhea (17.2%). The results of the ARI survey according to health personnel diagnosis (NASKES) 2013-2018 decreased in 2013 reaching 15.0% and 2018 reaching 4.4% when compared to developing countries including Indonesia, the incidence of ARI around 36% of the number of children under five. Based on the results of the 2018 Riskendras West Java Incident in 2018 it was 5.0% and the ISPA prevalence was 12%. Ten districts that have the highest incidence and prevalence for all ages, one of which is West Java .⁵

Age 0-24 months is a period of rapid growth and development, so it is often termed a golden period as well as a critical period. The golden period can be realized if during this period infants and children receive appropriate nutritional intake for optimal growth and development, conversely if babies and children at this time do not get food that is in accordance with their nutritional needs, the golden period will turn into a critical period that will interfere with the growth and development of infants and children both at this time and in the future. Breast milk is the perfect and best main food for babies because it contains the nutritional elements that babies need in their growth and development process.

Exclusive breastfeeding is giving only ASI for 0 - 6 months without being given food or other

drinks, non-exclusive breastfeeding is giving ASI which is added by giving food.⁶

At the sub-district level it can be seen that the sub-district with the highest number of sufferers is the West Bogor District of 1,571 cases or 129.51%. bunar puskesmas with ARI in infants <1 year from January to July 2019 as many as 129 cases. The cause of this case may be influenced by environmental conditions and healthy living habits such as the condition of an unhealthy home.

The effectiveness of breast milk in controlling infection can be proven by the reduction in the occurrence of some specific diseases in babies who are breastfed compared to babies who get formula milk. Research by the world health agency proves that breastfeeding until the age of 2 years can reduce child mortality due to diarrheal disease and acute respiratory infections.⁷

In several studies it is known, there are many risk factors for ARI in infants and toddlers. Some of these factors are malnourished infants, low birth weight (LBW), inadequate breastfeeding, high house occupancy rates, incomplete immunizations, gender, vitamin A deficiency, iron deficiency, vitamin D deficiency or calcium, baby age, smokers, seasonality, health services, low socioeconomic and burning smoke.

The bioactive component in breast milk protects infants against respiratory infections such as immunoglobulin (SigA) against the syncial virus produced by bronchomammary and for macroglobulin substances that inhibit influenza viruses. This supports that respiratory infections in infants who get full milk, are lighter than babies who get formula milk. Breast milk contains nutrients needed at the beginning of human life and contains antidotes to various diseases in the form of anti-body.⁹

Preliminary Study Results conducted in the working area of Bunar

Health Center in Cigudeg Sub-District, Bogor Regency on August 18, 2019 with 10 respondents with mothers aged 7-12 months, 8 babies had experienced symptoms of ARI 6 of them did not get exclusive breastfeeding, 2 babies got breast milk Exclusive and 2 other babies get exclusive breastfeeding and do not experience ARI. Based on this background, the researcher is interested in taking the title *The relationship between exclusive breastfeeding and the incidence of ARI in infants 0-6 months in the Bunar Public Health Center.*

RESEARCH METHODS

This type of research is a Quantitative Analytical Descriptive that is a research method that aims to see a picture of phenomena that occur in a particular population and try to explore why that phenomenon can occur. Then analyze the correlation dynamics between phenomena, both risk factors and effect factors. An effect factor is a result of a risk factor, whereas a risk factor is a phenomenon that results in an effect (effect).¹⁰

For this research design using cross sectional approach that is analytic research design that aims to determine the relationship between variables where the dependent variable and independent variables are identified at one time unit (Point Time Approach). This research was conducted on 2,6,11 September 2019 at the Bunar Health Center, Cigudeg District, Bogor Regency.¹¹

Population is a generalization area that consists of objects / subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn other than that the population is the whole object of the researcher. The population in this study were all mothers who had infants aged 7 - 12 months in 3 Posyandu, Bunar Village,

Cigudeg District, Bogor Regency in 2019. With a total of 43 mothers who had infants aged 7 - 12 months.

The sample is a large portion of the number and characteristics possessed by the population. Besides the research sample is a portion of the population that represents a population that is the subject of research. The sample in this study were all mothers who have infants aged 7-12 months in the Bunar Health Center Work Area. The sampling technique in this study is total sampling is a sampling technique where the number of samples is equal to the population for taking total sampling because the total population is less than 100 the entire population is used as a sample of all research. Samples taken in this study were 43 people.¹²

The independent variable in this study is exclusive breastfeeding. The dependent variable in this study is ARI. The type of data used in this study uses primary data that is data obtained from checklist sheets. Tool used to determine the relationship of exclusive breastfeeding with the incidence of ARI in infants of 7-2 months.

Hypothesis is defined as a proposition that shows the relationship between two or more concepts or interconnections between concepts. The hypothesis in this study is the relationship between exclusive breastfeeding and the incidence of ARI in infants 7-12 months in the Bunar Health Center in 2019.

The alternative hypothesis is also called the work hypothesis. This hypothesis states the difference between one variable with another variable or states the relationship between one variable with another variable or the bias also states the influence of one variable or treatment on another variable. This alternative hypothesis is written as "Ha". Ha: Alternative Hypothesis is a temporary

answer that shows the relationship between exclusive breastfeeding and the incidence of ARI in infants 7 - 12 months in the Bunar Health Center in 2019 with a p value of $0.000 < 0.05$.

Data analysis consisted of univariate and bivariate analyzes. Univariate analysis aims to explain or describe the characteristics of research variables. The form of univariate analysis depends on the type of data. For numerical data the mean or secondary median and standard deviation are used. In general, this analysis only produces the frequency distribution and the percentage of each variable. The independent variable is exclusive breastfeeding and the dependent variable is the incidence of ARI. Analysis

Bivariate is an analysis conducted on two variables that are suspected to be related or correlated. Kendall correlation or used to find the relationship between two or more variables. Cramer's Test V Cramer Contingency Coefficient is a hypothesis test to find out the relationship between 2 nominal scale variables. Associated with the characteristics of the scale and nominal, the cramer correlation test includes nonparametric statistics, that is, it does not require data to be nominal distribution. To find out whether there is a relationship value or not, it can be seen from the significance value of the three correlation coefficients namely phi, Cramer's V and Cramer Contingency Coefficient analysis using statistical tests. This study aims to determine the relationship of exclusive breastfeeding with ARI Kejadin in 7-12 months infants in the working area of the bunar puskesmas in cigudeg sub-district.¹⁴

RESEARCH RESULT

Based on the distribution of characteristics frequency based on the sex of infants in the Bunar Health Center it can

be concluded that from 43 respondents there were 27 respondents (62.8%) male sex.

Based on the frequency distribution of characteristics based on age, it can be concluded that from 43 respondents there are 12 respondents (27.9%) aged 10 months.

Based on the distribution of the frequency of exclusive breastfeeding shows that of the 43 respondents most mothers do not give exclusive breastfeeding to their babies, not exclusive breastfeeding that is as many as 26 respondents (60.5%).

Based on the frequency of ARI in infants 7-12 months, it shows that of 43 respondents, there were 23 infants (53.5%) who did not experience ARI.

