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Journal of Nursing Science Update

Vol. 11, No. 1, May 2023
e-ISSN: 2829-0003
DOI: http://dx.doi.org/10.21776/ub.jik.2023.011.01
p-ISSN: 2829-7075
Website: http://www.jik.ub.ac.id

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Journal of Nursing Science Update (JNSU) is a media to share scientific studies about nursing published by the Department of Nursing, Faculty of Health Science, Universitas Brawijaya. This journal is peer-reviewed and published twice a year in May and November. It contains articles about emergency nursing, basic nursing science, community nursing, mental health nursing, pediatric nursing, maternity nursing, geriatric nursing, medical and surgical nursing, and management nursing.

Jurnal Ilmu Keperawatan: Journal of Nursing Science, with p-ISSN 2088-6012 and e-ISSN 2598-8492, was first published in 2013 and discontinued in Vol. 9, No. 2, 2021. This journal's name was changed to Journal of Nursing Science Update with a new ISSN number started in Vol. 10, No. 1, the Year 2022. This journal has been indexed in Google Scholar, Garuda, SINTA Science, and Technology index, and crossref.

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Original Research

Effect of Diabetes Supportive Group and Network (DINET) Programme on Quality of Life for Diabetes Patients

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Article Info

ABSTRACT
Gorontalo is ranked 7th in the number of people with diabetes from 35 provinces in Indonesia. One of the causes is the lack of self-care management which impacts the low quality of life of diabetes patients. Supportive group existence is needed as social support for diabetes patients, mainly in the community. This study's purpose is to analyze the effect of the DINET programme on the quality of life of diabetic people. The research method used a pre-experimental design through one group of pre and post-test analyses. The supportive group support provided activities involving diabetes patients, including health education, focus group discussion, physical exercise, and using chatbots and group chat as communication media for support group members. The sample used was 16 people through the purposive sampling method. The instrument for quality of life used is the Diabetes Instrument Quality of Life (DQOL) from the American Diabetes Control and Complications Trial (DCCT) Research Group. The study's results showed a significant difference in the quality of life of DM patients after the intervention with a p-value of 0.000 (α < 0.05). The support group can be used as social support for diabetes patients to keep their discipline in self-care management to prevent dangerous complications.

Keywords:
Diabetes mellitus
Supportive group
Quality of life

Introduction

Patients with Diabetes Mellitus in Indonesia are increasing every year. Indonesia is included in the ten countries with the most diabetes mellitus patients globally and is expected to reach 16.7 million patients by 2045 (Puspitasari, 2020). Gorontalo ranks seventh in the number of people with Diabetes Mellitus from 35 provinces in Indonesia, with a prevalence that increased from 1.3% in 2013 to 2.4% in 2018 (Riskesdas, 2018).

Diabetes Mellitus is a glucose metabolism disorder that causes problems in glucose control, so blood sugar levels become high. The treatment goals of diabetes mellitus are to prevent dangerous complications, reduce mortality and increase the quality of life of diabetic patients. Research done by (Rantung et al, 2015) found that the self-care management ability of the patient determines the productivity and quality of life of patients with diabetes mellitus.

One of the interventions to improve self-care ability in Diabetes Mellitus patients is to provide psychosocial support that can deliver long-term assistance for Diabetes Mellitus sufferers. This social support can be given through a supportive group of people suffering from the same disease. Research by (Diatiningsih et al, 2019) found that a support group has a significant effect in accompanying the patient’s self-care management to control blood glucose.

Research conducted by (Peimani et al., 2018) found peer group support to be effective in increasing the ability of the diabetic patient to perform self-care, including dietary, activity, and stress management. Research carried out by (Peters et al, 2014) found that Diabetes Mellitus patients had positive experiences while participating in a supportive group, getting the motivation to live and improving negative stigma related to their illness and increasing their quality of life.

For the compliance of people with diabetes in participating in supportive group activities and performing self-care management, it is necessary to support effective communication media by maximizing the use of technology. Research from (Tran et al., 2017) in Vietnam explained that the effectiveness of diabetic supportive groups became higher when combined with mobile phone-based communication media. Implementing the supportive group has begun to be developed in several areas in Indonesia. However, for the Gorontalo area, it has not been implemented, especially in the community setting, and communication media technology has not been utilized well for diabetic patients. This is the reason behind the need for this study.

Method

This research uses a quasi-experimental method through one group pre & post-test analysis. Data collection techniques using observational techniques using questionnaires. The study population was taken from all diabetes patients in Kota Timur Public Health Working Area from May until July 2022.

Sampling used a purposive sampling method with inclusion criteria for patients with type 2 diabetes and who have no hearing or vision impairment. Sixteen samples were divided into two groups, each consisting of 1 group leader and 7 group members. The group leader is DM patients who have been coached by a health worker and have controlled blood sugar to be good role models and educators for other DM patients.

Peer group activities are carried out for two months in 4 meeting sessions which include education on diet management, physical activity, foot care and stress management. Patients are also included in joint exercise activities such as diabetic foot exercises and short walks. At every meeting or session, the patient is checked for blood sugar so that the patient can know his blood sugar level. As a communication media, patients have been facilitated with open-access android-based applications in chatbots and chat groups.

Univariate analysis was used to describe the characteristics of the sample, and bivariate analysis with Paired Sample T-test to compare respondents’ QOL before and after participating in a supportive group. Instrument of quality of life using the Diabetes Instrument Quality of Life (DQOL) made by the American Diabetes Control and Complications Trial (DCCT) Research Group, which has gone through validity and reliability tests with Cronbach’s alpha value 0.719.
Results and Discussion

Sample Characteristics
Sample characteristics of the study described in the table below

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young Adult (26-35th)</td>
<td>1</td>
<td>6.25</td>
</tr>
<tr>
<td>Old Adult (36-45th)</td>
<td>6</td>
<td>37.5</td>
</tr>
<tr>
<td>Early Elderly (46-55th)</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>Late Elderly (56-65th)</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>Old Elderly (&gt; 65th)</td>
<td>1</td>
<td>6.25</td>
</tr>
<tr>
<td>Profession</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Officer</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>Housewife</td>
<td>11</td>
<td>68.75</td>
</tr>
<tr>
<td>Unemployment</td>
<td>1</td>
<td>6.25</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary School</td>
<td>6</td>
<td>37.5</td>
</tr>
<tr>
<td>Junior High School</td>
<td>4</td>
<td>25</td>
</tr>
<tr>
<td>Senior High School</td>
<td>3</td>
<td>18.75</td>
</tr>
<tr>
<td>Bachelor</td>
<td>3</td>
<td>18.75</td>
</tr>
<tr>
<td>Duration of Diabetes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 2 years</td>
<td>9</td>
<td>56.25</td>
</tr>
<tr>
<td>&gt; 2 years</td>
<td>7</td>
<td>43.75</td>
</tr>
</tbody>
</table>

The table above shows that most respondents were old adults and elderly. This is related to the risk factors of DM, one of which is age-related. A previous study from Setyorogo & Trisnawati (2013) exposed that age is closely related to the incidence of DM. Older respondents would be at risk of DM. It was found that 75% of respondents with DM were 45 years or older. Research held by Al-Saeed et al. (2016) found that most diabetic patients were between 40 and 50 years old.

Most of the respondents from this study were housewives (68.75%). As it is known that the type of activity is also a risk factor for DM. According to Setyorogo & Trisnawati (2013), the type of activity and stress level are factors related to DM. Most of the respondents had an elementary school graduates. The level of education affects the respondent's ability to understand the information provided. Related to this, the researcher explained the proper language selection that was easy for the respondent to understand.

Most of the respondents have diabetic duration below two years, which made the level of adherence to treatment still high. Patients with newly diagnosed diabetes tend to have still self-efficacy and high motivation to participate in a supportive group. Research from Waari, Mutai and Gikunju (2018) found that patients with diabetic duration below two years have good medication adherence.

Bivariate Analysis
Before conducting bivariate analysis, a normality test was carried out with the following results.

<table>
<thead>
<tr>
<th>Quality of life</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test</td>
<td>0.871</td>
</tr>
<tr>
<td>Post Test</td>
<td>0.526</td>
</tr>
</tbody>
</table>
The normality test results through Kolmogorov-Smirnov showed that pre-test and post-test data were normally distributed, proved by p values of 0.871 and 0.526. Thus, it can be continued by testing the paired-t test.

<table>
<thead>
<tr>
<th>Quality of life</th>
<th>Mean</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Test</td>
<td>26.25</td>
<td></td>
</tr>
<tr>
<td>Post Test</td>
<td>49.56</td>
<td>0.000</td>
</tr>
</tbody>
</table>

The analysis table above showed a significant change in the quality of life of the diabetic patient before and after the intervention, proved by a p-value of 0.000. The average quality of life of patients before the intervention was 26.25, then there was an increase to an average of 49.56. The results of this analysis also show that the DINET (Diabetes Supportive Group and Network) intervention is effective in increasing the quality of life of patients with diabetes mellitus. These results align with research from Ghasemi et al. (2019), which states that supportive group education can improve the quality of life of patients with diabetes mellitus. This result is also supported by research from Sreedevi et al. (2017) which found that peer-group support can increase the quality of life of diabetic patients.

The questionnaire analysis after the respondents were involved in the supportive group activities showed that, on average, they showed changes in their quality of life, especially in the impact and worries domains. The impact domain relates to changes in activity tolerance and diet management, while the worries domain relates to reduced respondents’ concerns regarding their ability to control blood sugar. Supportive group activities can increase patient motivation in self-care management to improve the patient’s quality of life. Research from Helgeson, Lopez, & Kamarck (2019) found that supportive group activity can increase the psychological well-being and physical health of adolescents with diabetes. Lower stress levels and higher quality of life are found in diabetic patients participating in a peer group (Gilden et al., 2020). Research from Juul (2018) found that there is a correlation between motivation with dietary compliance of diabetes patients so that blood glucose levels can be controlled.

Most of the samples in this study are still in the age range of young adults and late adults, so the level of acceptance is much better in receiving education, although most of them have a lower level of education. The results of this study are supported by research from (Manuel et al., 2016) which found a significant improvement in the quality of life in the late adult group who were members of the supportive group. In addition, most of the respondents (68.75%) who are supportive group members are housewives and unemployed, so they have enough free time to participate in group activities. Research from Sheybanni (2021) found that group-based education is much more effective for housewives. A supportive group approach can increase self-efficacy in undergoing the programme given.

Besides the existence of a supportive group, this research also combines the use of technology as communication media through the chatbot application. Chatbot is an application that can answer messages automatically when respondents need information related to diabetes mellitus self-care management. This application aims to make it easier for DM patients to get information about their disease from trusted sources. The application will also regularly send automatic messages to remind group members of the schedule of routine checks and routine activities. This technology is effective in helping DM patients undergo treatment programs and serves as a reminder or reminder for patients. The chatbot provides information related to the types of foods that DM patients should avoid, types of physical exercise that can be done, foot care methods that can be done at home and strategies to reduce stress for patients. Research conducted by Choi & Kim (2019) found that using chatbots can help DM patients in doing a low-sugar diet; research conducted by Jingwen Zang (2020) found that using chatbots can help people manage physical activity and a healthy diet. In addition to being assisted by applications, patients are also joined in chat...
The existence of social support for diabetes patients, both in the form of supportive groups and application-based communication media, can increase the quality of life for diabetes patients. The results of the questionnaire analysis showed that the lowest level of satisfaction in respondents was related to patient satisfaction in the diabetes treatment process. The patient is always recommended to take medicine. The patient feels bored because he has to take medicine continuously for a long time. This follows the study that 43.6% of patients feel bored taking antidiabetic drugs. (Saibi et al., 2020). Patients' second dissatisfaction is related to the time spent on keeping blood sugar normal. It is known that there are several ways to keep blood sugar levels normal, namely by taking medications, exercising regularly, maintaining a healthy diet and managing stress. This is difficult to do because of the low motivation of the patient to move actively. Previous research from (Helmink et al., 2011) determined that patients who spent more time sitting were closely related to the increase in the body mass index as one of the factors causing the increase in blood sugar levels.

<table>
<thead>
<tr>
<th>No.</th>
<th>Question</th>
<th>Score</th>
<th>Mean</th>
<th>Min-max</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>How satisfied you are with diabetes miltitus treatment?</td>
<td>55</td>
<td>66</td>
<td>55-75</td>
</tr>
<tr>
<td>2.</td>
<td>How satisfied are you with the time you spend to normalize your blood sugar levels?</td>
<td>61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>How satisfied you are with the length of time it takes for diabetes treatment?</td>
<td>67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Are you satisfied with the time you use to exercise?</td>
<td>68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Are you satisfied with the burden that the family has to go through because you have diabetes?</td>
<td>69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>How satisfied you are with the time spent on routine diabetes checkups?</td>
<td>72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Are you satisfied with your knowledge of diabetes?</td>
<td>71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>How often you eat foods that you should not eat?</td>
<td>66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>How often do you worry about the possibility of losing your job due to having diabetes?</td>
<td>75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>How often you don’t sleep well because of diabetes?</td>
<td>69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>How often you feel diabetes is limiting your career?</td>
<td>67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>How often do you feel sick?</td>
<td>67</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The highest satisfaction is shown in worrying about losing a job due to DM disease. This relates to most respondents being housewives with no primary responsibility in family finances. Research from Peggy, Pendley, McDonell, and Reeves (2021) found that supportive group education can improve the social functioning of a patient with diabetes mellitus. The second aspect of quality of life that patients feel satisfied with is related to the time it takes to check blood sugar. Respondents were well motivated to do a blood sugar check. This follows the research Ismamsyah (2020) found that 51.3% of respondents complied with blood sugar checks. This is related to most of the respondents being housewives, so it is easier to schedule a blood sugar check with the health service; besides that, participation in the supportive group makes them easier to examine by the health worker. Research from Zhao, Yu and Zhang (2019) found that a supportive group education model can improve the glucose management of a diabetic patient, so that level of blood sugar can be controlled. In line with research from Khiyali et al. (2021) that found supportive group education can improve the glycemic index of a diabetic patient through increasing participation in blood glucose routine checks. Research from Rahmani, Hidayat, Aziz & Nurhayati (2020) found a decrease in blood sugar levels after diabetic patients participated in peer group activities.

The subsequent satisfaction the patient feels is related to the literacy of diabetes mellitus. The limited knowledge of patients about their disease is one of the
causes of the ineffectiveness of the diabetes mellitus treatment program. A previous study (Lemes Dos Santos et al., 2014) exposed that only 49.1% of men and 64.3% of women had correct answers regarding blood glycemic values. Only 85.4% of people know that an unhealthy diet is a risk factor for DM. Only 60% of known symptoms of fatigue, thirst and hunger indicate higher sugar levels. Only 87.14% of women knew that DM causes blindness, and only 64 (28%) women knew that DM can cause renal failure. By 68, 57% of women respondents knew that DM induces poor circulation.

Through supportive group activities, patients can share knowledge about self-care management with fellow diabetes mellitus patients (Mohebi et al., 2018; Yu et al., 2014). In addition, health workers also give patients counselling as facilitators in peer group activities. Research from Sani, Makeen, Albasheer, et al. (2018) found that supportive group intervention can improve the knowledge level of a diabetic patient. Research from Norr, Tlou and Moeti (2018) proposes that support groups are a low-cost and sustainable intervention that can change patient knowledge, attitudes, and behaviours in urban areas.

Conclusion
This study shows that implementing the Diabetes Supportive Group and Network (DINET) programme can be used as an alternative educational approach in a community setting to increase the quality of life of diabetic patients after discharge from the hospital. The supportive group can increase blood sugar-controlling behaviour and knowledge of the diabetic patient undergoing self-care management. The effectiveness of the intervention in the elderly (elderly) group should be investigated further.

Limitations of the study
The limitation of this research is that the sample used is still less homogeneous in terms of duration of diabetes and age. Investigation in the same duration and age group should be deeply discussed.

Acknowledgement
The researcher is grateful to the Director of Poltekkes Gorontalo and Puskesmas Kota Timur Team, who have facilitated the implementation of this study.

Conflict of Interest
Considering various aspects, this research confirmed not to cause any conflict of interest.

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Effect of Diabetes Support Group and Network


Waari, Mutai & Gikunju. (2018)’ Medication adherence and factors associated with poor adherence among type 2 diabetes...


Factors Affecting Speech Delay In Toddlers

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The problem of speech delays in preschool children is estimated at 5% of the normal population. It is known that 19% of toddlers have speech and language development disorders, with details of 6.4% speech delay, 4.6% speech and language delay, and 6% language delay. This study aimed to identify factors associated with speech delay in toddlers. This study uses the Literature Review design. The article was taken from the SINTA, Garuda, PubMed, Science Direct, and Google Scholar databases with the keywords (((speech delay) AND toddler) AND influencing factors). The criteria for the articles used are 2018-2021 publications. The articles were selected using the PEOS framework and the JBI Critical Appraisal tools. The results showed that the factors that influenced the occurrence of speech delays included two articles related to gender, one article related to the incidence of physical trauma, two articles related to genetic factors, two articles related to neurological disorders, three articles related to the use of gadgets, and six articles related to parenting. Suggestions that further research can be carried out on the effect of implementing parenting patterns on speech delays in toddlers.

Factors Affecting Speech Delay In Toddlers ...

Introduction

The golden period is the time when the brain develops rapidly and optimally. The golden period occurs when the baby is still in the womb until the child reaches the age of 2 years, which is included in toddlerhood. During this golden period, stimulation is needed to support the growth and development of children (Soetjiningsih, 2012). According to the Ministry of Health (2015) quoted in the Journal of Professional Nurse Research, some of the developments that occur in children at the age of toddlers include the ability to speak or speak, creativity, attitudes and emotions of children, social skills or social awareness and children's intelligence (Suhadi, 2019). Children will catch the stimulus provided by the surrounding environment, which will affect the development experienced. Development in children can lead to positive or negative things according to the stimulus received by the child. The child will lead to good development if the child gets a good stimulus such as positive support from parents, a quality environment, and good association or friendship. However, if the child does not receive attention or support from both parents during his development, is in an environment and has friendships that are not good, the development experienced by the child will not be optimal.

One of the developments in children that must be considered is language and speech development. Language and speech are things that children need at a later stage of development because language and speech are a means to communicate and socialize with other people. If these developments are met, it can help further development. This inhibition of language and speaking skills will result in children not being able to express what they feel so that what they want is not fulfilled because other people do not understand what they want. The inhibition of children's language and speech abilities is called speech delay (Suhadi, 2019).

Speech delay is one aspect of development that often occurs at the age of toddlers and is a concern for parents. A child is said to have a speech delay if he cannot or is less than optimal in speaking to others at the age he should be. According to (Kemenkes, 2015), quoted in the Journal of Professional Nurse Research, the characteristics of children who can be said to have abnormalities in speech and language development and need to get more attention are if children aged 1-1.5 months cannot smile, at the age of 1.5-1.5 months. At three months, the child cannot speak yet; the child has not been able to say 4-5 words at the age of 18 months, has not been able to say his name at the age of 2 years, has not been able to tell a short story about something at the age of 4.5 years. This behaviour detection needs to be done to discover the problem of children's language development (Suhadi, 2019). Language and speech are essential in human life because they are communication tools. Through speaking, a person can interact and convey messages so that others understand what is wanted or expected (Taqiyah & Mumpuniarti, 2022).

A child is said to have a speech delay if his speech is below normal for his age, such as making many mistakes in language or adding or deleting consonants. In addition, at the age of 4-6 years, children who experience speech delays are seen when children read who have decreased reading skills, are unable to spell their creations, children's verbal and spelling skills are poor, children's inability to know the meaning contained in the writing. The existence of behaviour problems, and children having difficulty communicating, affects other developments, such as children's social, emotional, cognitive, psychological, and academic development (Hasanah & Sugito, 2020).

According to Haryatiningsih, quoted in the Journal of Professional Nurse Research, several reports on speech delays in children explain that the rate of speech and language disorders in children is around 2.3-24.6%. The number of cases of delay in speech and language development in toddlers in Indonesia is increasing. It is stated that in Indonesia, the rate of speech delay in children is between 5% - 10% in school children (Suhadi, 2019). The problem of speech delays in preschool children is estimated at 5% of the normal population. As many as 70% of these cases are handled by therapists. It is known that 19% of children aged five years have speech and language development disorders with details (6.4% speech delay, 4.6% speech
and language delay, and 6% language delay) (Indah, 2018).

Based on existing data and research, the problem of speech delays in children is a problem that must get more attention because the percentage of children who experience speech delays is increasing daily. If this is not treated as soon as possible, it will hamper the child’s further development. The results of research or literature on the factors that affect speech delay in children under five are still limited in number. Based on the description above, the researchers are interested in conducting a literature study on the factors that affect speech delays in children under five. This research aims to identify the factors associated with speech delay in children under five.

**Method**

The study design used in this research is Literature Review (LR), which is a method that identifies, assesses, and interprets all findings on a research topic to answer pre-defined research questions. The literature review search was conducted in September 2021. The databases used include Science Direct, Pubmed, SINTA, GARUDA, and Google Scholar. Furthermore, we used the PEOS framework in determining the inclusion and exclusion criteria.