Based on the results of the relationship between exclusive breastfeeding and the incidence of ARI in infants aged 7-12 months from 43 respondents there were 19 respondents who were not exclusive breastfeeding with the incidence of ARI (44.2%). Statistical test results obtained p value = 0.000, which means value <0.05 in other words there is a significant relationship between exclusive breastfeeding and the incidence of ARI in the Bunar Health Center, Cigudeg District, Bogor Regency.

From the results of the study it was found that infants who were given exclusive breastfeeding had an Odds Ratio of 0.023 times to experience the incidence of ARI compared to infants who were given exclusive breastfeeding. The results of this study prove the research hypothesis that non-exclusive breastfeeding increases the risk of 0.023 times to experience an ARI compared to babies who are exclusively breastfed.

RESEARCH DISCUSSION

a. Exclusive breastfeeding

Based on frequency distribution of exclusive breastfeeding shows that of the 43 respondents, most of the mothers did not give exclusive breastfeeding to their babies not exclusive breastfeeding, namely 26 respondents (60.5%).

Breast milk is the perfect and best main food for babies because it contains the nutritional elements that babies need in their growth and development process. Exclusive breastfeeding is giving only ASI for 0 - 6 months without being given food or other drinks, non-exclusive breastfeeding is giving ASI which is added by giving food.⁶

The effectiveness of breast milk in controlling infection can be proven by the reduction in the occurrence of some specific diseases in babies who are breastfed compared to babies who get formula milk. Research by the world health agency proves that breastfeeding until the age of 2 years can reduce child mortality due to diarrheal disease and acute respiratory infections.⁷

This is in line with the study of Ariefeen et al (2014) which concluded that infants who get partial breast milk will be susceptible to ARI. The risk of infants receiving Partial ASI for deaths due to ARI is 2.23 times higher than babies who are exclusively breastfed.

Based on the results of Anthony Widyanata Lebulan's research in 2014 entitled *The Relationship Between Exclusive Breastfeeding and Acute Respiratory Infection in Kindergarten Students in the cold village of East Denpasar sub-district in East Denpasar District*, the frequency distribution of exclusive breastfeeding showed that of 165 respondents there were 104 respondents no Exclusive breastfeeding

(63.0%) with a p value <0.05 in the cold chate village of East Denpasar sub-district in 2014.

According to researchers based on the theories above that Because of the importance of breast milk for babies, the researchers suggest that mothers breastfeed their babies for 6 months from birth, known as Exclusive breastfeeding. Because exclusive breastfeeding can reduce the risk of infection. Infants who are exclusively breastfed are more resistant to disease than infants who are not breastfed.⁶

b. ARI

Based on frequency of ARI in infants 7-12 months refers to 43 respondents, which caused the incidence of ARI not as many as 23 babies (53.5%).

ARI (acute respiratory infection) is an acute respiratory infection and lower respiratory tract. ARI is an acute respiratory infection that lasts 14 days. The respiratory tract is an organ that starts from the nasal cavity up to the ephiglottis and such as fever, cough, runny nose, ear infections.¹¹

Meanwhile, infections that enter are germs or microorganisms into the body and multiply, causing a mild disease that will heal by itself within 1 to 2 weeks, but this disease can cause complications, depending on the problem at hand.

ARI is a disease that often occurs in infants, toddlers and children, because their body's defense system is still low, cold cough disease in toddlers in Indonesia is estimated to reach 3 to 6 times per year which means that on average there is a coughing cold attack as much as 3 to 6 distant times

The results of Herlinda Christi's research in 2015 with the title factors relating to the incidence of ARI at the

age of 6-12 months in the Candilama Public Health Center in Semarang in 2015 obtained the frequency distribution of ARI from 43 respondents who could not be issued ISPA as many as 27 babies (65.9%). Statistical test get the value of p - 0.0001, which means the value <0.05.

The study was aligned with research conducted by Herlinda Christi in 2015 the results of this study were obtained from the research relationship between exclusive breastfeeding and ARI events.

According to researchers based on theories about factors that influence ARI events, one of which is exclusive breastfeeding. ASI is a protective factor against ARI. Breast milk protects babies from a variety of diseases including respiratory infections and intestinal infections.

From Results of the relationship between exclusive breastfeeding with ARI events in infants aged 7 - 12 months from 43 respondents including 19 respondents who did not exclusively breastfeeding ARI events (44.2%).

Breast milk is a complete and best food for babies because it contains no nutrients needed by the baby in the process of growth and development. Exclusive breastfeeding is breastfeeding only for 0 - 6 months without giving food or other drinks, non-exclusive breastfeeding is breastfeeding added with food providers.⁵ The effectiveness of breast milk in controlling infections can be proven by its protection. Comparing with babies who get formula milk. Research by the world health agency proves that breast milk up to the age of 2 years can reduce child mortality due to illness and acute respiratory infections

ARI (acute respiratory infection) is an acute respiratory infection and lower respiratory tract. ARI is an acute respiratory infection that lasts 14 days. The respiratory tract is an organ that starts from the nasal cavity up to the epiglottis and such as fever, cough, runny nose, ear infections.⁴

While what is meant by infection is the entry of germs or microorganisms into the body and reproduce, causing mild illness that will heal by itself within 1 to 2 weeks but this disease can cause complications (serious symptoms) if left unchecked immediately.

According to Coutoudis and Bantley (2014) that breast milk has elements that meet all the needs of the baby for nutrient integrity for a period of about 6 months unless the mother experiences severe malnutrition. The presence of antibodies and macrophage cells in breast milk and colostrum provides protection against certain types of infections, therefore babies who get exclusive breastfeeding are rarely infected with respiratory infections and diarrhea. Infants who get exclusive breastfeeding automatically get immunity that is anti-infective. Breast milk also provides passive protection for the child's body to deal with pathogens that enter the body.

Based on research conducted by Hesti R. Masela 2015 from 90 toddler respondents, it was found that the number of babies who did not get exclusive breastfeeding was 67 babies (74.4%) and those with ARI 50 babies (65.7%). Obtained a chi-square value of 11,883 and $p = 0.001 < 0.05$ this shows there is a relationship between exclusive breastfeeding with a history of infection.

According to researchers based on the theories above that babies who get exclusive breastfeeding automatically

get immunity that is anti-infectious. Because of the abundant content, it is clear that exclusive breastfeeding can provide many benefits, one of which can prevent ARI. Children who are given exclusive breastfeeding have a good effect on preventing the incidence of ARI compared to non-exclusive breastfeeding. It has been proven to be effective in preventing respiratory infections in children.