Determination of keywords using Medical Subject Heading (MeSH). Keywords include (((speech delay) AND toddler) AND influencing factors) for English articles and the keywords speech delay, toddler, and influencing factors for Indonesian articles. Then use the PRISMA checklist to determine whether articles match the inclusion and exclusion criteria. Then, articles are assessed using The Joanna Briggs Institute Critical Appraisal Tools to summarise the quality of the studies. The article inclusion criteria are using a cross-sectional, descriptive, or observational design, with toddlers as the outcome, the main problem is speech delay, exposure is the influencing factor, and the year the article was published is 2016-2021. While the exclusion criteria are using a quasi-experimental or pre-experimental design, adolescents or adults as the outcome, the main problem is speech disorders, growth and development disorders, speech abilities, exposure, namely impact, therapy, or risk factors, the year of article publication is under 2016 or above 2021.

Based on the results of a literature search in five databases using keywords adapted to MeSH, the researchers found 240 articles that matched the keywords. From the obtained search results and then checked for duplicates, it was found that the same 120 articles were removed and the remaining 120 articles. Then the researchers conducted a screening that only contained the title and abstract. Found titles and abstracts of 104 articles and 16 full-text journals. Of the 104 articles, researchers examined those that did not meet the established PEOS and those that did not meet the inclusion criteria. The results found 104 journals that did not match, and 16 journals would be analyzed for quality. Quality assessment is carried out by analyzing the quality of the methodology in each study using a critical appraisal checklist by The Joanna Briggs Institute. The final screening results obtained 10 articles that achieved or more than a score of 50% that matched the critical appraisal criteria and were ready for data analysis.
Results and Discussion

Characteristics of Study and Study Respondents

1. Gender. The results of the article review found that the male sex experienced more speech delay than the female sex (4 articles). At the same time, one article showed a more significant speech delay in women.

2. Physical trauma. The results of the article review showed that 1 article showed physical trauma, so toddlers experienced speech delays.

3. Genetic or neurological factors. From the results of the article review, it was found that four articles showed speech delay due to genetic disorders such as autism and ADHD (2 articles) and neurological dysfunction (2 articles).

4. Use of gadgets. From the results of the article review, it was found that three articles indicated the use of gadgets in toddlers who experienced speech delay.

5. Parenting pattern. From the results of the article review, it was found that six articles indicated parenting as a cause of speech delay. Five articles with authoritarian parenting and 1 article with democratic parenting.
Factors Affecting Speech Delay in Toddlers

<table>
<thead>
<tr>
<th>Topics</th>
<th>Authors</th>
<th>Type of study and samples</th>
<th>Aspects</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors Associated with the Level of Speech and Language Delay in Children Aged 2-5 Years</td>
<td>Suhadi &amp; Istati, (2020)</td>
<td>Original research Children aged 2-5 years, as many as 27 people</td>
<td>Factors that affect speech delay in children aged 2-5 years</td>
<td>The most influential factor is gender, with a p-value of 0.004</td>
</tr>
<tr>
<td>Analysis of Oral Language in Children with Speech Delay (Speech Delay) Age 5 Years</td>
<td>Puspita, Perbawani, &amp; Sumarlam, (2019)</td>
<td>Original research Children aged five years as much as 15 people.</td>
<td>Factors that affect speech delay in children aged five years</td>
<td>Influential factors are accident or physical trauma, stimulus from parents, support from the surrounding environment, psychological state of parents, and male gender</td>
</tr>
<tr>
<td>Factors Affecting Speech Delay in Toddlers</td>
<td>Yulianda, (2019)</td>
<td>Original research Three children under five</td>
<td>Factors that affect a child’s speech delay</td>
<td>The influencing factors are genetic factors and the role of parents and family in nurturing.</td>
</tr>
<tr>
<td>Detection of Speech Delay in Children Aged 48-72 Months Through Various Factors</td>
<td>Kurniasari and Sunarti, (2018)</td>
<td>Original research Aged 48-72 months, as many as 72 children</td>
<td>Early detection of speech delays in children aged 48-72 months</td>
<td>There is no relationship between maternal education, family history and maternal employment status with speech delays in children aged 48-72 months</td>
</tr>
<tr>
<td>Factors Affecting the Occurrence of Late Speech at the House Of Fatima Child Center Malang City Speech Delay in 4 Years Old Children</td>
<td>Deviany Widyawaty and Jannah, (2021).</td>
<td>Original research Toddlers as many as 97 people</td>
<td>Factors that affect a child’s speech delay</td>
<td>There is a relationship between the factors of Autism, ADD, and ADHD on speech delay.</td>
</tr>
<tr>
<td>Factors and Impact of Speech Delay on Children’s Behavior Case Study of Children 3-5 Years Old: A Psycholinguistic Study</td>
<td>Ladapase, (2021)</td>
<td>Original research Children aged four years as much as one person</td>
<td>Factors that affect speech delay in children aged four years</td>
<td>The influencing factor is that the child does not get a good model, does not get the opportunity to talk, has low motivation, and has a habit of watching television or YouTube on a cell phone. The factors found were the lack of parental roles in child development, technological factors, lack of stimulus from parents, minimal parental education, and socioeconomically disadvantaged parents</td>
</tr>
<tr>
<td>The Relationship between Stimulation and Parental Knowledge on Language Development in Toddlers Age 1-2.5 Years At Puskesmas I Denpasar Selatan</td>
<td>Muslimat, Luqman and Hadrawi, (2020)</td>
<td>Original research Toddlers aged 3-5, as many as 3 people</td>
<td>Factors that affect speech delays in children aged 3-5 years</td>
<td>The result of this study is that there is no relationship between parental stimulation and knowledge and language development in children aged 1-2.5 years</td>
</tr>
</tbody>
</table>
Factors Affecting Speech Delay In Toddlers ...

<table>
<thead>
<tr>
<th>Topics</th>
<th>Authors</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Use of Gadgets in Children: The Relationship of Parental Supervision and Interaction on Children’s Speech and Language Development</td>
<td>Septyani, Lestari and Suryawan, (2021)</td>
<td>Original research</td>
<td>Use of gadgets in children</td>
<td>This study’s results show that parental supervision and interaction on the use of gadgets in children are associated with the risk of delays in speech and language development.</td>
</tr>
<tr>
<td>The Relationship between Parenting Patterns and Language Skills in Preschool Children at TK IT Az Zahro Samarinda</td>
<td>Khairunnisa and Zulaikha, (2021)</td>
<td>Original research</td>
<td>Parenting patterns of parents with language skills of preschool children</td>
<td>Based on the research, it was found that there was a relationship between parenting patterns and language development in children with p-value = 0.002</td>
</tr>
</tbody>
</table>

Discussion

A literature review of 10 articles showed that the factors that influence speech delays in children under five include gender, the incidence of physical trauma, genetic factors, neurological disorders, use of gadgets, and parenting patterns.

Language can be expressed in two ways, namely verbal and non-verbal language. Verbal language can be expressed through speech and refers to verbal symbols. Meanwhile, the non-verbal language includes aspects of communication in the form of writing, gestures, and gestural/mime (Yuliafarhah & Siagian, 2023).

Children are said to be able to speak when these children can issue various sounds through their mouths and use articulations or words to convey something. The ability to speak in children varies, but these abilities can be compared with children of the same age. The development of a child’s speaking ability is normal if their speaking abilities are the same as children of their age and they can fulfil developmental tasks. When the development of speech skills is not the same, and the child cannot fulfil the tasks of speech development at that age, then the child can be said to experience developmental barriers to speech delay skills (Yuliafarhah & Siagian, 2023).

1. Gender.

Research by Suhadi (2019) and Campbell (2003) shows that men have the most significant ratio of speech delays. This condition is related to differences in female maturation in the development of the brain in the hemispheres of the left hemisphere’s verbal function, which is better than that of males. In males, the development of the right hemisphere is better for abstract tasks and requires skills.

Gender factor, if seen in everyday life, there are differences in children with the male and female gender. Boys tend to talk less than girls. Boys do more activities than talk, while girls tend to be easier and braver to interact and express their feelings. This is because boys produce the hormone testosterone, which causes them to be active.

Boys have a “slower” ability to acquire language. Boys represent over 70% of late talkers and only 30% early talkers. Studies of early language development (first three years of life) find systematic differences between boys and girls in early communication development and language acquisition. Boys lag behind girls in developing many communication features, including eye contact, use of gestures, imitation of gestures, mutual attention, social reference, and others.

During the first year of life, on average, girls acquire language more quickly than boys and have a larger vocabulary. For example, at 16 months, girls have a vocabulary of 95 words, while boys have 25 words (Adani & Cepanec, 2019).

2. Physical trauma.

Puspita’s research (2019) shows that physical trauma causes motor development to slow down. This is due to injuries from trauma that can affect a child’s development, including language and speech development.

Severe physical trauma will cause motor development in children to slow down and
Factors Affecting Speech Delay In Toddlers

Factors that determine children affected by trauma include how many times they were traumatized, how severe it was, how close they were to the incident, the child’s relationship with the perpetrator, the age and developmental stage of the child at the time of the trauma, and the role of genetics (Osofsky, 2019).

3. Genetic and neurological factors.

Widyawaty’s research (2021) shows that people with autism show distorted communication disorders. This communication disorder can be seen in speech delays, not speaking, speaking in a language that cannot be understood, or speaking only imitating (echolalia). ADD (Attention deficit disorder) is a disturbance of attention that can be seen in the failure of children to give full attention to something; it is effortless to switch attention from one thing to another, and they have difficulty concentrating if things are going on around them, they usually need environment, which is quiet to stay focused.

Attention Deficit Hyperactive Disorder is a disorder of activity and attention (hyperkinetic) is a psychiatric disorder that is quite common with main symptoms such as hyperactivity and impulsivity inconsistent with the developmental level of children, adolescents, or adults. Many children with ADHD also have speech delays, gross and fine motor delays, sensory problems, or sensory processing disorders. Suhadi’s research (2019) shows that families who have speech delays are at risk of experiencing speech delays. The Specific Language Impairment Consortium found a link between language disorders and two separate loci on chromosomes 16 and 19. The chromosomal 16 locus is associated with poor performance on word repetition and short-term memory tests, while the 19 locus is associated with poor performance on language tests expressive.

Children with neurological disorders experience obstacles in their development which cause children also to experience the risk of speech delays. One way to overcome speech delays in children with neurological disorders is with speech therapy so that children will get the motivation to speak.

4. Use of gadgets

Smartphones and gadgets are considered one of the main factors in children’s speech delays, especially those under three years. This delay is also accompanied by a child’s social impairment, like the symptoms of the autism spectrum.

Using gadgets is potentially detrimental and can interfere with children’s linguistic and motor development. In addition to children experiencing speech delays, children also have the potential to become passive language users. Due to being passive language users, children will take a long time to train their articulation organs to slow down speech perfection. These problems lead to speech delays (Putra et al., 2022).

Research by Damayanti (2017) and Septyani (2021) shows that factors that can influence the use of gadgets in early childhood include attractive features, sophistication, affordability, and environmental, cultural, and social factors. Using gadgets and social media by children who do not get proper parental supervision will harm children’s development.

The use of gadgets can also affect speech delays in children under five. The positive side that can be obtained from using gadgets for children is that they can more easily learn new things with a broader range; they can also easily express what they feel and want through gadgets. However, using gadgets must be accompanied by proper parental supervision so that children do not become addicted.

5. Parenting pattern

Research by Suhadi (2019) and Baumrind (2008) shows that family relationships and parenting patterns are factors for children late in speaking because of a healthy relationship between parents and children. One type of parenting that can interfere with children’s development, especially in developing communication skills, is authoritarian parenting. This parenting style is applied in a restrictive, punishing style and views obedience and absolute control. This causes the child to be unhappy, insecure and tends to be afraid, so the child’s communication skills become weak.
Appropriate parenting must be done so that children can develop optimally according to the age of their development. Giving children the freedom to make decisions on something is necessary so that children can grow into independent individuals. Good interaction between parents and children will cause children to get a positive stimulus that will support their development; children will be more open so that parents understand their wishes.

Conclusion

Language and speech are essential in human life because they are communication tools. Through speaking, a person can interact and convey messages so that others understand what is wanted or expected. Based on the results of the article search, it was found that various factors can affect the occurrence of speech delays in children under five, including two articles related to gender, 1 article related to the incidence of physical trauma, two articles related to genetics, two articles related to neurological disorders, three articles related to gadgets, and six articles related to parenting styles.

Proper parenting must be done to minimize the risk of speech delays in toddlers. The existence of good interactions between parents and children will cause children to get positive stimuli that will support their development. In addition, children will be more open so parents understand their wishes. Parents need to increase insight in providing parenting to optimize the growth and development of their children.

Acknowledgement

Thank you to all those who have contributed to the writing of the literature study.

Conflict of Interest

There is no conflict of interest in this study.

References


Factors Affecting Speech Delay In Toddlers


Original Research

Nursing Students’ Learning Support, Outcome, and Satisfaction Towards Online Learning

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Abstract
Online learning in nursing education has been carried out for a long time by several educational institutions worldwide. However, online learning in Indonesia has been forced to take place since the Coronavirus Disease 2019 pandemic was announced. This study aims to determine how students perceive learning support and how it relates to learning outcomes and student satisfaction in online learning that has been implemented for the even semester of 2021. This study involved 160 respondents willing to participate in filling out statements related to online learning support, Grade Point Average (GPA), and satisfaction. The data were analyzed using the Pearson test. The results showed a positive correlation between support for nursing student satisfaction during online learning (p<0.05). However, this study’s support did not correlate with learning outcomes (p>0.05). Most nursing students perceive instructional, lecturer, peer, and technical support positively. A detailed explanation of why the results of this study are important and discussed in the article. In conclusion, educational institutions must periodically evaluate students’ perceptions of learning support, which is not only limited to online learning but also blended learning which is likely to be applied. In addition, satisfaction can also help assess how to provide an overview of students’ views as regular customers at nursing education institutions.

Keywords:
Online learning
Learning support
Learning outcome
Student satisfaction
Nursing student

How to cite this article: Ariningpraja, R. T., & Wisnasari, S. (2023). Nursing Students’ Learning Support, Outcome, and Satisfaction Towards Online Learning. Journal of Nursing Science Update, 11(1), 18–27.
Introduction

The rapid development and growth of information and communication technology (ICT) affect the teaching process in higher education, including nursing education (Yangoz, 2017). Online learning is a strategic effort of nursing education to meet market needs, mainly to be applied in undergraduate nursing education (Koch et al., 2019). Online learning has been globally introduced into nursing curricula in several countries including Australia, Canada, Greece, Ireland, New Zealand, the UK and the United States (Button et al., 2014). Unfortunately, in Indonesia, although some educational institutions may have been preparing online learning platforms for a long time, the fact is that online learning was only forced to be implemented when the Indonesian government announced the emergency status of the Coronavirus disease (COVID-19) in March 2020 (Herliandry et al., 2020).

Various aspects need to be studied in online learning implementation in the COVID-19 emergency phase. Factors such as support for the learning process must undoubtedly be identified in ongoing online learning, as this is a key element in optimizing student learning experiences in any learning environment (Yacob, Baharum and Hamzah, 2020). It has been found that there are significant differences in students' perceptions of learning supports designed to help them learn (Gidman et al., 2011). This involves four categories of support, including instructional, lecturer/instructor, peer, and technical support (Wouters & van Oostendorp, 2017).

Instructional support refers to the instructional mentoring process for learning, for example, providing clear instructions during the learning contract. Instructional support also includes dialogue and course structure to motivate and encourage students to learn, master the subject matter, and achieve learning objectives (Wouters & van Oostendorp, 2017). Lecturers as instructors also play a role in supporting the implementation of online learning. Online instructor interactions positively affect students’ behaviour and emotional involvement (Ryan, 2021). Another study shows that students do more than 50% of peer communication to help each other learn (Ala et al., 2021). Students’ technical skills using technology can hinder them from achieving optimal courses. In contrast, technical support attempts to assist with any technical issues students may encounter in an online course (Muilenburg & Berge, 2005).

Learning outcomes can be described as competencies students are to achieve, which generally can be represented by a Grade Point Average (GPA). Cavanaugh et al. (2015) mention an interaction between course type and student GPA showing a cumulative effect, where students with higher GPAs will perform better in online courses (Cavanaugh & Jacquemin, 2015).

Lee (2010) compared the perceptions of students from two different countries, the United States of America and Korea, on support, acceptance, and satisfaction with online courses (Lee, 2010). The study showed differences in perceptions for the three assessed factors; although, in general, online learning is thought to be beneficial. Likewise, research conducted by Martin et al. (2020) assessing the perceptions of white and non-white students showed different perceptions about online learning (Martin, Stamper and Flowers, 2020).

Since the Covid-19 pandemic, the Department of Nursing Universitas Brawijaya has implemented online learning. The institution tries to continue supporting this process by providing internet quotas for students and developing learning platforms. Lecturers also receive training on various platforms supporting learning, one of which belongs to UB, created long before the pandemic, known as Virtual Learning Management (VLM). It is still important to assess perceptions of support, learning outcomes, and satisfaction, which can be the key to evaluating the learning system that has been implemented.

Method

This cross-sectional study involving was conducted from July until August 2021. 160 nursing students were recruited to this study with the following criteria: 1) Registered students, as evidenced by a study plan card document, 2) Having passed one semester with online learning, and 3) Willing to participate voluntarily. Respondents were given an explanation about the research, then asked to fill out an electronic questionnaire.
Nursing Students’ Learning Support …

The questionnaire consists of 5 main parts: a) Demographic data, b) Ability to use technology needed for online learning, c) Perception of online learning support questionnaire adapted from Lee et al’s (2011) and Hung & Chou’s (2015), d) GPA scores obtained through online learning in one semester, and e) Student satisfaction questionnaire adapted from the Dziuban et al. (2015) and Elshami et al. (2021) questionnaires. The questionnaire was valid (p = 0.382) and reliable (p = 0.753).

Each category of support and students’ satisfaction will be described descriptively. Learning outcomes in the form of GPA (Scale of 0.00 to 4.00) will be categorized based on the classifications commonly used in Indonesia. Furthermore, the data will be assessed for its relationship using a correlative analysis between perceptions of social support variables, learning outcomes, and student satisfaction.

The significance level was set at a p-value of less than 0.05. Ethical approval was obtained from the ethics committee of the Faculty of Medicine Universitas Brawijaya.

Results and Discussion.

a. Sample Characteristics

The characteristics of the respondents are shown in Table 1. 137 female students (85.6%) and 23 male students (14.4%) from the undergraduate nursing program were involved in this study. Students' ages ranged from 18 to 25 years, with an average age of 20. Teenagers and young adults will quickly learn technology in the learning process, even when they have never used technology tools before. At that age, most of them do not consider the use of technology as a burden and does not increase stress (Berg-Beckhoff et al., 2017). This is undoubtedly an advantage in the online learning process.

Table 1. Respondent Characteristics and Availability of Information Technology (n=160).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>n</th>
<th>%</th>
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<tbody>
<tr>
<td><strong>Sex/Gender</strong></td>
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<tr>
<td>Male</td>
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<td>Female</td>
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<td>2\textsuperscript{nd} Semester</td>
<td>81</td>
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<td>4\textsuperscript{th} Semester</td>
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<td>6\textsuperscript{th} Semester</td>
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<td><strong>Device used for online courses</strong></td>
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</tbody>
</table>

Students have passed the even semester of 2021 with an online course program. Students take online learning from their homes, which have diverse territories, with details of 140 (87.5%) students from Java and 20 (12.5%) from outside Java. Regional differences are raised because they are related to the availability of a stable internet network. Some regions in Indonesia may have internet network availability that could be more optimal, especially in areas that belong to big cities. According to Sartika et al. (2021), local governments with low internet areas still need to do sufficient planning to support the
continuity of online learning, even though implementing online learning activities in low internet areas requires different preparation. Some of the difficulties include the cost of studying online and the Wi-Fi signal needing to be more robust; the power goes out often, and it becomes unavoidable (Sartika et al., 2021).

b. Information Facilities and IT Capabilities

There are several devices used by students during online courses, including notebooks/netbooks/laptops (133 students, 83.1%), personal computers/PCs (6 students, 3.8%), smartphones/mobile phones (20 students, 12.5%), and tablets (1 student, 0.6%). The device used in online learning certainly affects data transmission speed during online courses. Meo & Martí-Ballester (2020), assessing the use of quizizz on various devices, cannot be concluded that laptops are better than smartphones/mobile phones (Meo & Martí-Ballester, 2020). Apart from devices, the internet network also supports online course processes. Most students use Wi-Fi to get an internet signal (116 students, 72.5%), including quota data from mobile phones (44 students, 27.5%). The source of the internet network is, in fact, still a problem in Indonesia.

IT skills are also important in online courses, but this is rarely a problem for today’s so-called Gen “Z” students. Students are quite skilled in using information technology, especially social media (Niazi Ahmed, 2019). In this study, 120 students (75%) claimed to have intermediate IT skills, and 40 students (25%) had high IT skills.

c. Nursing student perception of online learning support

Descriptive statistics for instructional, instructor/lecturer, peer, and technical support are presented in Table 2. A total of 8.98% of students disagreed (2.18% Strongly Disagree), Neutral 33.5%, and 57.50% agreed (44.17% Agreed, 13.30% strongly Agreed) about the instructional support they felt during the online course. Courses in nursing education that are quite complex ultimately require the instructional design to assist the process (Sweller, van Merriënboer and Paas, 2019).

Instructional support is a planned process to help support online courses. According to Wouters & Oostendorp (2013), instructional support can facilitate the acquisition of skills and knowledge, facilitate the selection of relevant information, and organize/integrate new information. From the student’s point of view, instructional support must be assessed so that education managers can evaluate it.

Regarding the support from lecturers, 61.88% of students agreed (48.26% Agree, 13.61% Strongly Agree), 32.50% neutral, and 5.63% students disagreed (0.97% Strongly Disagree, 4.65% Disagree). Lecturers naturally have many concerns when taking on the educator role in online classes. The initial concern was adapting to the relatively new role in online education. Significant role adjustments for both lecturers and students are very likely to occur.

Lecturers, as educators, have a strategic role in helping determine the success of online learning (Koch, 2014). One common challenge faced by developing countries such as Indonesia, Kahfi (2020) mentions that it is possible that lecturers need to be fully used to online learning. Improving educator skills, incentives and rewards for the time educators spend on online course development can be a solution for optimal online courses (O’Doherty et al., 2018).

Furthermore, students’ perceptions of peer support showed that 48% of students agreed (41.5% Agree, 7.2% Strongly Agree), 38.1% were neutral, and 13.2% disagreed (2.3% Strongly Disagree, 10.9% Disagree). Students can exchange the information obtained during independent learning, solve problems together, and find ideas related to the material. Peer-to-peer support helps improve the online course process in Nigeria during the COVID-19 pandemic (Ala, Yang and Ala, 2021).

The technical support results show that 41.8% of students agree (33.7% Agree, 8% Strongly Agree) with the statement given, 39% neutral, and 19.3% disagree (3% Strongly Disagree, 16.3% Disagree). Hassan et al. (2021) stated that adequate technical support can help reduce students’ negative academic self-perceptions.
<table>
<thead>
<tr>
<th>Table 2. Student’s support perception and satisfaction towards online learning (n=160)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Support component</strong></td>
</tr>
<tr>
<td><strong>Instructional Support (IS)</strong></td>
</tr>
<tr>
<td>The goals of online learning are clearly stated at the beginning of the semester</td>
</tr>
<tr>
<td>I know the learning outcomes which I am expected to achieve at each meeting</td>
</tr>
<tr>
<td>Online learning provides relevant resources for me to use in the learning process</td>
</tr>
<tr>
<td>Feedback from the lecturer about the work that has been done will be very helpful</td>
</tr>
<tr>
<td>I feel that I can easily ask various questions about the material presented during online learning</td>
</tr>
<tr>
<td>Online learning allows proper communication with Lecturers</td>
</tr>
<tr>
<td><strong>Total IS</strong></td>
</tr>
<tr>
<td><strong>Lecturer Support (LS)</strong></td>
</tr>
<tr>
<td>Lecturers give clear instructions during assignments and quizzes</td>
</tr>
<tr>
<td>Lecturers are easier to contact in online learning</td>
</tr>
<tr>
<td>Lecturers answer student questions in a timely manner</td>
</tr>
<tr>
<td>Lecturers are very helpful in guiding students to achieve an appropriate understanding of the material</td>
</tr>
<tr>
<td>Lecturers use technology/applications (such as audio, video, and multimedia tools) that help encourage learning</td>
</tr>
<tr>
<td>Lecturers encourage students to engage in critical and reflective thinking during online discussions</td>
</tr>
<tr>
<td>Lecturers expose students to easy-to-use software/technology/applications for online learning</td>
</tr>
<tr>
<td>Lecturers provide supporting/additional materials for online learning</td>
</tr>
<tr>
<td>Lecturers help direct students when there are problems, such as online quizzes cannot be done</td>
</tr>
<tr>
<td><strong>Total LS</strong></td>
</tr>
<tr>
<td><strong>Peer Support (PS)</strong></td>
</tr>
<tr>
<td>I feel comfortable during group discussions</td>
</tr>
<tr>
<td>I feel that the discussion can run smoothly and according to expectations</td>
</tr>
<tr>
<td>I have several opportunities to interact with fellow students</td>
</tr>
<tr>
<td><strong>Total PS</strong></td>
</tr>
<tr>
<td><strong>Technical Support (TS)</strong></td>
</tr>
<tr>
<td>I don’t hesitate to ask for help from other students during the discussion</td>
</tr>
<tr>
<td>I feel that other students respect me</td>
</tr>
<tr>
<td>I feel that students in online learning are willing to assist other students</td>
</tr>
<tr>
<td>I don’t have many technical problems in this online learning</td>
</tr>
<tr>
<td>I don’t find it difficult to ask for technical assistance</td>
</tr>
<tr>
<td>I know where to turn for help when I have a technical problem</td>
</tr>
<tr>
<td>I feel that the technical support provider (IT technical admin) responded to my problem in a timely manner</td>
</tr>
<tr>
<td>I feel that I can get technical support when I need it</td>
</tr>
<tr>
<td><strong>Total TS</strong></td>
</tr>
<tr>
<td><strong>Student Satisfaction (SS)</strong></td>
</tr>
<tr>
<td>Statement</td>
</tr>
<tr>
<td>Online learning allows me to choose where I want to study</td>
</tr>
<tr>
<td>Online learning helps me more in achieving learning targets</td>
</tr>
<tr>
<td>Online learning allows me many opportunities to reflect on what I have learned</td>
</tr>
<tr>
<td>The online learning experience has increased my opportunities to access and use information</td>
</tr>
<tr>
<td>Maybe I will use online learning in the following semester</td>
</tr>
<tr>
<td>Overall, I feel more attached to online learning</td>
</tr>
<tr>
<td>Overall, I am satisfied with online learning</td>
</tr>
<tr>
<td><strong>Total SS</strong></td>
</tr>
</tbody>
</table>
d. Student Satisfaction

Similar to perceptions about support, the percentage of satisfaction is also displayed by dividing how many students have positive perceptions about satisfaction (Strongly Agree, Agree), neutral, or negative (Disagree, Strongly Disagree) (Table 2). 48.2% of students agreed (34.01% Agree, 14.19% Strongly Agree) stating that they were satisfied with the online learning that had been implemented, while 18.9% disagreed (5.89% Strongly Disagree, 13.03% Disagree).

Student satisfaction is indeed the highest compared to neutral choices and dissatisfaction. Mushin et al. (2020) stated that there is a relationship between the satisfaction felt by students towards good university governance (Muhsin et al., 2020). Pham et al. (2019) showed a relationship between positive learning quality and student satisfaction.

e. Learning Outcome

GPA is a crucial indicator of learning outcomes in higher education. The learning outcomes obtained at the end of the semester will determine how a student will take courses in the following semester. The GPA scale ranges from 0 to 4.00, referred to as Cum laude (GPA >3.51), Very Satisfactory (GPA, 3.01 - 3.50), Satisfactory (GPA, 2.76 - 3.00), and Less Satisfactory (GPA <2.75) (Figure 1). The average GPA of respondents, regardless of class, is 3.41 ± 0.259, with the lowest GPA being 2.50 and the highest GPA being 3.95. Students from the 2018 and 2020 classes have a GPA with the predicate "Very Satisfactory", while in the 2019 class, most students have the highest GPA with the predicate "Cum laude".

f. Online Learning Support, Learning Outcome, and Student Satisfaction

Table 3 presents the results of the bivariate correlation tests. Before being tested using correlation analysis, the data were tested for normality using Kolmogorov Smirnov, and the results showed that all data were normally distributed with p>0.05. Then, the results showed that there was no relationship between support and learning outcomes for instructional support (p=0.226), educator support (p=0.880), peer support (p=0.234), and technical support (p=0.346). This result is different from the correlation between support and student satisfaction, which is correlated, both from instructional support (p=001, P<0.05, r=0.567), educator support (p=001, P<0.05, r=0.323), peer support (p=001, P<0.05, r=0.513), and technical support (p=001, P<0.05, r=0.344).

<table>
<thead>
<tr>
<th></th>
<th>GPA</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructional Support</td>
<td>0.226</td>
<td>0.001*</td>
</tr>
<tr>
<td>Lecturer/Instructor Support</td>
<td>0.880</td>
<td>0.001*</td>
</tr>
<tr>
<td>Peer Support</td>
<td>0.234</td>
<td>0.001*</td>
</tr>
<tr>
<td>Technical Support</td>
<td>0.346</td>
<td>0.001*</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.01 level (two-tailed).
The results show that when students feel that the course supports their learning, they are more likely to be satisfied with the online course. As students strive to achieve higher levels of education, institutional support becomes increasingly important to meet their academic and individual needs. The support contributes to the academic development of both students and educational institutions.

The literature shows that students with positive perceptions will maintain focus and interest in their academic tasks, such as assignments, projects, and presentations and perform better on achievement tests. Support dimension positively relates to student satisfaction in public and private universities (Kakada, et al. 2019). Although the support categories are different, the content of support assessed in this study tends to be similar to current research.

In this study, the highest correlation coefficient is instructional and peer support. Nursing learning requires a cognitive process that involves sorting, integrating, and receiving information. One example of the application of instructional support in the educational process is also applied by Hübner et al. (2010); he implemented instructional support for journal writing materials and ultimately assisted with the assigned journal writing process (Hübner, Nückles and Renkl, 2010). Writing is a widespread activity and must be able to be done by a student. The findings of Hübner et al. (2010) study indicate that support instruction used as a cognitive strategy positively affects strategy use and outcomes when writing for learning.

Likewise, with fellow students' interaction, optimizing online learning without peer support is challenging. Peer support was positively related to positive achievement emotions and learning satisfaction among nursing students (Lee et al. 2021). It is also positively related to positive influences (such as happiness, pride, enthusiasm, joy, calmness, satisfaction, peace and relaxation). Positive emotions are desirable in this context because they support the learning process rather than negative emotions that hinder the learning process. In contrast, peer support was negatively related to negative emotions (such as anger, hostility, stress, depression and anxiety).

Although several studies showed the relationship between students' perceptions of support with their grades, this study showed no significant relationship between students' perceptions of support with their GPA score. This result was similar to previous study conducted by Lai et al. (2019). Although student involvement with peers did not directly improve learning outcomes, it was still associated with good learning performance (Lai et al., 2019).

Most important thing is the rapid adoption of online learning in colleges, universities, and community colleges nationwide. Regarding the first experience of online learning that was carried out due to the pandemic, there is a high possibility that students may experience frustration. Many students become frustrated after their initial online experience and fail to take additional online courses. This concern is not a trivial matter that can be ignored.

Conclusion
Student support may include instructional, technical support, where tutors and fellow students engage collectively to help students overcome problems they encounter during the course. Such support, especially when students face technical difficulties, is vital to overcoming challenges and overall student satisfaction. This should encourage nursing researchers to support a potential intervention to increase learning satisfaction. Our findings can assist researchers in developing practical programs for the satisfaction of undergraduate nursing students.

Limitations of the study
The sample from the study has a different distribution of numbers in each class because the student population per class is different.

Acknowledgement
The researcher thanks the undergraduate nursing students willing to participate in filling out the questionnaire in this study.

Conflict of Interest
The authors state that they are unaware of any competing financial interests or personal
relationships that will likely influence the work reported in this paper.

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Wouters, P., & van Oostendorp, H. (2017). Overview of Instructional Techniques to Facilitate Learning and Motivation of Serious Games. In Instructional Techniques to Facilitate Learning and Motivation of Serious Games (pp. 412–425). https://doi.org/10.1007/978-3-319-39298-1_1


The Effectiveness of Implementing Family-Centered Rounds in the PICU on Parental Satisfaction

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How to cite this article: Novianti, A., Febriani, S., Mardiana, H., Dewi, R., & Suprawoto, D. N. (2023). The Effectiveness of Implementing Family-Centered Rounds in the PICU on Parental Satisfaction. Journal of Nursing Science Update, 11(1), 28–36.
Introduction

Family-Centered Care (FCC) is vital for carrying out nursing care for children with critical illnesses in the Pediatric Intensive Care Unit (PICU), but the implementation of FCC in PICU is relatively slower than in inpatient rooms (Tume & Latour, 2015; Hill, Knafl, & Santacroce, 2017). The main principle of the FCC is that the family as a child health care center must focus on the relationship between partners and families (Just, 2005 in Hill, Knafl, & Santacroce, 2017). Patients who are treated in the intensive care unit cannot communicate regarding medical expectations, decisions, and satisfaction with the services provided, so the caring family takes over these tasks. Even in the PICU, parents or caregivers are primary caregivers and key decision-makers (Epstein et al., 2015). This is a challenge for PICU, which is still dominated by traditional culture, namely limiting family visits and family involvement in direct care and decision-making. Most PICUs claim that FCC has been implemented, but there is limited scientific evidence showing that FCC implementation has been effective (Hill, Knafl, & Santacroce, 2017).

FCC aims to increase the satisfaction of patients and family also improve the quality of care. Davidson et al. (2007) recommend facilitating the implementation of the FCC, namely that parents can participate in rounds to ask questions and clarify information (Abdel-Latif, Boswell, Broom, Smith, & Davis, 2015). Family-Centered Rounds (FCR) are a method for making decisions in partnership with patients and their families and facilitating family involvement in medical decision-making by a multidisciplinary professional approach (Brett, 2015; Davidson, 2013 in Gupta, Perkins, Hascall, Shelak, Demirel, & Buchholz, 2017).

Many benefits have been gained through implementing FCR since the concept of FCR was introduced in 2007. Since 2010 more than 44% of pediatric hospitals have implemented FCR (Lopez et al., 2019). The presence of parents in rounds provides an opportunity for parents to play an active role in exchanging information that can support child care (Gupta et al., 2017). Research conducted by Aronson et al. (2009) showed the results that 98% of parents preferred to attend and participate in rounds, and 97% of them said that rounds helped parents to discuss child cases and decision-making (Hill, Knafl, & Santacroce, 2017). A systematic review study results show that parents are more satisfied when included in clinical bedside rounds when children are treated in the NICU or PICU (Hoogen, Jenken, Maliepaard, & Brouwer, 2018).

Other advantages of implementing FCR have increased staff satisfaction, more effective family communication, more efficient care coordination, and increased educational experience of medical personnel. Family members who have attended FCR have more knowledge about the clinical condition of children and understand how to manage symptoms experienced by children at home, so the patient length of stay was reduced (Gupta et al., 2017). FCR also makes families more confident to discuss with the medical team and reduces family anxiety and stress (Yager, Clark, Brian, Cummings, & Noviski, 2017; Rea, Rao, Hill, Saylor, & Cousino, 2018).

The application of FCR in the PICU itself is not optimal due to several obstacles (Brett, 2015; Gupta et al., 2017). The medical team and other health workers reported that the insights and knowledge gained were limited and reduced by the presence of the family during rounds (Brett, 2015). The perception of the medical team is that the presence of FCR will increase the duration and frequency of rounds, thereby affecting the efficiency and productivity of the team (Gupta et al., 2017).

One reliable evidence for evaluating the impact of the FCC through the application of FCR is subjective reports in the form of satisfaction submitted by parents. However, only a few instruments of parental satisfaction with children admitted to the PICU were developed and tested over the years (Latour, Zhu & Gill, 2017). Satisfaction describes the quality of service provided by healthcare providers to patients and families. Good service quality will affect the development of the patient’s health condition (Epstein et al., 2013). In addition to impacting family satisfaction, the application of FCR can also improve the outcome of the health conditions of children treated in the PICU (Brett, 2015).

In a preliminary study conducted at the PICU of Dr Cipto Mangunkusumo central
general hospital, the round was carried out by a team of doctors and nurses but without the presence of the patient’s parents. The patient’s parents will be directly involved when there is education by medical or nursing staff and discussion of complex cases. Based on the importance of the underlying phenomenon, the researchers were interested in examining the effectiveness of implementing FCR in the PICU on the patient’s parent’s satisfaction.

Method
The design of this study was a quantitative experimental design using a Randomized Controlled Trial (RCT) with a post-test-only control group design approach, namely providing intervention in the form of FCR in the intervention group and the control group. The study was started from March to October 2021 (7 months) in the PICU Room of Dr Cipto Mangunkusumo Hospital, Jakarta, Indonesia.

Respondents in this study were parents of patients who met the following inclusion criteria: 1. Father or mother or caregiver of the patient who was treated for at least 24 hours at the PICU of Cipto Mangunkusumo central general hospital, Jakarta; 2. Over 18 years of age; 3. Negative antigen swab test results; 4. Can speak Indonesian well. In comparison, the exclusion criteria in this study were the parents of patients who died before two days of treatment.

The total number of respondents involved in this study was sixty-four, consisting of thirty-two in the control group, which was calculated using the sample size formula. The process of respondent recruitment was summarized in the flow diagram (Figure 1).

![Figure 1. Flow Chart of Respondent Recruitment](image)

Sixty-four eligible parents of patients in the PICU unit at RSCM were recruited by consecutive sampling and randomly assigned to two treatments (room standard intervention for the control group and FCR for the intervention group). Room standard interventions in the control group were carried out like routine rounds without the presence of the patient’s family. The FCR intervention was implemented based on the Standard Operational Procedure (SOP) and will be observed by the observer using the researcher has prepared observation sheet. Some doctors and nurses held the FCR intervention with the father or mother's patient present. The doctor in charge of the patient will be led the FCR, which begins by explaining the medical diagnoses, the
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condition of the patient, and the plan of action. The doctor will be invited the parents to ask questions and consideration for decision-making. Treatment in the intervention and control groups will be carried out for two days, with 30-45 minutes for each round.

The satisfaction level of parent respondents in both groups was measured using the Pediatric Family Satisfaction in intensive care Unit 24 (pFS-ICU 24) on the second day of treatment. The pFS-ICU 24 contained 14 statements about treatments and ten statements about medical decision-making with the Likert scale (1 up to 6) choice of answer. There were five categories of satisfaction level by the total score in this instrument: very dissatisfied (>46), not satisfied (47-72), quite satisfied (73-96), satisfied (97-120), and very satisfied (121-144). The validity test showed that all items in the pFS-ICU 24 were valid (r=0.362-0.865), and Cronbach's alpha was 0.956, which indicated that this instrument was reliable. Implementing this evidence-based practice received ethical approval from the research ethics committee of Dr Cipto Mangunkusumo Hospital, Jakarta, with number KET-135/UN2.F1/ETIK/PPM.00.02/2020.

Univariate analysis of respondent characteristics in this study included gender, age, education, family relationship with the patient, the distribution of respondents based on the level of satisfaction, and the percentage of respondents' satisfaction levels. Bivariate analysis used an independent t-test to analyze differences in family satisfaction scores in the control and intervention groups. The Mann-Whitney test is also used to analyze the effectiveness of FCR implementation on the level of family satisfaction.

Results and Discussion

The results of univariate and bivariate data analysis have been carried out, which describe the characteristics of the respondents; the dependent variable is the patient's parents' satisfaction level and the effectiveness of the FCR intervention on the level of satisfaction of the patient's parents.

Table 1 shows that the average family age of patients in the control group was 35.50 years and that the intervention group was 34.25 years. The homogeneity test showed a value of p> 0.05, meaning that the variance of the patient's family age in both groups was the same or homogeneous. Table 2 shows that the sex of the families of the patients in the intervention and control groups were primarily women, namely 62.5% in the control group and 84.4% in the intervention group. The patient's family sex homogeneity test in both groups was homogeneous. The educational level of the patient's families in the control and intervention groups was primarily high school, namely 46.9% in both groups with a homogeneous variance (p>0.05). Family relations with patients in the intervention and control groups were mainly biological mothers, namely 62.5% in the control group and 78.1% in the intervention group. The homogeneity test for the two groups was heterogeneous (p<0.05). Table 3 shows that the average level of patient family satisfaction in the control group was 94.4, and in the intervention group was 106.72. The homogeneity test showed a value of p> 0.05, meaning that the variance in the level of patient family satisfaction in both groups was the same or homogeneous.
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<table>
<thead>
<tr>
<th>Education</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Not finished</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Primary school</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Junior high school</td>
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</tr>
<tr>
<td>Senior high school</td>
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<td></td>
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</tr>
<tr>
<td>Diploma- Bachelor</td>
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<tr>
<td>Family relationship</td>
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<td></td>
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<tr>
<td>Biological father</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foster parents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 3. Distribution of Respondents Based on Satisfaction Levels**

<table>
<thead>
<tr>
<th>Satisfaction Level</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Min-max</th>
<th>95% CI</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>32</td>
<td>94.4</td>
<td>15.575</td>
<td>68-130</td>
<td>89.32-100.55</td>
<td>0.517</td>
</tr>
<tr>
<td>Intervention</td>
<td>32</td>
<td>107.72</td>
<td>13.470</td>
<td>78-128</td>
<td>31.54-36.96</td>
<td></td>
</tr>
</tbody>
</table>

**Table 4. Percentage of Respondents' Satisfaction Level**

<table>
<thead>
<tr>
<th>Group</th>
<th>Very dissatisfied</th>
<th>Not satisfied</th>
<th>Quite satisfied</th>
<th>Satisfied</th>
<th>Very satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention (N=32)</td>
<td>0</td>
<td>1 (31%)</td>
<td>3 (9.4%)</td>
<td>23 (71.9%)</td>
<td>5 (15.6%)</td>
</tr>
<tr>
<td>Control (N=32)</td>
<td>0</td>
<td>3 (9.4%)</td>
<td>15 (46.9%)</td>
<td>11 (34.4%)</td>
<td>3 (9.4%)</td>
</tr>
</tbody>
</table>

Crosstabulation analysis

**Table 5. Analysis of Differences in Satisfaction Scores**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Average (standard deviation)</th>
<th>p-value</th>
<th>Average difference (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family satisfaction</td>
<td>Control</td>
<td>94.9 (15.6)</td>
<td>0.001</td>
<td>12.78</td>
</tr>
<tr>
<td></td>
<td>Intervention</td>
<td>107.7 (13.5)</td>
<td></td>
<td>(5.5-20.0)</td>
</tr>
</tbody>
</table>

Independent t-test

**Table 6. FCR Effectiveness on Satisfaction**

<table>
<thead>
<tr>
<th>FCR</th>
<th>Satisfaction Level</th>
<th>p Value</th>
<th>Risk Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very dissatisfied</td>
<td>Not satisfied</td>
<td>Quite satisfied</td>
</tr>
<tr>
<td>Intervention (N=32)</td>
<td>0</td>
<td>1 (31%)</td>
<td>3 (9.4%)</td>
</tr>
<tr>
<td>Control (N=32)</td>
<td>0</td>
<td>3 (9.4%)</td>
<td>15 (46.9%)</td>
</tr>
</tbody>
</table>

Mann-Whitney Test
Table 4 shows that in the intervention group, 71.9% of patient families were satisfied, and in the control group, 46.9% were quite satisfied. The bivariate test was conducted to analyze two variables: family satisfaction as the dependent variable and FCR implementation as the independent variable. A bivariate test was conducted to analyze differences in satisfaction scores in the control and intervention groups after FCR was applied. In addition, the effectiveness of FCR implementation on the level of family satisfaction was also analyzed by identifying the Relative Risk (RR) value as a parameter of the strength of the relationship. Table 5 shows that statistically, there was a significant difference in the mean score of patient family satisfaction between groups that underwent FCR and did not perform FCR with a value of $p = 0.001$ ($p < 0.05$). Table 6 shows that statistically, there was a significant difference in patient family satisfaction between the groups with FCR and no FCR with $p=0.002$. The parameter of the relationship strength used is the RR equal to 1.304. This means that the families of patients who are involved in FCR will be 1.304 times more satisfied than the families of patients who are not involved in FCR.