CONCLUSION

1. It is known that the frequency distribution of exclusive breastfeeding for infants 7-12 months in the Bunar Health Center Work Area shows that of the 43 respondents, most of the mothers did not give exclusive breastfeeding to their babies not exclusive breastfeeding, namely 26 respondents (60.5%).
2. Known ARI events in infants 7 - 12 months in the Bunar Puskesmas Work Area shows that of the 43 respondents who experienced no ARI 23 (53.5%) infants.
3. Known The results of the analysis of the relationship between exclusive breastfeeding and the incidence of ARI in infants aged 7-12 months are known from 43 respondents. 26 babies (60.5%) did not receive exclusive breastfeeding. Infants without ARI 7 (16.3), while infants with ARI were 19 and babies who received exclusive breastfeeding were 17 babies (39.5%). Infants without ARI 16 (37.2%) while infants with ARI 1 (2.3%). Cramer's V test results obtained a value of $p = 0,000$ which means the value < 0.05 in other words there is a significant relationship between exclusive breastfeeding with the incidence of ARI in the Bunar Health Center, Cigudeg District, Bogor Regency.

SUGGESTION

1. For further researchers
It is hoped that this research can add insight into knowledge, especially maternity nursing about the relationship of exclusive breastfeeding with the incidence of ARI in infants 7-12 months.
2. For institutions
 - a. For STIKes Wijaya Husada
This research is expected as a reference material about the relationship of exclusive breastfeeding with the incidence of ARI. Can provide and add to the literature about the relationship between exclusive breastfeeding with the incidence of ARI for future research input.
 - b. For Puskesmas Bunar
It is expected to be able to foster community participation with the cooperation of PKK cadres guidance and motivation for nursing mothers in exclusive breastfeeding for 6 months.
 - c. For Respondents
To improve maternal knowledge, especially regarding the importance of exclusive breastfeeding to infants and is expected to be able to carry out exclusive breastfeeding to prevent acute respiratory infections so that it can reduce the risk of ARI in these infants.

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LEVEL OF AWARENESS AND COMPLIANCE IN DIABETES MELLITUS MANAGEMENT AMONG ADOLESCENTS DIAGNOSED WITH TYPE-1 DIABETES

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ABSTRACT

The study aimed to determine the level of awareness and to assess compliance to Diabetes management of adolescents diagnosed with Type-1 Diabetes. A descriptive correlational type of research was utilized to gather information on the level of awareness and compliance of adolescent patients to diet, exercise and drug management suffering from Type-1 diabetes mellitus. The patients (n=20) were recruited from Institute for Studies on Diabetes Foundation Incorporated, Philippines. A purposive sampling was utilized to select twenty adolescents. A researcher-made questionnaire was utilized as the main instrument in gathering data. Focus group discussion was also done to further assess patient's level of awareness and compliance to diabetes management. Results showed that patients have a moderate level of awareness and some extent of compliance to diabetes. Patients have extreme awareness in diet management and moderate awareness in exercise and drug management. In terms of compliance, patients are compliant to some extent only, while drug management has the highest level of compliance, followed by exercise and diet. There is a low correlation between level of awareness and compliance in diabetes management ($r = .32$ $p = 0.15$), indicating that the moderate level of awareness of patients to DM management is not related to their compliance. The results are limited only to the participants of the study. Further study using a larger population and different setting is recommended. Nurses taking care of adolescent patients with diabetes mellitus must understand the importance of health education. Health educations are valuable to increase level of awareness and extent of compliance of adolescent patients with Type-1 diabetes.

Key words:

Awareness to diabetes, compliance to diabetes management, diabetes, diabetes management

INTRODUCTION

The incidence of Diabetes Mellitus (DM) is rapidly increasing in a global basis according to the World Health Organization (Parker & Irons, 2006), resulting in the development of evidence-based guidelines for control and management of DM in many countries around the world. The Asia-Pacific has the largest diabetes burden in the world exemplified by a number of overweight and obesity in almost of the entire region according to Sy (2008).

In the Philippines out of its thirteen regions included in the cohort study by Gallardo (2009), six regions show the alarming growth of diabetes with Impaired Fasting Glucose (IFG) and Increased Glucose

Tolerance (IGT). The Philippines warrant early aggressive intervention for diabetes mellitus prevention and management which is comprised of diet, exercise and drugs to effectively manage patients with Type-1 diabetes.

Diabetes Mellitus is a condition requiring a high incidence of self-management along with intensive medical care to reduce the incidence of its acute and chronic complications. DM is one of the chronic lifestyle diseases affecting a large sector worldwide. Figures published by World Health Organization (WHO) estimated that 150 million have DM and that this figure will double by the year 2025. Management studies for DM in first world countries may vary

largely from management strategies applied in the third world areas because of economic and manpower factors. In the Philippines, the Department of Health (DOH) included DM prevention control under the Healthy Lifestyle program. It ranks third among the dreaded lifestyle related diseases in the country today.

The study of Ardena (2010) revealed that, in the Philippines most of the patients with Type-1 diabetes do not own a glucose- meter and do not consult the doctor on a regular basis. The findings may be related to the increased untreated cases of diabetes mellitus. The knowledge, attitudes and practices of Type-1 diabetes patients were impaired and there is a need for health education to improve management of diabetes and prevent complications. In addition, according to Higuchi (2010) there is also an ineffective access to diabetes care and management in the Philippines. The application of standard treatment/management guidelines will be of help to encourage patients to seek and receive regular care.

Similar studies on knowledge regarding causes of Type-1 diabetes, its prevention and the methods to improve health were conducted. Flores (2006) explained that the tools used in diet management include the Food Exchange List (FEL), Food Composition Table (FCT) the nutritional guidelines and the food pyramid. Results of the study by Krousel-Wood (2008) also emphasized the importance of exercise management. Physical activity, monitoring and low calorie diet can be effective in lowering the glucose and HbA1c levels. American Association of Clinical Endocrinologists (AACE, 2007) recommended that intensive insulin therapy may reverse hypoglycemia unawareness in patients with Type-1 diabetes and can substantially prevent hypoglycemia and maintain target glycemic level.

It is of great importance to understand the possible effects of the disease on the lives of these patients which somehow affect their compliance to the management of Type-1

diabetes. Having much knowledge on the effects, anxiety and adjustments confronting these patients, it is important to empower the patients to effectively manage their own disease. For effective management and to be successful in preventing complications of this chronic and debilitating disease, patients must be equipped with necessary knowledge, skills, and attitude.

OBJECTIVE OF THE STUDY

The study was conducted to determine the level of awareness and compliance to DM management of adolescents with Type-1 diabetes. It also determined the relationship of the level of awareness and compliance to DM management.

METHOD

Research Design

The study utilized a descriptive correlational research design to describe the level of awareness and compliance to DM management of adolescents with Type-1 diabetes. Beck and Polit (2009) stated that descriptive research is focused on understanding the causes of behavior, conditions and situations and in which data gathering is done through observation, survey and interview.

Study Site

The study was conducted at the Institute for Studies on Diabetes Foundation Incorporated (ISDFI) located at Marikina City, Philippines. The foundation is known in the Philippines in delivering excellent and humane diabetes care and caters to adolescent patients with Type-1 diabetes (ISDFI, 2009). ISDFI is a private institution operated by different private and government organizations led by medical practitioners and support groups.

Participants

There is an increase incidence of diabetes in children and adolescents in the Philippines, but data on childhood diabetes is scarce (Sy,

2008). In the ISDFI only few adolescent patients with Type-1 diabetes receiving care, falls on our inclusion criteria. A purposive sampling was conducted to identify twenty adolescent patients. Participants were selected according to the inclusion and exclusion criteria set in the study. They are adolescent patients who were diagnosed of Type-1 diabetes and whose age ranges from 12 to 18. They were diagnosed of Type-1 diabetes atleast six months before the conduct of this study and were regularly visiting the ISDFI for checkup at the clinic's foundation.