Family as the parents or guardians is responsible for their children being treated at the PICU of Dr Cipto Mangunkusumo central general hospital. The average family age of patients in the control group was 35.50 years, and the intervention group, was 34.25 years. This age is included in the middle adult age classification. At this age, a person focuses on providing support by acting as a parent who nurtures and protects their child, has more life experience, and seeks solutions to problems experienced (Epstein et al., 2015).

Family characteristics based on gender, the majority were women, namely 62.5% in the control group and 84.4% in the intervention group. The sex of women in this study was all of the patient's biological mothers. These family characteristics were supported by family characteristics based on family relationships with patients in the control and intervention groups, most of whom were biological mothers, 62.5% in the control group and 78.1% in the intervention group. The following research by Brett et al. (2015) showed that 70% were patients' mothers as family members who participated in rounds. Several studies have identified the distribution of roles and responsibilities based on gender related to child health care, namely that women (mothers) have the main role in health care and fulfilling child nutrition (Adamo & Brett, 2014).

Meanwhile, from the level of education, the families of patients in the control and intervention groups were mostly high school students, namely 46.9%. Parents with higher levels of education have much better knowledge and ability to receive information than parents with lower education (Suma Sogi, Nalawade, Sinha, Hugar, and Mallikarjuna, 2016). During the round, the health worker will provide information about the child's condition and additional related knowledge, so as a family, especially parents, a higher level of education is needed to understand the explanation from the medical staff and make decisions.

Based on the results of the study, it was found that the average level of patient family satisfaction in the control group was 94.4, and in the intervention group was 106.72. This suggests that patient family satisfaction increases when family members attend and are involved in Family-Centered Rounds (FCR). The results of this study align with the results of the study of Brett et al. (2015); some families report high satisfaction regarding the family's experience of caring for children in the Intensive Care Unit (ICU), especially when attending FCR. Based on qualitative research on parents' experiences participating in FCR, interview results show that 100% of parents describe positive experiences (Brett, 2015).

Qualitative study results by Brett et al. (2015) explored the perception of satisfaction for the patient's family; the family expressed satisfaction as a feeling of comfort, not anxiety. The family said healthcare providers had tried to avoid potentially uncomfortable situations by avoiding conflict, uncertainty, and bad news. This satisfaction reflects adequate communication, support, and the degree of service health workers provide to patients and families. This is one of the reasons for patient family satisfaction when participating in rounds (Epstein et al., 2015). The presence of
The Effectiveness of Implementing ... 

the family in rounds increases family satisfaction because the family's knowledge of medical decision-making has increased, and the family feels satisfied and free to ask questions about the child's disease condition directly with the medical staff team.

This study showed a statistically significant difference in the mean score of patient family satisfaction between groups with FCR and no FCR with p=0.002 (p<0.05). Parental satisfaction was significantly higher when participating in FCR compared to standard rounds that did not involve families, and 81% of parents wanted FCR for the future (Rea, Rao, Hill, Saylor, & Cousino, 2018). The report of all parents who attended FCR also provided choices when discussing treatment plans, whereas in the group of parents who did not follow FCR, only half of the total number participated when discussing treatment plans (Kuo et al., 2012).

Patient family satisfaction was evaluated using the pFS-ICU 24 instrument, one of the aspects measured was satisfaction with medical decision-making (Latour, Zhu, & Gill, 2017). Parents are fortunate when they can listen directly to the decision-making process and interactions between the health worker team. Several six systematic review studies involving 433 parents of patients showed that parents of patients reported being more satisfied when involved in clinical bedside rounds in the NICU or PICU (Hoogen, Jenken, Maliepaard, & Brouwer, 2018). Therefore, families involved in FCR show a higher sense of satisfaction than those not involved in FCR because, apart from increasing family knowledge, families feel helped in making decisions.

The researcher’s challenge in conducting this research was the difficulty in involving the families and health workers in the rounds. This is due to the schedule of family activities and the number of health workers who are not flexible. Researchers use effective communication strategies and time contracts to deal with these challenges.

Another limitation of this study was that the number of beds in the PICU was only 12 beds, where two beds were for patients with enzyme replacement therapy with a one-day care system and 3-4 beds for surgical post-operation patients with a length of stay less than 48 hours. This was undoubtedly a challenge for researchers because the respondents were not met the inclusion criteria. The inclusion criteria were a patient with a minimum length of stay of 24 hours and undergoing hospitalization for up to 48 hours to be able to participate until the second FCR. So researchers experienced limitations in taking samples, namely more medical cases that predominantly met the inclusion criteria. Recommendations for further research: Due to the limited number of patients in the PICU, research can be developed using qualitative methods to deeply explore the perceptions of families and healthcare providers regarding implementing FCR.

FCR is a derivative of concepts and theories from the concept of FCC. This new concept has yet to be implemented in all healthcare facilities or has been implemented but is empirically based. The research results will reference evidence-based nursing as an innovation to improve services for children with critical illnesses treated in intensive care units. Family involvement in direct care and parental decision-making in the PICU is expected to increase patient and family satisfaction with the services provided by all health workers in the PICU.

Conclusion
The conclusion from the results of this study was that there was a significant difference in the mean score of patient family satisfaction between the groups that underwent FCR and those that did not. Therefore, FCR is very effective when applied in the PICU room as an extension of the application of the FCC concept, which can benefit the patient's family, especially in improving the quality of patient care so that it can positively impact patient family satisfaction.

Acknowledgement
The authors would like to thank Dr Cipto Mangunkusumo Hospital, which supported this research project financially, the patients, and all research members participating in this study.

Conflict of Interest
The Effectiveness of Implementing ...

The authors have no conflict of interest.

References


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Original Research

Correlation Between Personal Hygiene Behavior During Menstruation and The Occurrence of Vulvar Pruritus at SMPN 1 Nassau

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Article Info

ABSTRACT

Vulvar Pruritus is a problem that often occurs during menstruation. This is a disorder of female external genitalia in the form of severe itching. This problem can be prevented through good personal hygiene behaviour. Personal hygiene is an action to maintain the health and hygiene of female organs during menstruation. This study aims to determine whether there is a relationship between personal hygiene behaviour during menstruation and vulvar pruritus in SMP Negeri 1 Nassau. This is correlation research with a cross-sectional design. Samples were female students at SMP Negeri 1 Nassau, with 102 respondents. The criteria of the sample are female students who have experienced menstruation. Female students who experience pruritus but not because of menstruation or are not in the vulvar pruritus category are excluded as a sample. The sample used a simple random sampling technique. Data were collected using a questionnaire and analyzed using the Pearson Product Moment test. The results showed that from 102 respondents, 86.3% had moderate behaviour doing personal hygiene. 51% of respondents had moderate vulvar pruritus, and only 11.8% had no problem. There was a weak correlation between female students' behaviour regarding personal hygiene during menstruation and pruritus vulva at SMP Negeri 1 Nassau with a result of \( p < 0.05 \) (\( p=0.039 \)). But even though it has a weak correlation, keeping personal hygiene of genital organs is very influential in reducing the risk of vulvar pruritus.

Keywords:
Personal hygiene
Menstruation
Vulvar pruritus

Introduction

Menstruation is a process experienced by women with the release of the inner lining of the uterus or the endometrium that comes out through the vagina (Trisetyaningsih et al., 2020). Menstruation occurs every month and lasts approximately 3-7 days, the normal menstrual cycle occurs 22-35 days, and the age of women experiencing their first menstruation is at the age of 12-14 years (Elisa, 2022).

Teenagers often ignore genital hygiene because of the lack of understanding about menstrual hygiene. In addition, at school, young women only received information about physiological reproduction, the definition of menstruation, and the duration of menstruation. Lack of information results in a person not having adequate knowledge in behaving. So reproductive problems often occur in young and adult women (Yusiana et al., 2016).

Society considers reproductive health still taboo to be discussed by adolescents. This limits communication between parents and adolescents about menstrual hygiene. As a result, adolescents do not understand, do not understand and sometimes make wrong decisions regarding reproductive health (Hubaeadah, 2019). Parents, especially mothers, are the most influence on personal hygiene behaviour during menstruation because a daughter will learn and adhere to pre-existing habits from the family (Yusiana, Silvianita, & Saputri, n.d.).

Knowledge and experience during menstruation are closely related to the age of onset of menstruation. This will affect self-care behaviour during menstruation. At this stage, teenagers think that menstrual hygiene is unimportant, so they do not learn about matters related to their reproductive health (Juwitasari et al., 2020). Statistical data in Indonesia from 43.3 million young women aged 10-14 years have deplorable hygiene behaviour (Abd.Rosyid & Mukhoirrotin, 2017).

A lack of understanding of personal hygiene can cause irritation or infection of the vagina. One of them is the occurrence of pruritus vulva; pruritus vulva is a disorder that is often experienced in the genital area with a severe itchy sensation on the female external genitalia. Vulvar pruritus can occur due to infection, allergies and moist genitalia during menstruation (Juwitasari et al., 2020).

Data from the Ministry of Health of the Republic of Indonesia (2017) shows that as many as 5.2 million young women experience the same complaint after menstruation because they do not maintain cleanliness, namely pruritus vulvae which are characterized by itching in the genitals in women (Pandelaki et al., 2020). The results of Indah’s research (2012) showed that 100% of young women at SMPN 1 Ngimbang Lamongan had experienced pruritus of the vulva during menstruation (Rossita, 2019). The results of Hubaeadah's research (2019), the incidence of pruritus vulvae during menstruation in class VII female students of SMPN 1 Sepulu was 59 respondents (74.7%). The results of the study by Cahayani et al. (2022), of 41 respondents, there were 7 (17.1%) adolescents who experienced mild vulvar pruritus, 31 (75.6%) respondents experienced moderate vulvar pruritus, and as many as 3 (7.3%) respondents experienced severe vulvar pruritus.

Symptoms that often appear when a woman experiences pruritus include burning, itching, redness and swelling in the vulva area, thickened and scaly skin of the vulva, lumps filled with fluid or thick and smelly liquid coming out of the vagina (Widjaja et al., 2021). The causal factors for pruritus of the vulva during menstruation are internal factors, including infections and skin diseases and external factors, including vulva hygiene, wearing underwear, using anti-septic soap and the frequency of changing pads during menstruation (Mu'minun et al., 2021).

Knowledge of a person’s personal hygiene is related to behaviour in maintaining and caring for the health of their reproductive organs. This behaviour is related to the efforts to keep the genital area clean during menstruation. Knowledge and behaviour of vulva hygiene is an effort to prevent and control infection, prevent skin damage, and increase comfort and personal hygiene (Pandelaki et al., 2020).

Inappropriate hygiene behaviour harms reproductive health. During menstruation, women guard the genital area to prevent infection or irritation of the vagina. If you maintain proper hygiene, fungi and bacteria will not thrive, which can cause itching, often called vulvar pruritus.
Correlation Between Personal Hygiene Behavior and Vulvar Pruritus During Menstruation

(Hubaedah, 2019). Research by Indah (2012) showed that 100% of respondents had experienced vulvar pruritus during menstruation, 15.2% always felt vulvar pruritus every day during menstruation, and 84.8% of respondents experienced vulvar pruritus not every day during menstruation.

Other research found that 57.3% of respondents had experienced vulvar pruritus during menstruation (Putinah & Setiawan, 2020). A study from Annah Hubaedah (2017) showed that most of the respondents had experienced vulvar pruritus during menstruation, as much as 74.7%. Therefore, it is crucial to re-examine the relationship between personal hygiene behavior during menstruation and the occurrence of vulvar pruritus in different situations and places.

Method
We used correlation research and the design of cross-sectional, which aims to find the correlation between personal hygiene behavior during menstruation and the occurrence of vulvar pruritus. The research was conducted in April 2022 at SMP Negeri 1 Nassau. The population were female students at SMP Negeri 1 Nassau, with 102 respondents. The criteria of the sample are female students who have experienced menstruation. Female students who experience pruritus but not because of menstruation or are not in the vulvar pruritus category are excluded as a sample. The sample size was calculated using Vincent’s formula (1991). The sampling technique used a simple random sampling technique. It was done by randomly taking female students' numbers that had been written on closed rolls of paper.

The research instrument used a questionnaire of personal hygiene behavior with five multiple choice questions for knowledge, 4 questions for attitudes with choice “yes” or “no”, and 5 questions for actions with 4 choices of the answer, which are always, often, sometimes, and never. The validity test for knowledge is 0.444, and for attitudes and actions is 1. The reliability test for knowledge is 0.974, and for attitudes and actions is 0.614. The questionnaire of vulvar pruritus has 5 questions with choice “yes” or “no”. The validity test is 0.948, and the reliability is 0.772.

Data collection was carried out after receiving a letter of passing ethical review from a committee of ethics at STIKes Santa Elisabeth Medan with No. 035/KEPK-SE/PE-DT/IV/2022. Researchers also got permission from the principal of SMP Negeri 1 Nassau. Researchers gave informed consent to prospective respondents before answering the questionnaires distributed.

Data analysis was performed using univariate and bivariate. Univariate analysis was used to identify the independent variable, namely personal hygiene behavior during menstruation and the dependent variable, namely pruritus vulva and presented in tabular form. Bivariate analysis was carried out through the Pearson Product Moment test with \( \alpha <0.05 \) because the data have a normal distribution.

Results and Discussion

| Table 1. The Occurrence of Vulvar Pruritus for Female Students (n=102) |
|-----------------------------|---|---|---|
| Variable                   | Mean | SD  | CI 95% |
| Vulvar Pruritus            | 2.42 | 1.311 | 2.16-2.68 |

| Table 2. Distribution of The Frequency of Occurrence of Vulvar Pruritus in Female Students |
|-----------------------------------------------|-----------------|-------|
| Vulvar Pruritus                             | Frequency (f)   | Percentage (%) |
| Not Occur                                   | 12              | 11.8 |
| Mild                                         | 34              | 33.3 |
| Moderate                                    | 52              | 51.0 |
| Severe                                      | 4               | 3.9  |
| Total                                       | 102             | 100  |

The findings in Table 1 show that the average occurrence of pruritus vulva at SMP Negeri 1 Nassau is 2.42 based on a score of 3-4 in the moderate category with SD 1.311. The score is 0 until 5. Interval estimation results (95% CI) showed the range of vulvar pruritus occurrence for female students at SMP Negeri 1 Nassau.
was 2.16-2.68. The findings in Table 2 show that from 102 respondents, the majority of respondents had moderate vulvar pruritus (51%), and minority respondents had severe vulvar pruritus (3.9%). 33.3% of respondents had mild vulvar pruritus and only 11.8% of respondents who had not the problem. The findings in Table 2 show that the average personal hygiene behaviour during menstruation at SMP Negeri 1 Nassau is 18.17 based on a score of 13-20 in the adequate category with SD 2.711. The lowest personal hygiene behaviour score is 11, and the highest is 25. The interval estimation results (95% CI) show that the behaviour range score is 17.63-18.70. The findings in Table 4 shows that out of 102 respondents, most respondents had moderate behaviour doing personal hygiene (86.3%), minority respondents had good behaviour (13.7%), and no one respondent had terrible behaviour.

Table 3. Behaviour of Personal Hygiene During Menstruation For Female Students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>CI 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviour</td>
<td>18,17</td>
<td>2,711</td>
<td>17,63-18,70</td>
</tr>
</tbody>
</table>

Table 4. Distributions, Frequency, and Percentage of Female Students’ Behaviour Regarding Personal Hygiene During Menstruation

<table>
<thead>
<tr>
<th>Personal hygiene behaviour</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>14</td>
<td>13.7</td>
</tr>
<tr>
<td>Moderate</td>
<td>88</td>
<td>86.3</td>
</tr>
<tr>
<td>Bad</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>102</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 5. Correlation Between The Behaviour of Personal Hygiene During Menstruation and The Occurrence of Vulvar Pruritus

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Behaviour</th>
<th>Vulvar pruritus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig(2-tailed)</td>
<td>.038</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>102</td>
</tr>
</tbody>
</table>

The findings in Table 5 show that the results of the correlation analysis obtained $r = -0.206$ and $p = 0.038$. Shows that the results of the analysis of the relationship between personal hygiene behaviour during menstruation and the occurrence of vulvar pruritus in 102 respondents obtained $p <0.05$, which means that personal hygiene menstruation has a weak negative correlation with the occurrence of vulvar pruritus at SMP Negeri 1 Nassau.

Personal hygiene during menstruation is an understanding or mastery of the concept of personal hygiene in the area of the reproductive organs, especially when experiencing menstruation (Solihat Holida & Sri, 2020). Behaviour personal hygiene includes knowledge, attitudes and actions of a person in maintaining the cleanliness of the genital area.

Based on the research results from 102 respondents, most respondents had moderate behaviour doing personal hygiene (86.3%), and minority respondents had good behaviour (13.7%). No one respondent had terrible behaviour. Researchers assume that most of the personal hygiene behaviour in female students during menstruation is moderate because their attitudes and actions when changing pads are sufficient; they do not know the frequency of time to change pads during menstruation.

Knowledge also affects personal hygiene; students with less knowledge need to learn about good personal hygiene during menstruation.
menstruation, one of which is changing pads; attitudes can also influence, which can be seen from awareness of good behaviour during menstruation. If the female student does not behave with good hygiene during menstruation, it can endanger her reproduction; one of the impacts caused by lack of personal hygiene is the emergence of vaginal infections caused by cleanliness.

In line with previous research by Diah (2021), 39.6% of respondents had good behaviour, and respondents with terrible behaviour, as much as 30.2%. A person's behaviour will affect the action or attitude during menstruation. The impact of poor behaviour during menstruation is irritation; therefore, adolescents must take care of the reproductive organs properly and correctly to avoid vulvar pruritus. Awareness of young women about this behaviour must be increased by increasing adolescent knowledge about personal menstrual hygiene by providing an explanation of correct personal hygiene and how to behave properly when experiencing menstruation and also actions that can be considered during menstruation by changing pads at least four times a day to avoid irritation of the genital area respectively (Kusumastuti et al., 2021).

We found that most respondents had moderate vulvar pruritus (51%), and minority respondents had severe vulvar pruritus (3.9%). 33.3% of respondents had mild vulvar pruritus and only 11.8% of respondents who had not the problem. Good behaviour doing personal hygiene can affect the occurrence of vulvar pruritus. From the data, we still find that there are 13.7% of respondents with good behaviour, even though most of them had moderate behaviour, which makes the occurrence of moderate vulvar pruritus high.

Based on the results of the correlation analysis, the results obtained were \( p = 0.038 \). Shows that the results of the analysis of the relationship between personal hygiene behaviour during menstruation and the occurrence of pruritus vulva in 102 respondents obtained \( p <0.05 \), which means that personal hygiene menstruation has a weak negative correlation with the occurrence of vulvar pruritus at SMP Negeri 1 Nassau. Researchers assume that good personal hygiene behaviour will reduce the risk of vulvar pruritus during menstruation. Personal hygiene is essential, not only when a woman gets a menstrual period but every day, to keep the area of genitalia clean.