Ethical Clearance and Informed consent

The study has an approved ethical clearance from Centro Escolar University (CEU) Institutional Review Board (IRB) and the ISDFI IRB committee. Informed consents were sought from the parents or guardians of the twenty participants. The rights, privileges, obligations, risks and benefits of the participants were included in the orientation process. They are also oriented about the instrument and the conduct of the Focus Group Discussion (FGD) prior to data collection. Anonymity and confidentiality were observed during the conduct of research and audio-taped used in the FGD were destroyed after analysis of data.

Formulation and Administration of the Questionnaire

A researcher made questionnaire was developed based on the context of the disease process and the management of Type-1 diabetes with the specific treatment protocols and the responses of the participants to the treatments. The instrument was validated by five experts in diabetes management and had undergone reliability testing using Cronbach's alpha coefficient reliability coefficient =0.80) with ten respondents excluded in the total sample of the study. The validated questionnaire comprised the level of awareness and compliance of adolescents with Type-1 diabetes to DM management.

Responses for each item were weighed using Likert's five point scale which ranges from extremely aware (5) to not aware (1) for the level of awareness; and to a very great extent of compliance (5) to a very small extent of compliance (1) for the level of compliance to Type-1 diabetes management.

A focus group discussion (FGD) was done to deepen the assessment of the level of awareness and evaluate the extent of their compliance to DM management. The FGD was conducted to validate the answers of the patients in the self-made questionnaire regarding their knowledge of the disease and compliance with diabetes management. Results of the FGD were validated from member check.

Data Analysis

The results were analyzed utilizing Statistical Package for Social Sciences (SPSS) version 19 software. Mean and SD was used to describe the level of awareness and compliance of the patients to diabetes management. Pearson correlation was utilized to determine relationship of the level of awareness to the extent of compliance of the patients to diabetes management.

RESULTS

Patients are mostly female (65% n=20); 12 years old (30% n=20) finished primary education (80% n=20); catholic (85% n=20); no vices such as smoking and drinking alcohol (95% n=20); have no physical activity (45.84% n=20); diagnosed of Type-1 diabetes for > 5 years and with history of diabetes in the family (65% n=20). Patients were regularly visiting the ISDFI for check-up at the clinic's foundation.

It can be seen in Table 1 that patients with Type-1 diabetes are extremely aware on the importance of blood sugar control, signs and definition of hyperglycemia and with diet, exercise and drug as part of diabetes management (mean= 5.0, mean= 4.85, mean=4.75, and mean= 4.60 respectively).

Patients have moderate awareness on symptoms of diabetes (mean= 4.45), signs of hypoglycemia (mean=4.30), diabetes as a lifestyle related disease (mean= 4.0), obesity and family history as risk factors for diabetes (mean=3.95), and Type-2 diabetes (3.75).

These responses were confirmed during the FGD, two of the patients mentioned the common factors that can contribute to an increase in blood sugar are lack of 56 57 exercise and eating sweet foods. Patients are aware that they can definitely control their blood sugar especially if they have high level of awareness to disease process.

"Diabetes results to lack of exercise"

"Diabetes results to eating too much sweet"

"Proper education may help us to comply with diabetes management"

As reflected in Table 2 patients are extremely aware on diet management (mean=4.51) and moderately aware on exercise (mean=4.31) and drug management (mean=4.16). But, many of them during the FGD verbalized that they do not anymore prepare meal plan.

"We don't prepare meal plan"

"I have to choose my meal"

"My food has to be measured"

Adolescent patients do not need close supervision from health personnel on diet management because they are taught by the ISDFI through the conduct of series of training. Thus, on the view of the patients they do not need close supervision.

"We are taught inside the camp"

"Carbohydrate counting and serving size are included in our training"

The moderate awareness of patients to exercise is supported by only a few of them engage in regular exercise and physical activity. Although they have extreme awareness on exercise and physical activity as part of diabetes management, many of them preferred to watch television and read books. Many of the patients believed that there is a need for patients with Type-1 diabetes to be exempted in physical education classes and

team sports because this has been imposed to them by people around them.

"We don't have any more time for exercise"

"I preferred reading books and watching TV"

"We are exempted from PE classes"

"My parents feared that if I'll join the PE class, I might experience hypoglycemia"

Further, the patient's compliance to diabetes management are somewhat compliant to drug (mean=3.16), exercise (mean=3.24) and diet management (mean=3.42). The low compliance on these items can be explained by the limited financial resources of the patients as explained during the FGD. Some of the patients were supported by the foundation (ISDFI) in terms of drug management; they are provided assistance in their insulin.

"Our parents support us but we have limited finances"

"We only rely on the foundation -ISDFI"

Patient's higher compliance in drugs can be attributed to their training on the types, uses and proper administration of insulin. The patient's competence in managing their insulin has been the focus of the training in ISDFI.

"ISDFI help us in managing our drugs"

"We are taught on proper insulin injection"

Patient's compliance to walking as an exercise management is also of great extent. Walking has been the usual exercise done by the patients because most of them walk when they go to school. On the other hand, aerobic and cardiovascular exercises are to some extent only because of the busy schedule of the patients in school activities. Most of them are already tired because of the too many activities in school.

"I walk going to school"

"I cannot exercise anymore after school, I'm already tired"

Although, patients are extremely aware that individualized meal plan is necessary to control diabetes, results show that they only comply with some extent. From this research results, it revealed that there was a low correlation between diabetes level of awareness and compliance to DM

management. The correlation between level of awareness and compliance was not significant ($r = .32$ $p = 0.15$) to consider in the study. It indicates that the moderate awareness of patients to diabetes management is not related to their extent of compliance.

DISCUSSION

The purpose of the study was to determine the patient's level of awareness and extent of compliance to DM management. In addition it sought to determine the relationship between awareness and compliance to DM management.

Results revealed that patients have extreme awareness on blood sugar control and signs of hyperglycemia but moderate awareness only on signs of hypoglycemia. It is of primary importance in the prevention of long-term complications the maintenance of normal glucose level and awareness in the signs and symptoms of both hyperglycemia and hypoglycemia.

In the study, patient Self-Monitoring of Blood Glucose (SMBG) control is one of the effective primary techniques patients utilized to assess the glycemic control. However, guidelines in diabetes care suggested evidence-based approaches. Effective management of blood glucose levels have been shown to reduce the risk of diabetes complications according to American Diabetes Association (ADA, 2012). A study also recommends Continuous Blood Glucose Monitoring (CBG) in conjunction with intensive insulin regimens to lower A1C in children, teens and young adults (Pick-up, Freeman & Sutton, 2011). CGM is also found effective in handling wide variability in glucose profiles before, during, and after physical exercise (Kapitza, Freeman & Sutton, 2010).

Patients were extremely aware on diet management exclusively on individual meal plan, physical activity, cardiovascular fitness and checking of blood glucose level. Although patient's awareness in exercise management

were moderate; patients are extremely aware in physical activity, cardiovascular fitness and checking of blood glucose level. They also have moderate awareness on exception in physical education classes and adjustment of insulin during exercise. However, ISDFI encouraged patients to engage in household chores and play as their means of exercise and activity. These are more appropriate to their age, more manageable and of no expense on their part as adolescents. Patient's education on DM management given by the ISDFI was helpful in increasing their level of awareness. In related studies on exercise, diet and drug management, there is increased awareness in physical activity to promote fitness and a diet that includes carbohydrate counting and decreased saturated fat intake (Delahanty, 2009; Al-Agha et al., 2011, Michaliszyn, 2009). These are recommended therapeutic modalities in the management of diabetes. However, patients have only moderate awareness on carbohydrate counting and the used of decreased saturated fat intake. Health education on carbohydrate counting and used of decreased saturated fat intake may be the focus of further health education to help patients effectively managed diabetes.

Patients followed the diabetes management to some extent but shows great extent of compliance on insulin management. The ISDFI staff taught them on insulin management as revealed in the FGD. In drug management of patients with Type-1 diabetes, it is recommended by ADA (2012) to use multiple dose insulin injections (three to four injections per day of basal and prandial insulin). Continuous Insulin Infusion (CII) therapy was recommended in the study of Valla in 2010. But the use of CII is not evident in the study because in the Philippines, only few patients use CII because it is too expensive. The adolescent patients are only using multiple dose insulin injections which were monitored and supervised by their doctor's and funded by ISDFI. This shows that

the health education conducted by ISDFI is sufficient to manage insulin treatment.

The result also shows that patient have some extent of compliance in monitoring blood glucose before injecting insulin and performance of exercise or physical activity. Although, ISDFI taught them on SMBG, most of the patients do not own a glucose meter or if they have they cannot afford to buy the glucose strips needed for regular monitoring of blood glucose. This may be due to lack of financial resources and most of them are relying on the assistance of ISDFI. ADA (2012) guidelines on diabetes management recommended that in individuals taking insulin, physical activity can cause hypoglycemia. It is recommended that regular blood glucose monitoring is important to avoid hypoglycemia during and after exercise (Younk, Mikeladze, Tate and Davis, 2011). The possibility of the occurrence of hypoglycemia after exercise or physical activity on patients is high. Health education is necessary to teach the patients on effective blood glucose monitoring.

Patient's lowest compliance is on diet management. Although patients have high level of awareness in individual meal plan they only follow the management to some extent. The health education given by the ISDFI may be sufficient for these patients to comply on diet management, however patients do not anymore prepare meal plan as revealed in FGD. This may be attributed to lack of motivation, support in the family and school canteen. ADA (2012) recommended individualized meal planning and optimization of food choices to meet recommended daily allowance (RDA)/ dietary reference intake (DRI) for all micronutrients in patient with diabetes.

The study also determined the relationship of awareness to compliance to DM management. Results show that there is low correlation between the patient's awareness and compliance to DM management. Although there is correlation, it

is not statistically significant. The results show no support to the study hypothesis. This maybe due to limited participants included in the study.

CONCLUSION

Health education is necessary to increase the level of awareness and extent of compliance of patients in diabetes management particularly in the importance of individual meal plan and controlling blood sugar level before exercise and physical activities. Level of awareness is important but adherence to diabetes management is of higher importance to prevent long term complications of DM. Health education process that is more specific and appropriate to their needs can improve more the compliance of the patients to the three diabetes management. The nurse's role is important in educating adolescent patients with Type-1 diabetes. The results of the study may only be applicable to the participants because of low statistics significance and further study with a larger population and multiple setting is recommended to achieve adequate results.

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PROTOCOL FOR AN ONLINE RANDOMISED CONTROLLED TRIAL TO EVALUATE THE CLINICAL AND COST-EFFECTIVENESS OF A PEERSUPPORTED SELF-MANAGEMENT INTERVENTION

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ABSTRACT

Introduction: Despite clinical guidelines recommendations, many relatives of people with psychosis or bipolar disorder do not currently receive the support they need. Online information and support may offer a solution. **Methods and analysis** This single-blind, parallel, online randomised controlled trial will determine clinical and cost-effectiveness of the Relatives Education And Coping Toolkit (REACT) (including an online resource directory (RD)), compared with RD only, for relatives of people with psychosis or bipolar disorder. Both groups continue to receive treatment as usual. Independent, web-based variable, block, individual randomisation will be used across 666 relatives. Primary outcome is distress at 24 weeks (measured by General Health Questionnaire; GHQ-28) compared between groups using analysis of covariance, adjusting for baseline score. Secondary clinical outcomes are carer well-being and support. Cost-effectiveness analysis will determine cost of a significant unit change (three-point reduction) in the GHQ-28. Costs include offering and supporting the intervention in the REACT arm, relevant healthcare costs including health professional contacts medications prescribed and time off (or ability to) work for the relative. Cost utility analysis will be calculated as the marginal cost of changes in quality adjusted life years, based on EuroQol. We will explore relatives' beliefs, perceived coping and amount of REACT toolkit use as possible outcome mediators. We have embedded two methodological sub studies in the protocol to determine the relative effectiveness of a low-value (£10) versus higher value (£20) incentive, and an unconditional versus conditional incentive, on improving follow-up rates.

INTRODUCTION

Background and Rationale

Relatives of people with psychosis/bipolar disorder (BD) provide a large amount of unpaid care,^{1 2} but at high personal cost in terms of distress and burden,³⁻⁵ and increased use of healthcare services.⁶ The UK Government recognises the need to support relatives in a caring role,⁷ and the National Institute for Health and Care Excellence (NICE) recommends all relatives are provided with information

and support, and offered structured family intervention to enhance family coping and communication.^{8 9}

However, a recent national audit of Early Intervention (EI) teams for psychosis showed poor implementation: only 50% of relatives are receiving a carer-focused education and support programme; only 31% offered structured family intervention and only 12% receiving it.¹⁰

Reasons for poor implementation are likely to be multifaceted but likely include

limited time and resources within teams and among relatives. An online intervention to provide the necessary information and support to relatives may improve implementation. Online interventions are well established for many mental health conditions, including depression and anxiety,¹¹ and are being rapidly developed for psychosis¹² and BD.¹³

Such interventions are particularly suited to delivering standardised information and a platform to share ideas through online forums, but cannot replace structured family interventions. Online support is also being developed for relatives of people with other chronic health conditions,¹⁴ and may be particularly useful for these groups due to the flexibility of use, and empathy and support from being linked to other carers.¹⁵

We have developed the Relatives Education And Coping Toolkit (REACT) to provide high-quality information and support in an easy and free-to-access online form to relatives of people with psychosis or BD. If effective, it could help National Health Service (NHS) Trusts meet the national access and waiting times target for early intervention services to offer carer information and support to all.¹⁶

Online interventions may be best evaluated using online trial methodology to enhance the external validity of the trial.¹⁷ Advantages of online trial design include the potential to reach a greater number and range of participants more representative of the population likely to use an online intervention, to recruit more people over a shorter timeframe, to offer secure randomisation and data entry simpler protocols, and for a much cheaper trial due to fewer staff required.¹⁸

However, retention rates can be low,^{18 19} compromising internal validity of the trial. Offering incentives can improve retention rates,²⁰⁻²³ but there is considerable uncertainty as to the level of incentive required and whether the incentive should be conditional or unconditional on completion.