When a woman gets menstruation, the genital area needs more attention due to the discharge of menstrual blood through the vagina. The use of pads during menstruation also increases the humidity around the genitalia. This causes the vagina to become more sensitive to irritation and infection if the genital area is not kept clean. In addition to behaviour towards the cleanliness of the genital area, the use of packaged pads also easily irritates, especially in hot conditions. Therefore, it is more advisable to use pads made of absorbent cloth. Good behaviour begins with good knowledge. Knowledge related to implementing personal hygiene during menstruation includes the ideal frequency of changing pads, types of pads, cleaning techniques, and the impact if genital hygiene is not maintained. Knowledge optimization can be done through the provision of early education to adolescents.

A person’s behaviour will affect the action or attitude during menstruation. The impact of poor behaviour during menstruation is irritation; therefore, adolescents must take care of the reproductive organs properly and correctly to avoid pruritus vulva. As many as 21 respondents had good behaviour, namely 21 people (39.6%). In contrast, the respondent’s behaviour regarding lacking vulva hygiene and good behaviour, as many as 16 people (30.2%), respectively (Kusumastuti et al., 2021).

Research by K. Diah (2021) also showed that there is a behavioural relationship between vulva hygiene with the incidence of pruritus vulvae from 21 people who have good vulva hygiene behaviour, there are three people who experience mild pruritus vulvae, 15 people experience moderate pruritus vulvae and three people experience pruritus vulvae heavy. Meanwhile, out of 16 people with good vulvar hygiene, ten experienced mild pruritus vulvae, and 6 experienced moderate pruritus vulvae because teenagers do not understand vulva hygiene behaviour problems during menstruation and pruritus vulvae.

This is the impact of a lack of personal hygiene, including physical impacts in the form of impaired skin integrity, psychosocial impacts in the form of the need for comfort, vaginal discharge, and itching. Therefore,
during menstruation, adolescents must maintain the cleanliness of the reproductive organs, especially in the vaginal area, so it is better for adolescents to increase behavioural knowledge about personal menstrual hygiene properly to avoid pruritus vulvae.

Suryaningsih (2017) states that vulvar pruritus that is not treated immediately will result in secondary infections due to wounds that facilitate the entry of vaginosis and trichomoniasis bacteria to become vaginitis. In the next stage, it can also interfere with activities and adolescents' social life and can even affect mental health if the itching is long and not treated immediately (Cahyani et al., 2022).

Nikmah (2020) found that personal hygiene behaviour correlates with the incidence of pruritus vulvae during menstruation. This research shows that 85% of samples have pruritus vulvae with bad behaviour, but only 15% are without the problem and have good behaviour. This was due to the respondents' personal hygiene behaviour, which was not suitable for cleaning genital organs during menstruation. This situation includes how many times girls or women change their underwear, keep drying genital organs, and the way to clean the vagina from back to front. It's vital for girls or women always care about their genital organs to prevent vulvar pruritus and other infection.

The health of the female reproductive organs must be maintained from the start; this is one way to prevent pruritus vulvae during menstruation. This method can be done by cleaning the genital area with clean running water and cleaning it with the correct approach, namely washing from front to back (from the vagina to the anus). This is done to prevent bacteria and dirt from entering the anus into the vagina. Pads should also be changed as often as possible and no more than 6 hours of use (Mu'iminun et al., 2021).

The application of health education to adolescents regarding personal hygiene during menstruation is generally critical in increasing the knowledge and attitudes of adolescents regarding their reproductive health (Batubara, 2020). Health education about reproduction should have been given to adolescents; it had to be delivered as early as possible. This is done because the information obtained since childhood will later be helpful to be stored and used as a provision when they grow up. Education about health, especially the reproductive system, needs to be considered by all groups, including parents and adolescents.

Conclusion

Of 102 respondents, 86.3% had moderate behaviour doing personal hygiene. 51% of respondents had moderate vulvar pruritus, and only 11.8% had no problem. There was a weak correlation between female students' behaviour regarding personal hygiene during menstruation and pruritus vulva at SMP Negeri 1 Nassau with a result of p <0.05 (p=0.038). But even though it has a weak correlation, keeping personal hygiene of genital organs is very influential in reducing the risk of vulvar pruritus, especially when girls or women get menstruation.

Limitations of the study

Other factors that influence the occurrence of vulvar pruritus in adolescents besides personal hygiene were not studied, so that the results could be biased. For the following research, we also need to find other factors which can affect the occurrence of vulvar pruritus, such as pad type, frequency of pad changing, use of tight pants during menstruation, and kind of soap to clean the genital area.

Acknowledgement

The researchers expressed their gratitude to the parties involved in the research, such as the high school principal, Dear Santa Elisabeth Medan High School of Health Sciences, friends of the team lecturers and students who participated together in conducting the research.

Conflict of Interest

There is no conflict of interest in this study. Researchers and respondents do not know each other and are not bound to one institution.
References


Original Research

The Knowledge Level of Pregnant Mothers About Preeclampsia at The Clinic in Tondano Minahasa Regency

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ABSTRACT

Preeclampsia is a health problem that is often found in pregnant mothers. Indonesia has 76,000 women and 500,000 infant deaths caused by preeclampsia every year. Based on an interview with a nurse clinic in Tondano Minahasa Regency, 25 of 50 women during pregnancy have preeclampsia. This study aimed to find the knowledge level of pregnant mothers about preeclampsia at a Clinic in Tondano Minahasa Regency. This study used a descriptive quantitative method with a univariate data analysis technique. The sample of this study is 50 pregnant women willing to be respondents and registered at Clinic in Tondano Minahasa Regency with accidental sampling as the sampling method. The instrument of this study uses a questionnaire about the knowledge level of pregnant mothers about preeclampsia. The result of this research shows that 35 (70%) pregnant mothers had good knowledge, 11 (22%) pregnant mothers had a moderate amount of knowledge, and 4 (8%) pregnant mothers had insufficient knowledge about preeclampsia. Institutions can use the results of this study to increase pregnant mothers' knowledge about preeclampsia through education, and it can also be used as overview knowledge about preeclampsia for the public. Future research can use this study as a reference for prospective studies about the incidence of preeclampsia with different variables.

Keywords:
Pregnant mother
Knowledge
Preeclampsia

Introduction

Pregnancy is a series of events that occur in women from conception to delivery. Pregnancy in women can cause physiological and psychological changes (A. Rahmawati & Wulandari, 2019), and one of the physiological changes that occur in pregnant women is an increase in blood pressure or hypertension (Liu, 2015). Hypertension in pregnancy accounts for the highest number of maternal and child deaths (Aulya et al., 2021) and the type of hypertension most often occurs in pregnancy is preeclampsia (Alatas, 2019).

Preeclampsia is a maternal hypertension characterized by a blood pressure of 140/90 mmHg and accompanied by proteinuria (Lombo et al., 2017). Several factors cause preeclampsia: age, parity, multiple pregnancies, obesity, and mothers with a history of hypertension and preeclampsia (Lalita, 2019). The problem of preeclampsia can affect pregnant women psychologically and physiologically, such as antenatal depression, organ dysfunction, low birth weight (LBW), stunted brain development in the fetus, premature birth, HELLP syndrome (Hemolysis, Elevated Liver Enzyme and Low Platelet Count), even can cause maternal and fetal death (Hardiyanti et al., 2021).

The World Health Organization (2019) stated that in 2017 the maternal mortality rate was around 295,000 people, of which 14% was caused by preeclampsia. Globally, preeclampsia kills 76,000 pregnant women and 500,000 infants yearly (Kemenkes RI, 2021). The prevalence of maternal mortality due to preeclampsia is very high in low-income countries such as Sub-Saharan Africa at 16.0% and South Asia at 10.3% (Say et al., 2014).

The 2015 Inter-Census Population Survey showed that the maternal mortality rate in Indonesia was relatively high at around 305 per 100,000 live births (Nuraini et al., 2015); the results showed that the maternal mortality rate in Indonesia is rising three times compared to the Millennium Development Goals target (MDGs) to be achieved around 102 per 100,000 live births. One of the causes of increased maternal mortality is preeclampsia, with a total of 1,066 cases (Kemenkes RI, 2019). Based on National Riskesdas Report (2018), the most common complication in pregnant women in North Sulawesi province is preeclampsia at 4.2%, with a comparison value of the average case of preeclampsia in various Indonesian provinces of 3.3%.

In Lombo et al. (2017), the research found that at RSUP Prof. DR. R. D. Kandou Manado, roughly 70% of the mothers suffer from severe preeclampsia with an average age of 31-35 years and work as housewives. Besides, the highest number of parity are mothers with primigravida pregnancies. Research conducted by Yunus et al. (2021) in Central Sulawesi, it was found that 78.9% of respondents had good knowledge and 80.7% had good attitudes about preeclampsia, but 66.7% of respondents had preeclampsia. Mambela et al. (2020), it was found that the second factor that was identified as a factor influencing the occurrence of preeclampsia in pregnant women in Luwu Regency, South Sulawesi, was knowledge about preeclampsia where most pregnant women who experienced preeclampsia could not mention the characteristics of preeclampsia, the sign, and the symptoms of preeclampsia, the factors that influence the occurrence of preeclampsia such as antenatal care examinations, physical activity and good food intake for pregnant women with preeclampsia in Luwu district was still poor.

Based on data from a clinic in Tondano, Minahasa Regency, North Sulawesi, it was found that the incidence of preeclampsia in 2020-2021 was 25 cases. Based on the interview results, one of the clinic staff stated that the most significant complication in pregnant women was preeclampsia, which had been occurring for a long time, from year to year. In addition, it was also said that pregnant women had not made regular visits to health services, and providing education about preeclampsia to pregnant women had not been carried out since 2019. This interested researchers in researching "The Level of Knowledge about Preeclampsia at Tondano, Minahasa Regency Clinics."

Method

This research uses a descriptive quantitative method, conducted at a Tondano, Minahasa district clinic from February to April 2022. The selection of respondents was carried out using an accidental sampling technique with the inclusion of pregnant women from the first trimester to the third trimester who were willing to become
The Knowledge Level of Pregnant ... 

respondents and registered at the clinics in Tondano Minahasa Regency, while the exception is if the respondent refuses to take part in this study. The sample size for this study was 50 pregnant women. The instrument used in this study is a questionnaire created by (Puteri, 2018). The questionnaire content is the knowledge variable about preeclampsia, comprising 25 questions. The value of the variable validity test uses a biserial point correlation with the results of the knowledge questionnaire PB 0.30. In contrast, the reliability uses the Kuder Richardson 20 (KR-20) formula with a mark of 0.887.

Results and Discussion

Table 1 shows that 36 (72%) pregnant women are in the age range of 20-35 years. Most respondents were mothers with multigravida, as many as 28 (56%) mothers, and nulliparas, as many as 22 (44%) respondents. 48 (96%) mothers had never had an abortion. In this study, half of the respondents were in the third trimester, as many as 25 (50%) people. And the majority of pregnant women have a high school education, as many as 43 (86%) respondents and most of the mothers work as housewives (IRT), as many as 24 (48%) respondents.

<table>
<thead>
<tr>
<th>Category</th>
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<th>%</th>
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</thead>
<tbody>
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</tr>
<tr>
<td>&lt;20 yo</td>
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<td>18</td>
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<td>Multigravida</td>
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<td>2</td>
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<tr>
<td><strong>Paritas</strong></td>
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<tr>
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<td>44</td>
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<tr>
<td>Primipara</td>
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<tr>
<td>Multipara</td>
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</tr>
<tr>
<td><strong>Abortus</strong></td>
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<tr>
<td>Never</td>
<td>48</td>
<td>96</td>
</tr>
<tr>
<td>Ever</td>
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<td>4</td>
</tr>
<tr>
<td><strong>Gestational Age</strong></td>
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<td>20</td>
</tr>
<tr>
<td>Trimester II</td>
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</tr>
<tr>
<td>Trimester III</td>
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<td>0</td>
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<tr>
<td>Elementary</td>
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<td>8</td>
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<tr>
<td>High School</td>
<td>43</td>
<td>86</td>
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<tr>
<td>Bachelor/Masteral</td>
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<td>6</td>
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<tr>
<td><strong>Jobs</strong></td>
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<td></td>
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<tr>
<td>Private employees</td>
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<td>18</td>
</tr>
<tr>
<td>Student</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Housewives</td>
<td>24</td>
<td>48</td>
</tr>
<tr>
<td>Government employees</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Honorary</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Trader/Entrepreneur</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 2. Level of Knowledge

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
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</tr>
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<tbody>
<tr>
<td>Good</td>
<td>35</td>
<td>70</td>
</tr>
<tr>
<td>Fair</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Poor</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>
Based on Table 2, the result of pregnant mothers' knowledge level about preeclampsia at one clinic in Tondano Minahasa Regency, the majority are in a good category, with as many as 35 (70%) respondents. Based on Table 3, shows that most respondents answered correctly on questions related to the prevention of preeclampsia 83.2%. In comparison, most respondents answered incorrectly on questions related to preeclampsia complications 47.6%, where there are still many respondents who did not know about the dangers of preeclampsia, such as preeclampsia can cause eclampsia or seizures in pregnant women, and preeclampsia can cause a stroke. Preeclampsia will cause placental eruption or separation of the placenta from the uterine wall, which can cause haemorrhage.

**Respondent Characteristics**

According to the study's findings, most pregnant women were in the age range of 20-35. The results of this study are supported by research conducted by Aspar & Agusalim (2018) and Sullistiyanti et al. (2021), where the most maternal age is in the age range of 20-35 years. Karlina et al. (2020) conducted a study on pregnant women's knowledge level about preeclampsia at the South Denpasar Health Center II. They found that pregnant women aged 20-35 were 77 (80.2%) mothers. It can be concluded that research respondents are dominated by mothers aged 20-35 years who are of healthy reproductive age, safe for pregnancy and childbirth, and mentally mature to care for babies (Kusumawati & Mirawati, 2018). Maternal aged less than 20 and more than 35 years have a risk of preeclampsia in pregnancy because at age less than 20 years, they have physical and psychological conditions that are still too young and not ready to face pregnancy. In comparison, at age more than 35 years, there is a degenerative process that causes structural and functional changes, and peripheral blood vessels that affect changes in blood pressure (Denantika et al., 2015).

The study's findings indicated that most respondents were mothers, with 56% multigravida. The results of this study are supported by research conducted by Luthfia et al. (2021) which showed that most pregnant women were mothers with multigravida, with as many as 37 (55.2%) respondents. Sullistiyanti et al. (2021) conducted a study on the level of knowledge and attitudes of pregnant women about preeclampsia during the Covid-19 pandemic. They concluded that the most significant number of respondents was mothers, with 62.5% multigravida. Novianti (2016) states that mothers with multigravida have a 2,117 times chance of not experiencing preeclampsia. This is because pregnant mothers with multigravida pregnancies, the second and third pregnancies, are not at risk of experiencing preeclampsia (Haslan & Trisutrisno, 2022). Preeclampsia in pregnant women is more common in primigravida than multigravidas. Primigravida is at greater risk due to an immature mechanism in the formation of blocking antibodies against placental antigen Human Leukocyte Antigen protein G (HLA-G), which is not fully performed (Denantika et al., 2015). Mothers with multigravida have more experience related to pregnancy, so mothers are more experienced in maintaining and dealing with various problems related to the pregnancy process (Kurniawati & Nurdianti, 2018).

This study shows that most respondents are mothers with nullipara by 44% or as many as 22 respondents. This study is in line with the research of Rahmawati et al. (2020), where the majority of respondents are mothers with nulliparas, which is 56.25%. The results of this study are in line with the research of Karlina et al. (2020), where half of

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**Table 3. Knowledge Indicator**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>B (%)</th>
<th>S (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>76</td>
<td>24</td>
</tr>
<tr>
<td>Signs and symptoms</td>
<td>57.6</td>
<td>42.4</td>
</tr>
<tr>
<td>Risk factors</td>
<td>56.8</td>
<td>43.2</td>
</tr>
<tr>
<td>Prevention</td>
<td>83.2</td>
<td>16.8</td>
</tr>
<tr>
<td>Complications</td>
<td>52.4</td>
<td>47.6</td>
</tr>
</tbody>
</table>

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the 50% of respondents are nulliparous mothers. According to Bdolah et al. (2014), nulliparous mothers have a higher risk of preeclampsia than multiparous mothers because mothers with nulliparity have circulating levels of sFlt 1 (Soluble Fms-like tyrosine kinase 1) and a high ratio of sFlt 1/PIGF (Placental Growth Factor), thus indicating an imbalance of angiogenic factors that can increase the risk of preeclampsia.

Based on the study’s results, the majority of 48 (96%) respondents had no history of abortion. Muzalfah et al. (2018) research stated that there was no relationship between the history of abortion and the incidence of preeclampsia due to fewer abortions, with research results of 77.1% of pregnant women never having an abortion. The research results are strengthened by research conducted by Bangkele et al. (2016), which stated that there is no relationship between abortion and the incidence of preeclampsia in pregnant women. With the result of the study, 71.4% did not experience preeclampsia and had never had an abortion.

At the age of pregnant women, half of the respondents were in the third trimester, namely as many as 25 respondents or 50%. According to the American College of Obstetricians and Gynecologists (2016), the third trimester of pregnancy is between 28 and 40 weeks of gestation. Our study’s results align with the results of research conducted by Sullistiyanti et al. (2021), where most of the mothers’ gestational age was in the third trimester, with as many as 18 (45%) respondents. Gestational age of more than 28 weeks has a risk of disruption in pregnancy due to an increase in fibrinogen levels in pregnant women, so it becomes a factor causing preeclampsia (Harun et al., 2019).

In the last education of respondents in the research, the majority had a high school education, as many as 43 (86%) respondents. The results of this study are supported by research conducted by Simanullang (2019), namely that the most recent level of education is 70% high school. The results of this study are also the same as those of Karlina et al. (2020), where pregnant women have a high school education level of 43.8%. This shows that the current status of education of pregnant women is good, following the theory that education can change perspectives, attitudes, and behaviour, and the higher the education obtained, the easier it is for someone to get information (Riyanto, 2013). According to Karlina et al. (2020), the level of education can affect a person’s health behaviour, so it can be predicted that pregnant women with higher education will have a good level of knowledge and can prevent problems during pregnancy, such as preeclampsia.

The job status owned by the respondents is mostly housewives or not working as many as 24 (48%) respondents. The findings of this study are consistent with previous research conducted by Sofia et al. (2021), where most of the mothers are housewives, with as many as 33 (89%) respondents. The research conducted by Wiriatarina (2017) aligns with our study, where more than half of the respondents are housewives, as many as 32 (68.1%) people. Based on Imaroh et al. (2018) findings, pregnant women who work have a 7.6 times greater risk of experiencing pregnancy hypertension than pregnant women who do not work because pregnant women who work do more physical activity, which results in a 20-60% increase in blood pressure risk.

Mother’s Knowledge of Preeclampsia

Based on research that has been conducted regarding mothers’ knowledge level about preeclampsia at a clinic in Tondano, Minahasa Regency, it was found that most of the mothers had a good level of knowledge, as many as 35 (70%) people. These results are supported by the research of Karlina et al. (2020), which shows that the majority of mothers at the South Denpasar Health Center II have a good knowledge of 70.8% about preeclampsia, with the characteristics of the majority of respondents having high school education at 43.8% and the age of the mother in the range of 20-35 years 80.2%. In addition, our study’s results align with research conducted by Hermawati & Safira (2021) in Banda Aceh, which showed that 52% of mothers were well-informed. This good knowledge is influenced by the maturity of the mother’s age and education level and the frequency of the mother being exposed to information through Antenatal Care (ANC) visits. The results of research conducted by Aspar & Agusalim (2018) show that the majority of pregnant women are respondents who do not work, have a high school education, are in the age range of 20-35 years,
have good knowledge of 11 (50%) respondents, but have preeclampsia. This is because although pregnant women know the prevention and early detection of preeclampsia, they do not apply it, and the existence of low socio-cultural and economic factors causes the mother to experience preeclampsia. (Riyanto, 2013) states that education can impact learning; the more education someone has, the easier it is for them to absorb information.

Research conducted by Febriana & Harianti (2020) showed a difference from the results of our study, where 63% of respondents had poor knowledge, with the characteristics of most respondents graduating from junior high school and working as housewives. The poor knowledge is due to the absence of counselling conducted by the public health centre in the local area. Research by Gardelia et al. (2019) is also not in line with the result of our study, where 90% of mothers did not work, 78.3% were aged less than 35 years, and 68.7% of mothers were graduating from junior high school and had insufficient knowledge about preeclampsia. This is because mothers who do not work have low levels of education and receive limited information about preeclampsia. Riyanto (2013) states that education can influence the learning process. The more educated you are, the easier it is to get information.

According to the research findings, the mother's high level of knowledge is determined by various factors, including her age, occupation, and experience. Our study's results indicate that most pregnant women are in the age range of 20-35 years. At this age range, mothers will find it easier to access information and use technology to increase their knowledge (Komariah & Nugroho, 2020). Not only age, but mothers who have jobs as housewives also allow them to get more information because they have more free time than working mothers. Most mothers are mothers with multigravida, which means that the mother is not at risk of experiencing preeclampsia, and the mother has more experience related to pregnancy so that the mother will have more information related to the process of her pregnancy. Mothers' knowledge related to preeclampsia can also be obtained from counselling held by health workers in the local area and information from electronic media and people around so that the information obtained can increase the knowledge possessed by mothers regarding preeclampsia.