Study Aims And Objectives

This randomised controlled trial aims to determine the clinical and cost-effectiveness of the REACT toolkit (which includes an online resource directory (RD)) and treatment as usual (TAU), compared with the RD only and TAU. This comparator was chosen to test the effect of offering REACT as an additional intervention to what relatives are currently able to access. The objectives are to determine the following:

1. impact of REACT on relatives' distress
2. impact of REACT on relatives' well-being and support
3. impact of REACT on hypothesised mediators of change, including relatives' beliefs, perceived coping and amount of use of REACT
4. costs associated with delivery and maintenance of REACT
5. incremental cost-effectiveness ratio of REACT
6. key issues for which relatives seek support.
7. We have embedded two methodological substudies. The objectives are to determine the effect on follow-up rates of the following:
 8. a low-value (£10) versus higher value (£20) incentive
 9. an unconditional versus conditional incentive.

The primary hypothesis is that there will be a significant difference ($p < 0.05$) between the two arms of the trial in the General Health Questionnaire (GHQ-28) scores at 24-week follow-up.

METHODS

Trial Design

This is a primarily online, two-arm, pragmatic, single blind individually randomized controlled superiority trial. Participant pathway through the study is shown in

Public Patient Involvement (PPI) strategy

One of the study investigators and coauthor is a parent of someone living with psychosis and was extensively involved in the development of REACT, the RD and data collection processes. She is part of the supervisory team for the REACT supporters. We have a Relatives' Advisory Group (RAG) working primarily online to provide detailed feedback on REACT toolkit, online data collection process and recruitment strategy. They will be involved in analysis, interpretation and dissemination of the data. Our Trial Steering Committee (TSC) includes people who are relatives supporting someone with a mental health problem.

Setting: UK

This study will take place online in the UK. It is hosted by one NHS Foundation Trust, and other Trusts and clinical commissioning groups are eligible to take part as participant identification centres. Recruitment will also take place through local and national mental health charities, media, social media and Google Ads.

Participants

Inclusion criteria

1. Aged 16 or over
2. Living in the UK
3. Relative/close friend of someone with psychosis or BD
4. Currently experiencing distress due to their relative or close friend (scoring ≥ 3 on the GHQ-28 item 'Have you recently been feeling nervous and strung up all the time')
5. Currently help seeking (self-identified)
6. Access to an internet-enabled computer
7. Sufficient English fluency to comprehend intervention content
8. Only one relative per service user may participate to avoid a clustering effect.

Exclusion Criteria

As there is a parallel implementation study (called IMPART) of the same intervention (<http://www.hra.nhs.uk/news/research-summaries/implementation-of-anonline-relatives-toolkit-imp-art-study>), relatives living in any of the six areas where it is running will be excluded (by postcode).

Recruitment

Recruitment is scheduled from April 2017 to October 2018. We will develop a social media strategy using Twitter, Facebook, Google Ads and blogging, and engage with local and national news media. We will recruit through national carer networks, MIND, Carers Trust, Rethink Mental Illness, Carers UK, SANE, Bipolar UK and NHS Choices. These organisations will all be listed in the RD in our trial. We will work closely with the Clinical Research Network to ensure

information about the study is made widely available for recruitment through NHS Trusts and general practitioner (GP) practices. We will monitor the success of these strategies by asking all potential participants at registration (postconsent) to indicate how they heard about the trial and explore differences in demographics for those entering the study via different routes. Based on previous studies our strategies to improve recruitment include a 'lead-in' period during which people can register interest in the trial during the set-up phase and be contacted directly when the trial starts,^{24 25} using online recruitment strategies to target those already using the internet to seek help,¹⁹ and paying participants.²⁰

Potential participants will be directed to the study home page (www.reacttoolkit.co.uk), which provides study information. People visiting the site will provide the postcode of the person they care for to check they live in the UK, and not in one of the implementation study (IMPART) areas. Those in an IMPART area will be directed to the IMPART study site. Potential participants are directed to an online participant information sheet that details the study. Relatives are then asked to complete a short checklist to indicate whether they meet the inclusion criteria listed above. Non-eligible relatives are invited to leave their contact details if they would like to be sent content of the REACT modules at the end of the study. Eligible participants complete an online consent form and provide a valid email address. A copy of the consent form and a link to the registration process is sent by email (email validation step). The registration process requires multiple contact details including mobile phone

number, and checks for overlap with other participant details. A code is sent by text message to invite the relative to access the site. The data collection system requires email address and the registration name from the user. If any of the 7% of the UK population without a mobile phone take part, or there are any concerns identified through matching registration details, we will ask for a landline and verify identity using a code delivered by telephone. We will use postcodes to check all participants are living in the UK. We will request age and gender at baseline and also at 12-week and 24-week follow-up, as a final identity check. Similar strategies have been used successfully in previous trials.^{23 26}

Interventions

Participants can access the intervention site (REACT or RD) whenever they wish throughout the period of the trial (minimum of 24 weeks to last follow-up for final participant). They are advised to use the intervention according to the level of need. No changes are made to current treatment.

Development of REACT

REACT was developed with extensive input from clinicians and relatives through focus groups²⁷ and the RAG. The content was first made available in paper/online pdf form, and feasibility and effectiveness in reducing relatives' distress were demonstrated in a randomised controlled trial.²⁸ Based on further qualitative feedback from participants in the feasibility trial, focus groups with relatives exploring their views of online interventions and RAG input, the content has been updated and expanded to offer a comprehensive online recovery focused

toolkit for relatives of people with psychosis and/or BD. It includes online support from trained relatives (REACT supporters) via confidential direct messaging, and from other relatives through a restricted access forum moderated by the REACT supporters. Support offered by peers with a shared lived mental health experience is highly valued and can be as effective as support from health professionals,^{29 30} but there is no evidence on the effectiveness of relatives' peer support. A key advantage of this design is that relatives of people who refuse to engage with services can be supported. Each of the 12 key modules contains high-quality standardised written information, videos of clinical experts or experts by experience sharing their knowledge and experiences to illustrate key points, and self-reflection tasks to ensure content is personalised to the user. All videos of relatives telling their real story were retold by actors to preserve anonymity of those involved. A summary of each module.

A 'Meet The Team' page ensures relatives are fully informed about who is delivering the content of the site. Logos for Lancaster University, Lancashire Care NHS Trust, University College London, Liverpool Clinical Trials Research Centre (CTRC) and the McPin Foundation are prominently displayed on the login page. Mytoolbox offers user a confidential space to save links to any information sources they may want to access easily in future, including specific content within the toolkit, their self-reflection tasks and external web links. A blog page offers a flexible space for additional communication with site users, which can be edited by the REACT supporters.