Conclusion

From a study conducted on 50 pregnant women at a clinic in Tondano, Minahasa Regency, it can be concluded that respondents have a good level of knowledge about preeclampsia. Based on the results of this study, it is hoped that agencies can use it to add insight into preeclampsia to pregnant women through education and for the community; this research can be used as an overview of knowledge about preeclampsia and can be used as a reference for further research on the incidence of preeclampsia by adding different variables.

Limitations of the study

The limitations of this study are the limited communication between researchers and respondents and the length of the dissemination process questionnaire because of the long distance between Tangerang and Minahasa.

Acknowledgement

The authors would like to thank the Faculty of Nursing Universitas Pelita Harapan, which has supported this research, and all members who contributed.

Conflict of Interest

We declare no source of funding for this study.

References


Review

Scoping Review: The Role of Personal Resilience and Personality Traits of Health Professionals In The Implementation of Interprofessional Collaboration Practice In Hospital

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Article Info

Article History:
Received 8 February 2023
Revised 8 May 2023
Accepted 10 May 2023

Keywords:
Personal resilience
Personality traits
Interprofessional collaboration practice
Health professionals

ABSTRACT

Health workers have a major role in increasing public satisfaction and assessing the quality of hospital health services. To answer and get this, hospitals must pass the accreditation stage through the hospital accreditation committee, namely by having criteria for the National Hospital Accreditation Standard is Interprofessional Collaboration (IPCP) but challenges between fellow professions and from themselves because there is still autonomy from each profession. Autonomy is also a coping method health professionals use to overcome challenges. The purpose is to examine the role of personal resilience and personality traits of health professionals in IPCP implementation in hospitals. A scoping review was conducted according to PRISMA guidelines for a scoping review. The study was performed on six databases (PubMed, Clinical Key, ProQuest, EBSCO, Scopus, and Science Direct) for relevant papers published between 2017 and 2021. Search terms included "Resilience AND Personality, "Health Professionals", "Interprofessional Collaboration Practice", AND "Hospital." Eight articles were included in this review. The study showed that personal resilience and personality traits determined the success of IPCP implementation in the hospital, which was influenced by education, training, management support, and hospital facilities and infrastructure. Conclusion: The role of each health professional's personal resilience and personality traits affects the quality of IPCP implementation in the hospital. Recommendation: IPCP can improve the quality of service in hospitals by facilitating health professional knowledge and skills about interprofessional collaboration, especially in implementing case management in hospitals.

Introduction

The development of science and technology and the community’s needs significantly affect hospital health services. The role of health professionals is the main point of community assessment on the quality of health services. The National Standard for Hospital Accreditation (SNARS) suggests that each hospital has to carry out comprehensive health services by increasing cooperation, coordination, and regulation among health professionals from each health discipline as service providers (Susanto, 2017). This regulation is a form of actual implementation of the Interprofessional Education (IPE) program, where students from various health disciplines learn together through collaborative learning experiences. The learning goal of IPE activity is to prepare students to enter the workplace where teamwork and collaboration are essential competencies; hence, quality health service can be achieved (McGill University, 2010). The scope of cooperation and collaboration between professionals from various disciplines in the hospital and the community is called IPCP. IPCP is a type of health service that involves two or more health professionals with different expertise in the field of health and collaborates in improving patient and family-centred health services comprehensively. Health professionals include doctors, nurses, pharmacists, midwives, physiotherapists, nutritionists, radiologists, and laboratory personnel (Brandt, 2015).

Implementing IPCP in health services depends on the learning experience of health professionals in their respective educational institutions. However, not all health professionals get the IPE course during their studies. Health education institutions still need help implementing this course, as high school institutions have only two study programs. Also, there are other obstacles to IPCP implementation in health services in the hospital, especially in the general ward. An interprofessional team often cares for a patient, especially a patient with a chronic disease. Each health professional has personal resilience and personality traits that can cause conflicts and may affect the health services provided to patients, especially in the decision-making process (Stetten et al., 2018).

Research by Eliot et al. (2018) shows that many health professionals experience conflicts with themselves and patients who experience chronic diseases due to several different views in caring for patients with chronic diseases, and often causes stress in each health worker in the collaboration between health professions there are often differences in views due to the level of the profession and who feels the highest who is more dominant to be able to take over leadership and tend to feel most influential in the decision-making process. Based on Supper et al. (2014), the decision-making process in interprofessional collaboration is a profession that has a level of autonomy and becomes a barrier and obstacle in collaborating in health services due to each health worker maintaining that what has been obtained during education about their disciplines is the best. However, in research conducted by Avrech et al. (2018), increased autonomy is a coping for health professionals to overcome differences and stress experienced by them in carrying out interprofessional collaboration practices by increasing their autonomy.

As we had served in one of the inpatient wards of a private hospital often needs to be done better. Professional collaboration relationships between health workers usually occur between nurses and doctors because there are still gaps between these professions. Based on those mentioned above, it is necessary to conduct a scoping review examining the role of health professionals’ personal resilience and personality traits in implementing IPCP in hospitals and the objective to examine the role of personal resilience and personality traits of health professionals in IPCP implementation in hospitals.

Method

This study used a literature review approach which was a systematic and explicit research method that made it easier for researchers to identify, evaluate, analyze, and synthesize each study finding (Bhaskar & Manjuladevi, 2016). The strategy for preparing this literature study utilized PCC (Population/ Problem, Concept, Context) framework to identify keywords, including Problem=Resilience and Personality, Concept=Interprofessional Collaboration.
Scoping Review: The Role of Personal ... Practice, and Context=Health Professionals. Electronic databases such as PubMed, Clinical Key, ProQuest, EBSCO, Scopus, and Science Direct were employed to find relevant articles suitable for the topic of interest. This review was performed using PRISMA guidelines for a scoping review.

The inclusion criteria included studies published from 2016 to 2021 in full text and limited to English articles, and the exclusion was an article that was not original research and literature studies. A total of 80 articles were identified during the initial systematic search (21 from PubMed, 20 from ProQuest, 18 from Scopus, one from Science Direct, three from Clinical Key, and 17 from EBSCO). From those articles, 29 studies were original research based on the titles and abstracts screening. The following stages select titles and abstracts, so 51 articles are obtained. The following process is reading the full text to exclude articles that do not fit the criteria for inclusion and exclusion that have been set. At this stage, 29 articles were obtained that were entered at the critical appraisal stage.

Two reviewers read the full text of selected articles and conducted critical appraisal using The Joanna Briggs Institute (JBI) checklist. The included studies in this review were eight articles that met the inclusion criteria. Extraction was performed on eight articles that had been obtained. Data grouping is made based on (1) authors, (2) year publication, (3) source origin/country of origin, (4) aim, (5) study population and sample size, (6) how outcomes are measured and (7) key findings that relate to the review question studies. Displayed in the following PRISMA flow diagram (Figure 1)(Liberati et al., 2009).

Figure 1. PRISMA Method

Results and Discussion
<table>
<thead>
<tr>
<th>No</th>
<th>Author (years)</th>
<th>Country</th>
<th>Aim</th>
<th>Study Population</th>
<th>Measure type</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Avrech Bar et al. (2018)</td>
<td>Israel</td>
<td>Examine the attitudes towards the implementation of IPCP and their relationship with the personal resilience and personality trait of these students</td>
<td>184</td>
<td>Cross-sectional study</td>
<td>The attitudes included communication, autonomy and students’ positive attitudes toward providing health services</td>
</tr>
<tr>
<td>2</td>
<td>Hallam et al. (2016)</td>
<td>Germany</td>
<td>Determine potential differences between nursing and paramedic students regarding background and personality factors.</td>
<td>160 nurses and 50 paramedics</td>
<td>A descriptive cross-sectional study</td>
<td>Results show that commencing nursing and paramedicine and their own experience with healthcare.</td>
</tr>
<tr>
<td>3</td>
<td>Yang et al. (2017)</td>
<td>China</td>
<td>Evaluates whether benchmarking sharing can successfully for improving their team members’ IPC attitudes</td>
<td>30 nurses and 24 pharmacists</td>
<td>A prospective, pre-post comparative cross-sectional pilot study</td>
<td>For the three professions, improvement in IPC attitude among nurses and pharmacists than in physicians.</td>
</tr>
<tr>
<td>4</td>
<td>Perry et al. (2017)</td>
<td>New Zealand</td>
<td>To explore how professional caregivers</td>
<td>31 Profession</td>
<td>Qualitative Study and Data were collected</td>
<td>Three interrelated sub-themes are</td>
</tr>
<tr>
<td>No</td>
<td>Author (years)</td>
<td>Country</td>
<td>Aim</td>
<td>Study Population</td>
<td>Measure type</td>
<td>Finding</td>
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<tr>
<td>5</td>
<td>Homeyer et al. (2018)</td>
<td>German</td>
<td>To explore how IPE must be designed and implemented in medical and nursing training programs to optimize students' impact for IPC.</td>
<td>25 Participant</td>
<td>29-35 years old</td>
<td>A qualitative study was conducted using the Delphi method</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>&quot;Fulfilment of an inherent nature&quot;, &quot;Obligation to look after oneself&quot;, and &quot;Risk management.&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>(1) development and promotion of interprofessional thinking</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(2) acquisition of shared knowledge, (3) promotion of beneficial</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>information and knowledge exchange, mutual understanding</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>There was no significant difference between the Knowledge and Attitude scales at baseline. The impact of the International Classification of Functioning (ICF).</td>
</tr>
<tr>
<td>6</td>
<td>Sagahutu et al. (2021)</td>
<td>Kigali, Rwanda</td>
<td>To determine whether the International Classification of Functioning (ICF) training programme would improve knowledge and attitudes</td>
<td>103 participants in the experimental and 100 in the control group</td>
<td>25-55 years old</td>
<td>A cluster-randomized, single-blinded, control trial design was used to select four district hospitals. A self-designed questionnaire was developed to monitor health workers' knowledge of interprofessional practice and the ICF.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Grounded Theory, this interview-based study collected insights from 30 individuals who had participated in MIHTs and or led MIHTs.</td>
</tr>
<tr>
<td>7</td>
<td>Meyer et al. (2021)</td>
<td>USA</td>
<td>To explore the perseverance displayed by members of military interprofessional healthcare teams</td>
<td>30 participants</td>
<td>25-45 years old</td>
<td>Grounded Theory, this interview-based study collected insights from 30 individuals who had participated in MIHTs and or led MIHTs.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>(1) humility, (2) mission focus, (3) team effort, (4) failure is not an option, (5) comfort with discomfort, and (6) continuous improvement. We then clustered these practices into Psychological resilience includes three dimensions:</td>
</tr>
<tr>
<td>8</td>
<td>Chhibi et al. (2018)</td>
<td>Morocco</td>
<td>To investigate the state of the psychological resilience of nurses and doctors</td>
<td>150 nurses and 80 doctors</td>
<td>24-70 years old</td>
<td>A descriptive cross-sectional A questionnaire containing most psychological resilience includes three dimensions:</td>
</tr>
</tbody>
</table>
### Discussion

This study reviewed eight articles on the role of health professionals' personal resilience and personality traits in IPCP implementation in hospitals from 2017 to 2021. The finding revealed that health professionals' personal resilience and personality traits in performing IPCP in hospitals played a pivotal role in improving the quality of service to patients. The role of health professionals' personal resilience and personality traits in IPCP was influenced by several factors, including communication between health disciplines, professional autonomy, cooperation, positive attitudes, hospital management, and IPE course experience.

The barrier factor related to health professionals' personal resilience and personality traits in IPCP implementation in hospitals was a vulnerability to conflicts between fellow health professionals in providing services. Another factor was dimensions in IPCP implementation, which were related to the role of personal resilience and personality traits that could be used as a coping mechanism of each health professional, including socioeconomic, employment schedule, gender, marital status, seniority, and medical history of health professionals. Health service was the foundation of implementing collaborative practices between professionals from various disciplines working together to improve health services. Conflicts often occur in IPCP implementation, including organizational factors, interpersonal factors, and conflict resolution in IPCP implementation (Kim et al., 2017).

The practice of IPCP is the actual implementation of IPE in the workplace. Many health professionals have obtained this IPE in their previous education as preparation to enter the workplace to improve the quality of health services amidst the development of science and technology and the current demands of society (Nolte, 2018). Health professionals often find obstacles in implementing IPCP in health services, such as discomfort and fatigue, which result in emotional stress.

This may also be due to the pressure in clinical practice, increased workload, role in collaborative practice, and lack of time, which affects the delivery of health services (Pipe et al., 2012). Personal resilience is the ability of an individual to deal with pressures and stresses at work that arises due to internal conflict and conflict influenced by factors from the workplace (Avrech Bar et al., 2018). The difference in personal character and the culture of health professionals is the factor that most influence the role of personal resilience in dealing with stress due to conflicts occurring in the workplace. In addition, the difference in knowledge and education level may also cause differences in assumptions and decision-making in providing nursing and health services to patients (Graves et al., 2018; Yang et al., 2017).

A study found that factors affect personal resilience consisting of individuals themselves, socio-demographics, circumstances, and gender, where women seem to be faster and easier to collaborate (Selleck et al., 2017). In addition to the obstacles obtained, there are perceived benefits related to personal resilience and

<table>
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<tr>
<th>No</th>
<th>Author (years)</th>
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<th>Aim</th>
<th>Study Population</th>
<th>Measure type</th>
<th>Finding</th>
</tr>
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<tbody>
<tr>
<td></td>
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<td></td>
<td>Health Care Professionals (HCP) and the potential risk factors</td>
<td>of the sociodemographic and a second questionnaire of the Dispositional Resilience Scale-15 (DRS15)</td>
<td>control, commitment, and challenge, while the challenge is to see change and new experiences as interesting opportunities for learning and development.</td>
</tr>
</tbody>
</table>
personality traits in IPCP implementation in hospitals, namely the hospitality and openness of health professionals because they feel that they have the same goal of providing comprehensive health services even though there is a significant difference between the nurse profession and the medical profession, namely the emotional stability of each professional. The nurses tend to have higher neuroticism or emotional traits because they interact more with the patient, which can trigger stress and affect personal defences. On the contrary, doctors might have lower neuroticism (Hallam et al., 2016).

The dimensions of IPCP implementation consist of teamwork, coordination, cooperative attitudes, shared decision-making, therapeutic outcomes, and discussions about the perspective of expected results in providing services (Rahayu et al., 2021). The leadership culture must be adapted to the work environment in the hospital because this is crucial in building a good coping strategy for all employees to improve a conducive work atmosphere. Hence, they can establish good communication between fellow professionals involved in IPCP practices, which eventually impacts the quality of health services and improves the hospital image (Rokhmah dan Anggorowati, 2017). Leadership culture is significant, especially for nurses and doctors who often interact with patients and families; good leaders should be role models in patient care. A leader in the nursing room or ward is usually led by a nurse as the head of the section; the nurse's self-defence and the nurse's characteristics are usually influenced by the leadership style that will cause a reaction, whether it is a positive reaction or an adverse reaction (Pipe et al., 2011).

Strategies that can be implemented by hospital management in improving the positive personality traits of health professionals in IPCP implementation are enhancing communication skills, increasing knowledge about IPCP by attending education and training, and providing motivation and rewards to health professionals who have the best contribution during the IPCP implementation, as well as showing openness to health professionals such as in delegating duties of both fellows and other health professionals (McCann et al., 2013).

Conclusion
Health professionals’ personal resilience and personality traits play a pivotal role in IPCP implementation in the hospital to improve the quality of health services. Various factors influence health professionals' personal resilience and personality traits and can cause conflicts with other health professionals in the hospital.

Limitations of the study
The quality of IPCP implementation runs well, and all health professionals have the courage and openness to enhance the quality of health services in hospitals.

Acknowledgement
Thanks to the Interprofessional Education Lecture in Nursing Master Program at Universitas Gadjah Mada and all those who have contributed to the writing of the scoping review.

Conflict of Interest
There is no conflict of interest in this study.

References
https://doi.org/10.4103/0019-5049.190620.


The Correlation between Mothers' Knowledge about the Provision of Complementary Foods to Malnutrition Incidence of Children at Binong Public Health Centre

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ABSTRACT
Nutritional problems are still the leading and most common health problems for Children in Indonesia; one of them is malnutrition. In Tangerang, there were 7,863 cases of malnutrition. One of the causes of malnutrition is the provision of complementary foods for children aged 6-24 months which is not appropriate yet. This research aimed to determine the relationship between mothers' knowledge about the provision of complementary foods for children aged 6-24 months to the incidence of malnutrition at Binong Public Health Centre, Tangerang Regency. This research is a quantitative study with a cross-sectional approach. The population in this study was the mothers with children aged 6-24 months at Binong Public Health Centre, Tangerang Regency, with samples taken using a purposive sampling technique for as many as 90 respondents. The knowledge of the 90 mothers who became the sample was measured through an instrument of knowledge about complementary foods, as well as measuring the nutritional status of children by WHO Child Growth Standards with weight and height data that was taken from January to March 2022. The result of this study showed there is a significant relationship between the mothers' knowledge about providing complementary foods and malnutrition incidence with a p.value of 0.001 < 0.05. This research is expected to be a source of information about the importance of the mothers’ role in overcoming child nutrition problems in Indonesia which can be done through health education such as counselling about the appropriate provision of complementary foods.

Keywords:
Complementary foods
Malnutrition children
Mothers’ knowledge

Introduction

Based on data from the World Health Organization (World Health Organization, 2017), as many as 45% of child deaths worldwide at the age of five and under are caused by malnutrition. The United Nations International Children's Emergency Fund made nutrition, food, and issues about children a challenge to the health status of children worldwide (UNICEF, 2019). Data on the prevalence of malnutrition in the world in 2016 were Southeast Asia at 26.9%, Africa at 17.3%, America at 1.7%, and Europe at 1.2% (World Health Organization, 2017).

In developing countries, children aged 0-5 years are an age group that is vulnerable to health problems due to malnutrition (Kemenkes, 2017). According to the Ministry of Health in 2017, malnutrition is the most common problem in Indonesia. The prevalence of undernourished children in Indonesia is 13.8% (Badan Litbang Kesehatan, 2018). Data from the Tangerang District Health Office showed 7,863 cases of child malnutrition in 2018 (Badan Litbang Kesehatan, 2018). Malnutrition is more common in the age group of 6-24 months, which is the period when the failure of child growth and development begins to appear (Kemenkes, 2017). Riskesdas 2018 shows the prevalence of children experiencing malnutrition in Banten Province; aged 6-11 months as much as 8.65% and aged 12-23 months as much as 11.78% (Badan Litbang Kesehatan, 2018).

The Ministry of Health stated that the factors that cause child undernutrition are understanding of safe food to eat, nutritional intake, environment, parenting, infectious diseases, and access to health services (Shofiyah, 2020). Another factor is children’s nutrition from birth, such as exclusive breastfeeding for the first six months, followed by proper complementary feeding (Zogara et al., 2021). Complementary Foods for Mothers’ Milk are complementary foods in the form of food and beverages in which there are nutrients and are given to infants or children aged 6-24 months with the aim that the nutritional needs of children are met apart from breastfeeding. Complementary feeding is given since children are six months old because at that age, children's nutritional needs are increasing, and children’s nutrition is not only sufficient from breastfeeding (Widiastuti et al., 2018). The impact provision of complementary food to infants under six months has a greater risk of developing diseases such as bacteria that cause diarrhoea, especially in an unhygienic environment and poor sanitation; a more significant impact can lead to the Infant Mortality Rate (IMR) (Shofiyah, 2020). Nutritional intake is one of the basic needs that must be met in the first 1000 days of human life so that children can grow and develop optimally (Sasube & Luntungan, 2017). (Sasube & Luntungan, 2017) also added that if basic needs such as affection, nutrition, stimulation, immunization, and hygiene are not met in the first 1000 days of life, then it will have an impact on the child.

It was stated that mothers’ knowledge affects the success rate of complementary feeding because it is the mother who plays a role in providing complementary food intake (Aprillia et al., 2020). Mothers’ limited knowledge about food selection, feeding, and healthcare-seeking practices contribute significantly to adverse nutritional outcomes for children in most developing countries (Fadare et al., 2019).

The results of a study by Esperansa at the Binong Health Centre, which measured the nutritional status of children, revealed that of 67 respondents, 26 (38.8%) under-fives experienced malnutrition (Esperansa, 2020). Data on the incidence of malnutrition at the Binong Public Health Centre until August 2021 showed 71 cases in children aged 6-23 months. From those data, researchers conducted a study at one of the health centres in the city of Tangerang to see the relationship between mothers' knowledge about the provision of complementary foods to the incidence of malnutrition in children aged 6-24 months.

Method

This quantitative study uses a correlational design with a cross-sectional approach to see the relationship between mothers’ knowledge about the provision of complementary foods to the incidence of malnutrition in children aged 6-24 months. Data collection was carried out from January
to March 2022 at the Binong Community Health Centre, Tangerang Regency, Banten.

In this study, the population used was mothers with children aged 6-24 months, with a total population of 829 people. The sample size calculated using Slovin’s formula (Allibang, 2020) is 90 respondents.

\[ n = \frac{N}{1 + Ne^2} = \frac{829}{1 + 829 (0.1)^2} = 89.23 = 90 \]

Samples are taken using a purposive sampling technique. The sample inclusion criteria are mothers who are willing to be respondents and mothers who take care of their children. While the exclusion criteria were mothers of children with congenital abnormalities and mothers of children with chronic diseases.

The research instrument used in this study was a knowledge questionnaire about the provision of complementary foods and children’s nutritional status based on examination notes at the Public Health Centre. The knowledge questionnaire about the provision of complementary foods was taken from previous research conducted by (Putri et al., 2020) with the title "The Influence of Mothers’ Knowledge and Patterns of Giving Complementary Breastfeeding to the Nutritional Status of Infants Aged 6-12 Months in Pujon District, Malang Regency". The answer choices of the knowledge questionnaire using a Likert scale. The knowledge questionnaire has been tested for reliability and validity with Cronbach alpha values of 0.952 and r value per question item > 0.80. For the division of the cut-off point of the knowledge variable, the "good" category if the answer is 76-100% correct, the "enough" category if the answer is 56-75% correct, and the "poor" category if the answer is ≤ 55% correct. And the nutritional status of children is known using the WHO Child Growth Standards weight-for-height; by dividing the category "No Malnutrition" if the z-score ≥ -2 standard deviation (SD) and "Malnutrition" if the z-score < -2 standard deviation.

For ethical clearance, the researcher first provides an explanation of the research to be conducted, such as the research objectives and filling out the questionnaire and measuring the weight and height of the child as a research instrument. The researcher also explained that there was no specific intervention given in this study, so there was no harmful impact on the respondents. Confidentiality of the data will also be maintained in this study by not disclosing the name of the respondent, and the results of the research will be presented in numbers. After an explanation is given, the respondent will fill out an informed consent if they are willing to be involved in the research.

**Results and Discussion**

The data analysis used in this study was univariate analysis with categorical data and bivariate analysis using the Chi-square test. The study results are presented in tabular form. Based on Table 1, most respondents aged 18-30 are young adults, amounting to 51 people (56.7%). Most respondents’ last education was high school graduates (SMA) or equivalent, a total of 57 people (63.3 %). Almost all respondents, 81 people (91.1%), work as homemakers. Based on Table 2, most of the respondents’ mothers have good knowledge, with 39 people (43.3%). Based on Table 3, most of the respondents’ children did not experience malnutrition, as many as 74 people (82.2%).
Univariate Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mothers' Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Early Adult (18-30 years old)</td>
<td>51</td>
<td>56.7</td>
</tr>
<tr>
<td>Middle Adult (31-50 years old)</td>
<td>39</td>
<td>43.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td><strong>Last Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not in school/ not finished Elementary</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>School</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Elementary School (SD)/ equal education</td>
<td>27</td>
<td>30</td>
</tr>
<tr>
<td>Junior High School (SMP)/ equal education</td>
<td>57</td>
<td>63.3</td>
</tr>
<tr>
<td>High School (SMA)/ equal education</td>
<td>6</td>
<td>6.7</td>
</tr>
<tr>
<td>University/ equal education</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td><strong>Mothers' Work</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government Employees (PNS)</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Private Employees</td>
<td>6</td>
<td>6.7</td>
</tr>
<tr>
<td>Self-Employed</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Homemakers</td>
<td>82</td>
<td>91.1</td>
</tr>
<tr>
<td>Pensionary</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 2. Description of Mothers' Knowledge Level about Provision Complementary Foods (n= 90)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mothers' Knowledge Level About Provision Complementary Foods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>22</td>
<td>24.5</td>
</tr>
<tr>
<td>Enough</td>
<td>29</td>
<td>32.2</td>
</tr>
<tr>
<td>Good</td>
<td>39</td>
<td>43.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3. Description of the Incidence of Malnutrition in Children Aged 6-24 Months (n= 90)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The incidence of malnutrition in children aged 6-24 months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malnutrition</td>
<td>16</td>
<td>17.78</td>
</tr>
<tr>
<td>No Malnutrition</td>
<td>74</td>
<td>82.22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>
The Correlation Between Mother’s Knowledge ...

Bivariate Analysis

Table 4. The Relationship between Knowledge and Malnutrition in Children Aged 6-24 Months (n= 90)

| Knowledge | Incident Rate | | | | |
|-----------|--------------|---------|--------|---------|---------|----------|
|           | Malnutrition| P Value | No Malnutrition | | | |
|           | Frequency (n) | Percentage (%) | Frequency (n) | Percentage (%) | | |
| Poor      | 10          | 11.11   | 12     | 13.33   | 0.001 |
| Enough    | 6           | 6.67    | 23     | 25.55   |       |
| Good      | 0           | 0       | 39     | 43.34   |       |

Based on Table 4, most of the respondents with children with no less nutrition have good knowledge about providing complementary foods amounting to 39 people (43.34%). The Chi-Square test results obtained a p-value of 0.001, so it can be concluded that there is a significant relationship between mothers’ knowledge of complementary foods and the incidence of malnutrition in children aged 6-24 months at the Binong Public Health Centre, Tangerang Regency.

Respondent Characteristics

Based on the results of the study, most of the respondents were mothers aged 18-30 years (early adults), which was in line with the research by (Juliyandari et al., 2018) regarding the relationship between maternal characteristics regarding the provision of complementary foods that were carried out in the Poncol Health Centre Work Area, Semarang City, most of the mothers were in the age range 20-30 years old as many as 66.7% of the total respondents (Juliyandari et al., 2018). Following the development of technology, young mothers tend to find more information related to complementary feeding (Aprillia et al., 2020).

Through maternal education data, most of the mothers are high school graduates; the results are the same as the research conducted by Marfuah and Kurniawati about the relationship between a mother’s education and occupation in breastfeeding (Marfuah & Kurniawati, 2017). The level of education can influence a person’s knowledge. Still, people with low levels of education are somewhat low in knowledge because knowledge can be obtained from experience, the surrounding environment, and educational media. Almost all respondents work as homemakers; the same respondent characteristics were also obtained by (Juliyandari et al., 2018) about the relationship between maternal factors and breastfeeding behaviour, with the result that mothers who do not work or homemakers are 58.3%. Andarwulan, Hubaeddah, and Waroh (2019), in their research about factor analysis of working mothers and homemakers who have preschool children on stunting events, concluded that stunting was more common in working mothers (37.1%) compared to homemakers (26.5%) (Setiana Andarwulan, Annah Hubaedah, 2019).

Description of Mothers’ Knowledge Level about the Provision of Complementary Food

Based on the research data, it was found that the majority of mothers had good knowledge about the provision of complementary foods; this is in line with research conducted by (Susilowati, 2018); most of the respondents had good knowledge of complementary foods, as many as 49 respondents (89%) (Susilowati, 2018). While the results (Dedo, 2019) got different results, the respondents who had good knowledge about complementary foods were only seven people (17.9%), and most of the mothers had sufficient knowledge, namely 27 mothers (79.2%) (Dedo, 2019). The education and understanding of parents, especially mothers, have an essential role in meeting the nutritional needs of their children, where a mother’s lack of knowledge can affect the
The Correlation Between Mother’s Knowledge about the Provision of Complementary Food to the Incidence of Malnutrition in Children Aged 6-24 Months

The results of this study indicate that there is a relationship between mothers’ knowledge about the provision of complementary foods to the incidence of undernutrition in children aged 6-24 months at the Binong Health Centre, Tangerang Regency, where the results of the Chi-Square test obtained a p-value of 0.001 < 0.05. Similar results were also brought in a study conducted by (Surka et al., 2018), showing a relationship between mothers’ knowledge of complementary foods and the nutritional status of children aged 6-24 months at the Kediri I Tabanan Health Centre in 2017.

Mothers’ knowledge plays an essential role in meeting the nutritional needs of children; giving complementary foods that are not appropriate or less than needed can cause disturbances to the child’s nutritional status. A person’s knowledge greatly influences behaviour when determining actions to be taken based on experience (Notoatmodjo, 2014). During solid food’s processing and manufacturing process, if mothers pay attention to and know the composition and materials used to produce good complementary foods, then it is possible that children will not experience malnutrition (Shobah & Rokhaidah, 2021). The knowledge possessed by mothers about the provision of complementary foods will be applied in everyday life so that the nutritional needs of children are met (Widyawati, 2016; Jumiyanti dan Yuliati, 2016). Mothers with good knowledge can provide the proper behaviour in caring for their children, especially in giving complementary foods which function for children’s physical and intellectual growth, because as the baby ages, their nutritional needs also increase (Andriyani, 2018; Rakotomanana et al., 2020). Hence, it is necessary to give complementary foods to breast milk.

Conclusion

The mothers’ age range is dominated by young adults, 18-30 years old; mothers’ education level is primarily high school graduates/ equivalent; and almost all the mothers worked as homemakers. The mother’s knowledge about the provision of nutritional status of children under two years old (Dedo, 2019). Mothers’ knowledge of nutrition has a vital role because, with that knowledge, she knows various kinds of health problems that arise so that they can immediately seek treatment or a solution (Widyawati, 2016).

**Description of the Incidence of Malnutrition in Children Aged 6-24 Months**

From the data on the incidence of malnutrition in children aged 6-24 months, most children did not experience malnutrition; the results are in line with (Wardhani, 2018), where 21 children (52.5%) had good nutritional status (Wardhani, 2018). However, the results are different from the study conducted (Sari & Ratnawati, 2018) in Sumenep Regency, where 18 children (60%) of 30 children were found to be undernourished (Sari & Ratnawati, 2018). The causes of nutritional problems in children are multifactorial, such as the food consumed, infectious diseases, childcare patterns, environmental facilities, health services, socioeconomic levels, and community education levels (Wardhani, 2018). Good nutritional status can be obtained if the body gets sufficient nutrients that are used efficiently so that brain growth, physical growth, and workability can achieve optimal health levels (Wardhani, 2018).
complementary food is the majority have good knowledge. Most children aged 6-24 months are not malnutrition. It is known that there is a relationship between mothers' knowledge about complementary foods and the incidence of malnutrition in children aged 6-24 months.

For further research, the results of this study can be used as a reference by examining other factors related to child nutrition problems. The results of this study are also expected to provide information to the public, especially mothers, about the importance of knowing the right complementary foods for children. Health services are expected to facilitate educational activities on child nutrition, especially at the first level of health services closest to the community.

Limitations of the Study
The data collection on weights and heights to determine the nutritional status of children cannot be taken directly by researchers because of the COVID-19 pandemic, so weight and height data are obtained through Public Health Centre (Puskesmas) documentation data carried out by Puskesmas officers using the same scales.

Conflict of Interest
There is no conflict of interest in this study.

Acknowledgement
Thanks to the Faculty of Nursing, Universitas Pelita Harapan, for allowing this study to be carried out.

References
The Correlation Between Mother’s Knowledge ...

https://doi.org/10.1371/journal.pone.0212775
The Correlation Between Mother's Knowledge ...

Geneva: WHO.
Original Research

Nurses' Caring Behavior Based on Personality

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How to cite this article: Sampe, A., Wirmando, W., Paulus, L. G., & Puspita, M. S. (2023). Nurses' Caring Behavior Based on Personality. *Journal of Nursing Science Update, 11*(1), 72–79.

Psychological factors, including the characteristics of personality, influence caring behaviour. In this case, nurses can be assessed for their caring behaviour in nursing services through their personality characteristics. The characteristics of a nurse’s personality influence the provision of the quality of nursing services carried out. This study aimed to determine the relationship between personality characteristics and hospital nurses' caring behaviour. A cross-sectional study was adopted involving 72 nurses of a Stella Maris Hospital in Makassar selected by purposive sampling. Data were collected from Caring Behavior Assessment (CBA) and Eysenck Personality Questionnaire (EPQ) test results. Statistical analysis used the chi-square test. The study indicated that most nurses were extroverts (66.7%) and had a caring attitude. Based on the chi-square statistical test, a value of p = 0.000 (α = 0.05) was obtained, meaning a significant relationship exists between personality characteristics and caring behaviour. Extrovert personality types care more compared to introvert personality types because their attitudes are intelligent in speaking, anxiety-free, not easily embarrassed, not awkward, friendly, gregarious, able to cooperate, adaptable, flexible, and usually conservative. Therefore, this study recommends hiring nurses who have extrovert characteristics.

Keywords: Nurse  Caring behaviour  Personality

Article Info

Article History:
Received 9 February 2023
Revised 3 May 2023
Accepted 6 May 2023

Keywords:
Nurse  Caring behaviour  Personality
Introduction

Medical service in the hospital is considered reasonable based on the quality of their human resources, and a nurse is the primary key to the success of health service in a hospital (Wahyuni et al., 2016). The World Health Organization (WHO) revealed that 76.68% of nurses from Indonesia have a friendly attitude toward patients, such as effective communication, empathy, and caring behaviour; it is proven that many nurses from Indonesia have been asked to work in several countries in the world including Singapore, Saudi Arabia, and Japan (Gulo et al., 2021).

Caring is one of the health services by nurses to improve patient health, and caring is a behaviour of care and respect for others. Based on Watson’s Theory of Human Care states that nurses and patients need caring during nursing actions to protect patients. It will affect the patient's recovery rate. Caring behaviour is a feeling that can make changes to appropriate work, safety, and behaviour (Pardede et al., 2020). Caring is the interpersonal concern of someone in the nursing profession when giving a sense of security, concern, and empathy for the patient (Anggoro et al., 2019). Caring behaviour is assured by human presence, respect, professional knowledge and skills, positive connectedness, and attentiveness to the other’s experience. In this case, a nurse can be judged by caring behaviour in the nursing service process through the personality type of a nurse. The personality type of the nurse as the implementer of nursing actions influences providing services and assisting patients within 24 hours (Gulo et al., 2021).

A nurse’s caring behaviour indicates the quality assessment of nursing care. A study conducted by Along et al. (2018) in one of the hospitals in the Philippines mentioned a positive relationship between caring behaviour and patient satisfaction. Ariani’s research shows that patient satisfaction increases by 60% after actions with caring behaviours (Ariani et al., 2018). Research by Mohamad et al. (2016) stated that there is a meaningful relationship between caring behaviour and patient satisfaction levels in isolation rooms, namely patients who always and often receive caring behaviours 83% say they are delighted with nursing care. The study by Lake et al. (2016) said 47.6% of the causes of patient dissatisfaction were due to a lack of comfortable communication with nurses. Nurse caring behaviour is evaluated by nurse performance which is influenced by several factors.

Caring nurse behaviour is influenced by personal factors, appreciation, motivation, and leadership (Supriatin, 2015). This is supported by research by Widyaningsih et al. (2019), showing a relationship between the character of personal clinical instructors when guiding the caring behaviour of new nurses in hospitals. Personal resilience factors and mechanisms of individual coping positively affect caring behaviours (Chana et al., 2015; Wirmando et al., 2023). Personality is a unique characteristic that each person has; different personalities have a permanent nature so that personality can be used as the basis for a nurse’s behaviours towards the patients. A person’s personality type shows traits that can influence a person’s behaviour throughout the day (Jamilah, 2012; Susilawati & Wahdiniwaty, 2015). The extrovert personality type is friendly, easy to establish positive relationships, open, and easy to socialize. In contrast, the introvert personality type has characteristics of rigid, easy-to-give-up, aloof, and calm demeanour. From the research results of Pardede et al. (2020) in the inpatient room of the Porsea Hospital, it was concluded that there was a relationship between personality type and the caring behaviour of nurses, the majority of nurses with extrovert personalities behaved well, while those with introverted personalities had poor caring behaviour.

Based on a survey in Indonesia, 72.53% of nurses have yet to work as a team or collaborate to carry out nursing actions for hospital patients. Effective communication is not good, resulting in many patients complaining of a lack of satisfaction with nursing services. The results of data from the Ministry of Health of the Republic of Indonesia in 2017 in North Sumatra showed that 68.34% of nurses still did not implement effective communication properly, including language style and intonation of the tone of voice during nursing actions, resulting in patients who came from outside the North Sumatra area said nurses at the hospital. North Sumatra is not friendly (Gulo et al., 2021).
The results of a study conducted by Ilkafah & Harniah (2017) in the inpatient room of the Private Care Center RSUP Dr Wahidin Sudirohusodo Makassar concluded that the caring attitude of nurses could affect the level of patient satisfaction, more nurses have an excellent, caring attitude causing patients to feel satisfied with nursing services, while nurses who are less caring cause most patients to feel dissatisfied with nursing services. Research on nurses' caring behaviour has been widely studied, associated with the relationship between patient satisfaction, culture, organization, work motivation, and others. However, this study is more directed to the personality type of a nurse. Everyone's personality type has differences that will affect behaviour. Based on this phenomenon, this study aimed to analyze the relationship between personality types and nurses' caring behaviour.

Method

This research is an analytic observational study with a cross-sectional approach, which is a study with the measurement time and observations of each variable carried out simultaneously (Setia, 2016). This research was conducted in Stella Maris Hospital Makassar on 17 January 2022 to 3 February 2022. This study applied nurses who worked in the inpatient room of Stella Maris Hospital Makassar collected using a purposive sampling technique, namely selecting respondents based on specific considerations. The criteria of respondents in this study are willing to be respondents, have worked for at least one year, and are not sick or on leave. The total number of samples in this study was 72 respondents.

The instrument used in the study to measure the nurse personality type variable was the Eysenck Personality Questionnaire (EPQ), which had been adapted into Indonesian and consisted of 28 statements (14 statements for the extroverted personality type and 14 for the introverted personality type). Suppose the extrovert count is greater than the introvert, In that case, it is categorized as an extrovert personality type, whereas if the extrovert count is smaller than the introvert, it is categorized as an introvert personality type. The EPQ questionnaire includes activity, sociability, risk-taking, impulsiveness, expressiveness, reflectiveness, and responsibility. Based on these domains and time effectiveness, the researcher considered measuring the nurse's personality type suitable.

Meanwhile, to measure the caring behaviour of nurses, the researcher used the Caring Behaviors Assessment (CBA) questionnaire, which had been adapted to Indonesian. CBA consists of 43 statements consisting of respect, creating trust and hope, providing nursing care, providing support, providing a sense of security and comfort, improving mental, physical, social and spiritual mood, and assisting in meeting basic needs. Suppose the respondent gives a statement never given a value of 1, rarely a value of 2, often a value of 3, and always a value of 4. The lowest total score is 43, and the highest score is 172; if the score obtained is 43-85, it is categorized as caring behaviour is not good, whereas if the score obtained is 86-172, it is categorized as good caring behaviour.

The instruments in this study were not tested for validity and reliability because the instruments used were standard instruments that had been adapted into Indonesian and had previously been used by Pardede et al. in 2020. The EPQ instrument obtained a Cronbach's alpha value of 0.980, while the CBA instrument obtained a Cronbach's alpha value of 0.786. The analytical test used in this study is the Chi-square statistical test with a significance level of $\alpha = 0.05$. If the p-value < (0.05), there is a significant relationship between personality type and the caring behaviour of nurses in the inpatient room of Stella Maris Hospital Makassar.
Results and Discussion

Table 1. Characteristics of Respondents (N=72)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>f</th>
<th>%</th>
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<tr>
<td>Age (Years)</td>
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<tr>
<td>20-30</td>
<td>29</td>
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<td>9.7</td>
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<tr>
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<td></td>
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<tr>
<td>Woman</td>
<td>70</td>
<td>31.9</td>
</tr>
<tr>
<td>Marital Status</td>
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</tr>
<tr>
<td>Not married yet</td>
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<td>9.7</td>
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<tr>
<td>&gt;20</td>
<td>11</td>
<td>15.3</td>
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</table>

Table 2. Distribution of Respondents by Personality Type and Caring Behaviour (N=72)

<table>
<thead>
<tr>
<th>Personality type</th>
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</thead>
<tbody>
<tr>
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<td>66.7</td>
</tr>
<tr>
<td>Introvert</td>
<td>24</td>
<td>33.3</td>
</tr>
<tr>
<td>Caring Behavior</td>
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<td></td>
</tr>
<tr>
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<td>49</td>
<td>68.1</td>
</tr>
<tr>
<td>Not Good</td>
<td>23</td>
<td>31.9</td>
</tr>
</tbody>
</table>

Table 3. Cross Tabulation Of Personality Type And Nurses' Caring Behaviour

<table>
<thead>
<tr>
<th>Personality type</th>
<th>Nurses' caring behaviour</th>
<th>f</th>
<th>%</th>
<th>f</th>
<th>%</th>
<th>n</th>
<th>%</th>
<th>p-value</th>
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<tbody>
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<td></td>
<td>Good</td>
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<td>63.9</td>
<td>2</td>
<td>2.8</td>
<td>48</td>
<td>66.7</td>
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<tr>
<td></td>
<td>Not Good</td>
<td></td>
<td></td>
<td>21</td>
<td>29.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrovert</td>
<td></td>
<td></td>
<td></td>
<td>48</td>
<td>66.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introvert</td>
<td></td>
<td>3</td>
<td>4.2</td>
<td>21</td>
<td>29.2</td>
<td>24</td>
<td>33.3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>49</td>
<td>68.1</td>
<td>23</td>
<td>31.9</td>
<td>72</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Based on table 1 shows the results of the research conducted on 72 nurse respondents at Stella Maris Hospital Makassar, the distribution of most respondents aged between 28-31 years 29.1% respondents, most respondents were female (97.2%) respondents, the marital status of the respondents were mostly married (68.1%) respondents, and the length of work of respondents is in the range of 7-11 years (33.3%) respondents. Based on Table 2, it is found that most (66.7%) respondents have an extrovert personality type, and most (68.1%) nurses have good caring behaviour. Based on Table 3, the results of the analysis of the relationship between personality types and caring behaviour of nurses in the inpatient room of Stella Maris Hospital Makassar, nurses with extroverted personality types who have good caring behaviour are 46 (63.9%) respondents and nurses with introverted personality types who have good caring behaviour have poor caring behaviour as many as 21 (29.2%) respondents. The results of statistical tests using the chi-square test on SPSS version 2.5 with a significance value of = 0.05 and p-value of = 0.000 show that there is a significant relationship between personality type and the caring behaviour of nurses in the inpatient of Stella Maris Hospital Makassar.
that nurses who have extroverted personality types are more likely to have good caring behaviour compared to nurses who have introverted personality types.