Support is offered through confidential direct messaging with trained relatives (REACT supporters) and peer support through a moderated online forum. Currently available national and local resources are listed in the RD. Screenshots in Figure 2 show the look and feel of the REACT intervention. The REACT supporters are available on the site Monday to Friday, 09:00–16:30, excluding bank holidays and university holiday closures. Their key role is to provide emotional support and to guide relatives to relevant parts of toolkit and/or other relevant resources as appropriate. They are also trained to moderate the forum and can hide posts or withdraw access in response to inappropriate use. They are trained and supervised by a clinical psychologist and an expert relative. Participants receiving REACT are sent reminders to visit the website after a week of inactivity. Participants can change the frequency of these reminder emails or turn them off.

RD arm

Participants allocated to RD arm log into the same website, but are only able to see the 'Meet The Team' and RD pages. At the end of the study those in RD only will be given access to the modules, without forum or direct messaging.

Outcomes

Primary outcome

The primary outcome is relatives' distress at 24 weeks assessed using GHQ-28 with Likert scoring.^{1–4 31} GHQ-28 showed sensitivity to change previously^{26 28} and has shown significant associations with important functional outcomes in the general population, including GP visits,³² absence from work,³³ incapacity

benefits³⁴ and severe adverse health outcomes, including deaths.³⁵

Secondary Outcomes

Secondary outcomes include the relatives' experience of caring assessed using the Carers' Well-Being and Support (CWS) measure³⁶ assessed at 24 weeks, and distress (GHQ- 28) and carer experience (CWS) at 12 weeks' follow-up. CWS covers all aspects of carer's experience of caring for someone with a serious mental health problem, including relationships, roles, financial concerns, physical/ emotional health, stigma, worries about safety, satisfaction with support offered and ease of obtaining information. Cost-effectiveness.

We will determine the cost of a significant unit change (defined as three-point reduction) in GHQ-28. Cost utility analysis with fully incremental analysis will be calculated as the marginal cost of any changes in quality-adjusted life years (QALYs), using EuroQol EQ-5D 5L,³⁷ as recommended by NICE.³⁸ The EQ-5D-5L comprises five items covering the domains of mobility, self-care, usual activity, pain/discomfort and anxiety/depression.

Costs will include the direct costs of offering and supporting the intervention in the REACT arm, relevant healthcare care costs including health professional contacts, medications prescribed and time off (or ability to) work for the relative in both arms. An adapted version of the Client Service Receipt Inventory (CSRI)³⁹ will be used to collect online retrospective information about the participant's use of health and social care services, accommodation and living situations, income, employment and benefits in the preceding 6 months. We will include use

of other free interventions including relatives support groups and websites, so we can accurately describe current treatment. Unpaid informal care by the relatives will be measured by asking relatives how many hours of care they provide supporting the person with mental health problems, and costing these on an hourly basis based on national mean age and gender-specific wage rates available from the Office for National Statistics.⁴⁰ Days lost by relatives from work and reduced hours while at work due to the caring role will also be recorded and costed as part of the CSRI. Wherever possible, unit costs for medication and healthcare resources will be taken from national sources such as the British National Formulary⁴¹ and the Personal Social Services Research Unit (PSSRU) Costs of Health and Social Care.⁴²

Mediators Of Change

To test the proposed mediators of change in relatives' outcomes, we will also include Brief Illness Perception Questionnaire,⁴³ a 15-item Likert scale assessing beliefs about psychosis/BD with an additional single item, to assess perceived coping; and Brief COPE,⁴⁴ a 28-item measure widely used to assess coping styles. We will record all activity on the toolkit for each individual to test the relationship between use and effectiveness. Application Programming Interface data from the REACT site will be summarised for participants randomised to both intervention groups into a small number of variables (number of webpage downloads and time spent on the site). In addition to amount of use, we will explore the nature of use, including qualitative analysis of forum posts and direct messages. We will

also explore potential determinants of web use by assessing relatives' experiences of the intervention for the REACT group only at 12-week and 24-week follow-up.

Data Collection

Baseline measures including demographic information, outcomes and mediators are completed before randomisation. Demographic data collected include age, gender, ethnicity, marital status, education, employment, living arrangements (including dependents), primary diagnosis of service user, length of time in caring role, number of people caring for, relationship to person(s) with mental health problem, whether or not they live with the person(s), level and type of contact, whether or not they are receiving support from NHS services and internet access. Twelve and 24 weeks after randomisation, all participants are sent an email reminder to complete the follow-up measures. At 24 weeks, the email content will vary depending on whether participants have been randomised to either £10 or £20 reward and to the reward being conditional (ie, dependent on completion of follow-up questionnaires) or unconditional (ie, offered with the initial request for follow-up data). To maximise follow-up at the primary outcome point we will:

1. only randomise participants once baseline assessment measures are completed
2. include detailed explanations in our recruitment materials to explain to participants why data completion at follow-up is so important
3. require email, telephone and postal contact details at registration so we

have multiple methods of contact for follow-up

4. send participants up to three automated email reminders at 5-day intervals, followed by text, telephone and/or postal requests
5. incentivise completion of follow-up measures by paying participants shopping voucher(s) at each time point. To increase overall acceptability and participation rates, we will inform RD participants that they will be able to access toolkit modules after the final follow-up.

Sample Size

We aim to recruit 666 relatives of people with psychosis/ BD to accurately test the primary hypothesis that there will be a significant difference ($p < 0.05$) between the trial arms in GHQ-28 at 24-week follow-up. Our feasibility trial²⁸ showed a mean difference in GHQ scores between groups at 6 months (controlling for baseline) of 6.59 units (SD 16.6 units) in favour of the REACT arm. To build a degree of protection against pilot results proving optimistic, and to accommodate adaptations to the design of the study and the intervention, we reduce our estimate of the mean difference in this trial from 6.59 to 5.0 units. We retain our estimate of SD of 16.60 from the feasibility study, consistent with other studies using this measure with relatives in EI services⁴⁵ and somewhat higher than those from other mental health or dementia services.^{46 47} Four hundred and sixty-six participants provides 90% power to reject the null hypothesis ($p < 0.05$), with effect size of 5.0 units assuming 30% dropout by 24 weeks. Although dropout was only 17% in our feasibility trial, it is historically higher in online trials.¹⁹

Internal Pilot

Our trial includes a 9-month internal pilot with the following criteria:

1. GO: 100% or above of anticipated recruitment at 9 months (333+ participants)
2. AMEND: 80%–100% of anticipated recruitment (267–333 participants); review and amend recruitment strategies
3. STOP: <80% of target for 9 months (<267 relatives); inform funders who will determine whether to stop trial.

If the SD of GHQ-28 scores at 24-week follow-up at the end of the internal pilot is higher than the estimated 16.6 units, the sample size will be recalculated and recruitment targets increased accordingly. If SD is lower, sample size will remain unchanged. If GHQ-28 retention at 24 weeks is less than 70%, recruitment target will increase to ensure 466 patients will provide sufficient 24-week primary outcome data to test the primary hypothesis.

Randomization

Eligible participants will be randomised using a 1:1 ratio to ‘REACT (including RD)+TAU’ versus ‘RD+TAU’ by the CTRC. We will use web-based variable block randomisation in which the unit of randomisation is the relative.

We will explore the effect of sociodemographic and caring-related variables; however, without convincing evidence these will have an effect, we have not stratified randomisation. A second independent randomisation is carried out at CTRC at 24-week follow-up using a randomised factorial design using the same individual block randomisation,

with participants randomised to £10 or £20 reward (shopping voucher) and to the reward being conditional or unconditional on completion of measures to determine relative effectiveness and costs for each reward strategy.

Allocation Concealment And Blinding

All data are self-reports and predominantly input online by participants. Where data are collected by post, these will be recorded and inputted by the trial manager blind to allocation. Data are uploaded directly to an electronic database at the CTRC. The system only allows valid values to be entered. To prevent any bias in the conduct of the study, the chief investigator (FL), trial manager (HR) and statistician (SD and PW) will be blinded to treatment assignment. Participants, REACT supporters (LC, SF, CW), clinical supervisors (SoJ, StJ) and technical staff are unblinded. To minimise unblinding any contact with participants will be prefaced by a reminder not to disclose trial arm. If the trial manager is unblinded, then non-automated reminders and any data entry will be done by another blind team member. Chief Investigator (FL) will be unblinded only in the case of a serious adverse event deemed to be study-related to ensure the event is appropriately reported and investigated. All instances of unblinding will be recorded.

Data Management Storage And Security

All participant trial data are collected through an online system at CTRC and stored on secure servers physically located within access-controlled server rooms and backed up nightly to a separate physical location. All identifiable data are

encrypted using a 256-bit encryption algorithm. CTFC servers are subject to penetration testing audits undertaken by the University of Liverpool central IT staff. Website usage data and qualitative data from the REACT group and REACT supporter direct messages are taken from the REACT toolkit hosted on a dedicated virtual private server at Lancaster University. All communication with website users is limited to SSL-protected HTTPS protocol to protect passwords and data in transit over internet.

Data Analysis

A full statistical analysis plan is available at <https://figshare.com/account/home/projects/19975>. If normally distributed, scores on the primary and secondary outcomes will be summarised using means and SDs for each arm separately, and will be compared between groups using analysis of covariance, adjusting for baseline score, and including all participations according to the randomisation scheme. If the scores are not normally distributed, the median and IQR will be presented for each randomised group and will be compared using the Mann-Whitney U test.

An appropriate transformation (eg, log) will be applied, and analysis of covariance will be applied to data, adjusting for baseline score. To investigate the relationship between website use and outcome, data will be recorded on baseline covariates (correlated with both website use and outcome) and relevant website use (from participants in both arms). Instrumental variable regression will be implemented to estimate impact of website

use on the primary outcome (GHQ-28 at 24weeks), as well as to test whether the mediator variables actually predict change in outcome.

Mediating variables will be examined individually in this exploratory analysis. To assess the impact of the second randomisation, the number (proportion) of participants providing 24-week follow-up data will be presented and compared using the χ^2 test (or Fisher's exact test, if expected counts are <5). The independent impact of intervention group on retention rates will be explored by including intervention group along with value of the reward (or un/conditional nature of the reward) as an explanatory variable in logistic regression.

Cost-Effectiveness

Cost utility with a fully incremental analysis using an NHS perspective at 24weeks will be done. Effectiveness will be assessed by changes on GHQ-28. EQ-5D-5L will be used to generate QALYs. Uncertainty around cost-effectiveness estimates will be explored using cost-effectiveness planes (through generating a large number of cost-outcome combinations using bootstrapping) and cost-effectiveness acceptability curves (showing the probability of the intervention being cost-effective at various levels of willingness to pay). This allows any uncertainty in the costs or outcomes to be reflected in the results presented. The NICE Health Technology Assessment (HTA) guidance will be followed. However, costs of informal support can impact on cost-effectiveness when it constitutes a substantial part of the support provided, so we will account for this by also providing results from the wider

ocietal perspective including estimates of carers' productivity losses.

Missing Data Analyses

To minimise missing data, participants are required to complete the primary outcome measure (GHQ-28) before completing any other measures. Participants are unable to submit any questionnaire with missing fields, thus avoiding missing data within questionnaires. As much data as possible will be collected about the reasons for missing data, and these will be used to inform the handling of missing data. Participants will be invited to give reasons for not responding to the email reminders. The baseline characteristics of those who do/do not provide data will be compared to demonstrate whether missing data can be assumed to be missing at random (at least with respect to recorded baseline characteristics).

A joint modelling approach (using baseline, 12-week and 24-week outcome data) will be used to assess the impact of missing data at 24 weeks on the conclusions drawn from analysis on primary and secondary efficacy outcomes. Participants are free to withdraw consent from the trial at any time without providing a reason, although we invite them to tell us why they have withdrawn so that we can take this into consideration in future studies.

Monitoring

The trial is overseen by an independent Data Monitoring and Ethics Committee (DMEC) including Professor of Trials and Professor of Clinical Psychology, and the TSC Chaired by Professor of Clinical Psychology and

including a trials statistician, trial methodologist and expert relative, both funder-appointed (National Institute for Health Research (NIHR)). The TSC will oversee trial progress, ensure that it is being carried out according to protocol and decide on continuation at the end of the internal pilot. DMEC will review unblinded data and prioritise participant safety, alerting TSC to any concerns regarding safety or other ethical issues. TSC will liaise directly with the trial sponsors (Lancaster University) who may audit the trial at any time. The number (and percentage) of patients with at least one major/minor protocol deviation will be summarized by treatment group. Eligibility protocol violations and multiple registrations per participant or per service user will also be reported.

Adverse Events

Adverse events are defined as either low risk (clear evidence of distress or concerns of risk of harm or abuse towards participants or others, but no immediate or serious threat of severe harm or risk to life) or high risk (clear evidence of immediate risk to life or child welfare). Risk can be identified through online questionnaire red flag items, posts on the REACT group, direct messages to REACT supporters and by the trial manager during email or telephone participant contact. Low-risk events will be discussed in supervision, documented and trigger a standardised email expressing concern and providing details of how to seek crisis support. If an immediate high risk is identified, either the police (immediate risk to life) or social services (risk to child) will be contacted as appropriate. Risk will be reported to the supervising clinician and

documented. The supervising clinician will discuss the risk event with the TSC Chair, who will decide if the event is related or unrelated to the study. If related, Chief Investigator and Trial Manager will be unblinded, and the sponsor, ethics committee and funding body will be notified. The number of adverse events and how they were identified will be recorded for both arms of the trial.

Reporting And Dissemination

The trial will be reported following the Consolidated Standards of Reporting Trials guideline.⁴⁸ The International Committee of Medical Journal Editors guidelines on authorship will be followed. Products will be widely disseminated through journal articles, conference presentations and social media to all relevant stakeholders internationally, including service users, relatives, NHS managers and frontline clinical staff including GPs, clinical academics and the general public. A study website will provide updates and outputs from the study and links to all publications and presentations. Data will be stored at Lancaster University and the Trial Management Group, which consider applications for access to the data for further analyses.

Financial Arrangements

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