This study shows that most respondents have an extrovert personality type with good caring behaviour, as many as 46 (63%). The statistical analysis results showed $p = 0.000$, which means that there is a significant relationship between personality type and the caring behaviour of nurses in the inpatient room of Stella Maris Hospital Makassar. In line with research by Pardede et al. (2020), statistical test results show a relationship between personality type and the caring behaviour of nurses at Porsea Regional Hospital. The extroverted personality type can affect the caring behaviour of nurses because the extroverted personality is friendly, easy to build relationships with new people, is open with others, and likes to discuss. In contrast, introverted personalities prefer calm and are more introverted.

According to Eysenck's theory, the extrovert personality type is friendly, passionate, relaxed, sociable, has many friends, is open, likes to discuss, talks a lot, and is easy to socialize. While the introvert personality type has the characteristics of being sad-faced, often worried, rigid, calm demeanour, reliable, difficult to get along with, lives regularly, and is always careful (Eysenck, 1973). In contrast, Syah's (2013) research states that there is no difference in the level of caring between nurses with extroverted and introverted personality types. To the results of the analysis, only 8% of the personality types that affect the caring of nurses and 92% of the caring of nurses are influenced by other factors (Syah, 2013).

Generally, the extrovert personality type is better known as the personality with good caring behaviour in terms of the characteristics of an extrovert. However, this study also found nurses with extroverted personality types with poor caring behaviour (2.8%) respondents and nurses with introverted personality types with good caring behaviour (4.2%) respondents. There are individuals whose psychological energy tends to point outside themselves so that they have more control over the outside world, and there are also individuals who have psychological energy that leads into themselves so that they do more observations from within themselves first (Jung, 2014). From the direction of the psychological energy, a person's behaviour towards the surrounding environment is formed. This behaviour will appear in the individual, not from the positive or negative of the individual's personality, but from the different ways of expressing his response to the outside world (Pamungkas, 2020).

According to Kusnanto (2019), several factors can influence caring behaviour other than personality, namely individual factors consisting of skills and abilities, psychological factors consisting of motivation and personality, and organizational factors consisting of leadership resources, reward, structure, and design of the work (Kusnanto, 2019). This is in line with research conducted by Anggoro's (2019) statement, which says that a person's length of work can improve skills and experience; the experience itself is one of several ways to gain knowledge and influence social life. Zulkarnaen (2017) averred that motivation at work is essential; work will go well when one wants to complete work. People with less responsibility will affect motivation and cause less good caring behaviour. The initial action given by nurses when dealing with patients for the first time is caring; good nurses tend to adapt to patients to improve patient recovery; this shows that caring behaviour is significant for nurses. Nurses who have applied caring to patients have given attention, carried out their obligations to patients, and carried out nursing care sincerely (Firmansyah et al., 2019).

The extrovert personality type is more caring caused of his brilliant attitude in speaking, free from anxiety, not easily embarrassed, not awkward, usually conservative, friendly and gregarious, likes to work together, is adaptable and flexible, implementing nurses can do good caring behaviour by several factors, namely creating hope and trust, building trusting relationships, increasing and accepting positive or negative feelings, increasing the stages of interpersonal learning, creating a physical, mental, sociocultural and spiritual environment that is sporty, protective and corrective, and fulfills needs humans (Bayu, 2018; Meyer, 2014). There are also nurses with extroverted personality types who have poor caring
behaviour, from the results of the researcher’s analysis, caused by nurses’ skills and length of work. It is known that several factors can influence caring behaviour, namely individual factors consisting of skills and abilities, psychological factors consisting of motivation and personality, and organizational factors consisting of leadership resources, rewards, structure, and work design. Supporting research is research by Kusnanto (2019), which says that abilities, skills, family, social level, experience, leadership, rewards, structure, and work can have an impact on caring behaviour and nurse performance.

Nurses show caring in nursing as a relationship between nurse and patient characterized by the nurse’s attitude, care, experience, and sensitivity in the relationship. In addition, the communication that occurs meets the elements of active listening, showing understanding and an attitude of empathy. The relationship will help protect the dignity and comfort of the patient. However, it requires nurse experience that is influenced by the environment, such as safety, workload, time, and other factors (Andersson et al., 2015). Research in China by Liu et al. (2006) on cancer patients shows that patients need the emotional support of nurses as they live under the pressure of their life-threatening illnesses. Patients need to be listened to as they talk about their problems and feelings and are given solid expectations and motivation from nurses.

Nurses become an effective source of support for the recovery of patients. The nurse’s behaviour and attitude are expressions of a caring attitude that can affect the patient’s mood. The caring behaviour of a nurse is influenced by three factors: individual factors consisting of abilities and skills, as well as educational background; psychological factors consisting of personality attitudes and motivations; and organizational factors consisting of leadership resources in exchange for the structure and design of her work. The practice of caring is also essential for growth and development, improving or improving human conditions or way of life. If the nurse has a caring attitude that is not good, the nursing care does not go well, and the patient will feel unconcerned or unsatisfactory service (Pardede et al., 2020).

Caring behaviour cannot be separated from the nursing process in hospitals, and nurses are said to work professionally when they can carry out the care process with a sense of caring for patients (Ikafah & Harniah, 2017). It is just that there are still some nurses who do not carry out caring themselves or even they do not understand how to apply caring. When a nurse carries out caring behaviour well, the patient and the patient’s family will feel satisfied with the services that have been provided. This study recommends that a breakthrough is needed to respond to these problems, such as providing house training to nurses. A study conducted by Purwaningsih (2015) said in-house training innovation is a complex skill and soft skill training program organized by a hospital using training facilities, training equipment, determining participants, and bringing in their trainers. It was further said that in-house training impacted significant progress in applying nurse caring behaviour, nurse motivation, and patient satisfaction after nurses received training in caring behaviour (in-house training). In addition, this study also recommends the recruitment of hospital nurses to accept more nurses with extroverted personalities because they tend to have good caring behaviour needed in the nursing care process.

Based on the researcher’s assumptions, as a nurse, although having different personality types, caring is the essential thing in carrying out obligations as a nurse because it is a nursing philosophy and a differentiator between nurses and other health workers. So according to researchers, although the personality types of nurses are different, a nurse must always show sincere caring behaviour to achieve the goals of patient care and recovery.

Conclusion

This study found that most of the nurses who worked in the inpatient room of Stella Maris Hospital Makassar have an extrovert personality type. Based on the chi-square statistical test, the value of = 0.000 means that there is a significant relationship between personality type and nurse caring behaviour. Therefore, this study recommends providing in-house training to nurses to improve the application of caring nurse
behaviour and, in recruiting nurses, to accept more nurses with extroverted personality types because they tend to have good caring behaviour needed in the nursing care process.

Limitations of the study

The limitation of this research is that it was only conducted at one hospital. The results can be used as a comparison for further research conducted in other hospitals. Using observational methods to assess nurses’ caring behaviour is also expected to provide more objective results.

References


Acknowledgement

The authors would like to thank the Sekolah Tinggi Ilmu Kesehatan Stella Maris Makassar for facilitating the implementation of this research. The authors also gratefully acknowledge all of the nurse staff at Stella Maris Hospital.

Conflict of Interest

We declare no potential conflict of interest concerning the study, authorships, and or publication of this article.
Volume 1 N(Desember 2020), 36–42.


Original Research

Posyandu Financing at The District Stunting Management Locus: A Qualitative Study

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ABSTRACT
The prevalence of stunting among under-fives in Indonesia is still high, including in Tegal Regency, one of the loci for stunting reduction. To prevent stunting, the growth and development of children under five are monitored at integrated service posts (posyandu). Some problems in posyandu include an inadequate budget allocation for cadre incentives and the supplementary feeding program and inadequate tools and supporting facilities. This study aims to investigate posyandu funding in the district locus for reducing stunting. This research employed a qualitative approach. Data were collected by document studies and in-depth interviews using a semi-structured interview. Data saturation was achieved after involving ten informants. The informants were posyandu program holders (main informants), sub-coordinators of the Health Office, heads of the community health centre (puskesmas) from four puskesmas, i.e., two puskesmas with a high prevalence of stunting and two puskesmas with a low prevalence of stunting. Three themes were generated in this study: funding sources, funding allocations, and efforts to fulfil funding. The results revealed that posyandu funds come from the government, the business sector, and the community. Posyandu’s funds are allocated for the incentives and training of cadres, the fulfilment of standardized anthropometric supporting tools and facilities, and the supplementary feeding program. Advocacy for posyandu funding was conducted through development planning meetings, Healthy Village Houses, stunting discussions, and cross-sector coordination. Overall, the variety in posyandu finance is consistent with the norms and circumstances of the locals in each area. Cross-sector cooperation must also be strengthened to address the posyandu’s operational requirements.

Keywords:
Funding
Posyandu
Stunting

Introduction

Stunting is a global issue and part of Indonesia's national priority program. The prevalence of stunting among children under five in Indonesia reached 21.6% in 2022, above the WHO standard of 20% (De Onis et al., 2019). Stunting impacts the child's physical and psychosocial development (Rosyidah et al., 2021) and productivity when entering adulthood, which can ultimately reduce economic growth (McGovern et al., 2017).

Various efforts to reduce stunting have been made, one of which is prevention by monitoring the growth and development of children under five at posyandu. A posyandu is a community-based health service effort managed by the community to increase the public’s accessibility to basic health services. Cadres run posyandu with the assistance of local health workers (Kementerian Kesehatan Republik Indonesia, 2011). Periodic monitoring of the growth and development of children under five with the right tools is essential for detecting short stature and stunting and for reducing adverse effects during childhood and adulthood (Mavinkurve et al., 2021).

The high stunting rate of 22.3% (Badan Kebijakan Pembangunan Kesehatan, 2022) in Tegal Regency has made it one of the districts/cities targeted for stunting reduction. Various efforts have been made, including increased funding from the State Budget, Local Government Budget, Village Budget, and other legal budgets. Nevertheless, the budget must be managed optimally to hit targets and meet the area’s needs. The Tegal Regency Government has integrated funding for stunting prevention in the relevant Regional Apparatus Organizations (OPD). Funding is important to support posyandu operations because adequate funding can increase the benefits of health efforts (WHO, 2016).

Preliminary studies showed a uniqueness in advocating funding for posyandu through the Healthy Village House. The community's funding sources for posyandu come through contributions from residents and the village government. Some villages apply incentives for cadres as key persons in posyandu activities. Based on data from the provincial Health Office, the number of villages that utilize the Village Fund for Health in Tegal Regency is 77.6% (Dinas Kesehatan Provinsi Jawa Tengah, 2021). This percentage is higher than several other districts but needs to be increased because 17 other districts have reached 100%. The characteristics of posyandu funding need to be explored so that it can become the basis for planning and managing posyandu funding in Tegal District. Based on the description above, the researcher aimed to explore the funding efforts at posyandu in Tegal Regency using qualitative methods to understand the situation comprehensively.

Method

This study used a qualitative study design. With a qualitative study, researchers can thoroughly investigate a complex phenomenon (Rashid et al., 2019). Data saturation was achieved after involving ten informants, signifying that sufficient information had been collected to attain a comprehensive understanding of the subject. The ten informants of this study were posyandu program holders (primary informants), heads of puskesmas, and sub-coordinators of the Tegal District Health Office (triangulation informants), who were selected by purposive sampling. Purposeful sampling was employed as it can deliberately select individuals who possess relevant knowledge, experiences, or perspectives related to the posyandu's funding system. The selected puskesmas were two health centres with a low prevalence of stunting and two with a high prevalence of stunting. Data on the prevalence of stunting were taken from the Electronic Community-Based Nutrition Reporting as of 6 September 2022, at 20.27 WIB, with data coverage being more than ninety per cent.

Data was collected through in-depth interviews and document studies in Tegal Regency between September and December 2022. The qualitative research involved face-to-face in-depth interviews, each lasting around one hour per respondent. The interviews commenced with a broad opening question regarding challenges in the posyandu program and then delved into funding-related inquiries. Conducted in a professional yet warm atmosphere, the interviews took place in the privacy of the informant’s office. The termination point for each interview was
determined by data saturation, indicating that sufficient information had been gathered. A semi-structured interview approach allowed flexibility to explore emerging themes and ideas. The posture and tone of the interviewer were respectful and attentive, facilitating open and insightful conversations. The planning documents and reports from the puskesmas and the health Office were also reviewed.

After conducting the interviews, the researchers made a verbatim transcription of the recorded interviews. It was then analyzed with thematic analysis. Thematic analysis is a widely used approach in qualitative studies that involves systematically organizing and categorizing data to identify, analyze, and interpret patterns or themes, aiming to uncover commonalities, concepts, or meanings that emerge from the data set (Maguire, Moira & Delahunt, 2017). This research was approved by the Health Research Ethics Commission of the Faculty of Public Health of Diponegoro University (362/EA/KEPK- FKM/2022). To ensure the trustworthiness of this qualitative study, several measures were taken. These include prolonged engagement and persistent observation to establish credibility, employing triangulation of data sources for reliability with observation, document study and interview, implementing member checking for informant validation of findings, maintaining reflexivity to address biases, seeking peer review for external input from colleague and experts, and providing detailed and contextually rich descriptions through the thick description. These steps were undertaken to enhance the rigour, accuracy, and transparency of the research, ensuring that the findings are trustworthy and reflect the informants’ perspectives and experiences.

Results and Discussion

The informants’ characteristic data comprise their age, work experience, and position. The details are presented in Table 1.

Table 1. The informants’ Characteristics

<table>
<thead>
<tr>
<th>Informant’s Code</th>
<th>Age (Years)</th>
<th>Work Experience (Years)</th>
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<tbody>
<tr>
<td>IU-SS</td>
<td>50</td>
<td>24</td>
<td>Midwife Coordinator</td>
</tr>
<tr>
<td>IU-NN</td>
<td>48</td>
<td>20</td>
<td>Midwife Coordinator</td>
</tr>
<tr>
<td>IU-LL</td>
<td>29</td>
<td>5</td>
<td>Health Promotion Programmer</td>
</tr>
<tr>
<td>IU-NL</td>
<td>49</td>
<td>27</td>
<td>Midwife Coordinator</td>
</tr>
<tr>
<td>IT-EV</td>
<td>46</td>
<td>14</td>
<td>Head of Puskesmas</td>
</tr>
<tr>
<td>IT-DE</td>
<td>59</td>
<td>14</td>
<td>Head of Puskesmas</td>
</tr>
<tr>
<td>IT-AF</td>
<td>38</td>
<td>6</td>
<td>Head of Puskesmas</td>
</tr>
<tr>
<td>IT-IB</td>
<td>42</td>
<td>12</td>
<td>Head of Puskesmas</td>
</tr>
<tr>
<td>IT-SR</td>
<td>49</td>
<td>21</td>
<td>Public Health Sub Coordinator</td>
</tr>
<tr>
<td>IT-SL</td>
<td>51</td>
<td>17</td>
<td>Community Empowerment Sub Coordinator</td>
</tr>
</tbody>
</table>

(Source: Primary Data, 2022)

Based on Table 1, some of the informants are over 40 years old and vary in work experience, ranging from 5 to 27 years. The posyandu program manager at the three puskesmas is the midwife coordinator, while the manager at another puskesmas manages the posyandu program about health promotion. The community health sub-coordinator is in charge of maternal and child health efforts, which includes nutrition monitoring in the posyandu, while the community empowerment sub-coordinator is in charge of posyandu cadres and institutions as a form of community empowerment (Peraturan Bupati Tegal Nomor 82 Tahun 2021 Tentang Kedudukan, Susunan Organisasi, Tugas Dan Fungsi, Serta Tata Kerja Perangkat Daerah Dan Staf Ahli Bupati Di Lingkungan Pemerintah Kabupaten Tegal, 2021).

After conducting the interviews, the researchers obtained themes from the code submitted by the informants. All themes and codes are presented in Table 2.
Table 2. Themes, Categories, and Posyandu Funding

<table>
<thead>
<tr>
<th>Theme</th>
<th>Category</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of Funding</td>
<td>Government</td>
<td>Health Operational Assistance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local Community Service Agency</td>
</tr>
<tr>
<td>Village Government</td>
<td>Village fund</td>
<td>Village fund allocation</td>
</tr>
<tr>
<td>Allocation of Funding</td>
<td>Cadres' needs</td>
<td>cadre incentives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>cadre training</td>
</tr>
<tr>
<td>Administration</td>
<td></td>
<td>supporting facilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>anthropometric tools</td>
</tr>
<tr>
<td>Children's needs</td>
<td></td>
<td>supplementary feeding</td>
</tr>
<tr>
<td>Funding meeting efforts</td>
<td>Advocation</td>
<td>Development Planning Meeting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Healthy Village House</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stunting discussion</td>
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<tr>
<td></td>
<td></td>
<td>Cross-sector coordination</td>
</tr>
</tbody>
</table>

Sources of Funding

Government

Posyandu receives funding from the Central Government and Village Government. One of the items in the Non-Physical Special Allocation Fund (Dana Alokasi Khusus/DAK Non Fisik) is Health Operational Assistance (Bantuan Operasional Kesehatan/BOK). Non-Physical Special Allocation Funds are budgets sourced from the State Budget used to finance regional affairs per national priorities (Peraturan Menteri Kesehatan Republik Indonesia Nomor 2 Tahun 2022 Tentang Petunjuk Teknis Penggunaan Dana Alokasi Khusus Nonfisik Bidang Kesehatan Tahun Anggaran 2022, 2022). The Non-Physical Special Allocation Fund for the Health Sector 2022 includes the stunting reduction program (Peraturan Presiden Republik Indonesia No 18 Tahun 2020 Tentang RPJMN 2020-2024, 2020). Only one puskesmas use Local Community Service Agency (Badan Layanan Umum Daerah/BLUD) funds to finance posyandu needs. The use of this fund follows the puskesmas’ policy because it is given autonomy in managing BLUD funds (Peraturan Menteri Dalam Negeri Republik Indonesia Nomor 79 Tahun 2018 Tentang Badan Layanan Umum Daerah, 2018).

"... Cadres are given incentives. Incentives from the village..."(IU-NL)

They received the posyandu budget from the Village Government comes from the Village Fund (Dana Desa/DD) and Village Fund Allocation (Alokasi Dana Desa/ADD). Village Funds are sourced from the State Budget for villages and transferred through the district Local Government Budget to finance community empowerment (Bupati Tegal, 2021). Posyandu budgeting is directed at national priority programs, such as stunting prevention (Peraturan Menteri Desa, Pembangunan Daerah Tertinggal, Dan Transmigrasi Nomor 13 Tahun 2020 Tentang Prioritas Penggunaan Dana Desa, 2021). Likewise, for Village Fund Allocations where one of the funding targets is community empowerment (Peraturan Bupati Tegal Nomor 92 Tahun 2021 Tentang Tata Cara Pengalokasian Dan Pelaksanaan Serta Penetapan Lokasi Dana Alokasi Dana Desa Kabupaten Tegal Tahun 2022, 2021).

Research by Handayani et al. (2020) showed a relationship between the role of the village head and the cadres’ ability to provide adequate facilities, conduct monitoring, oversee cadres’ performance, and develop the posyandu (Handayani et al. 2020). In collaboration with puskesmas, village midwives can advocate for Village Government to utilize Village Funds and Village Fund Allocations and conduct supplementary feeding programs, purchase medical devices and support facilities, provide cadre incentives, and fulfill other posyandu operational needs (Pamungkas et al., 2021). Funding for the village is expected to reduce the prevalence of stunting, but this will not work if the funding does not focus on treating stunting among children under five (Putro, 2018).

Business sector
A company operating in the Tegal Regency area had provided supplementary feeding for children under five in their working area. However, the provision of supplementary food was only given once and is not a routine activity of the company. This is a form of Corporate Social Responsibility (CSR) of a company.

“I think it was eggs. To help prevent stunting in children under five, they were given eggs…” (IU-SS)

CSR is a management concept in which companies integrate social and environmental concerns in business and stakeholder interactions (UNIDO, 2023). CSR programs from the private sector can be adapted to existing health programs in the community (Gumilar et al., 2019) and target behavioural, environmental, healthcare, and hereditary factors (Indah et al., 2015). This is similar to what was done in West Sumatra (Joko Nugroho, 2023) and posyandu in Bandung Regency, which received company assistance (Aditianti et al., 2019). However, not all private sector companies perform CSR because they depend on company policies and awareness (Martin et al., 2018).

Community

Mothers who come to posyandu donate cash into boxes or cans during posyandu activities. According to the informant, this was a voluntary donation from residents who visited the posyandu. If they did not bring money, the children would still be provided with health services. These voluntary contributions have received permission from the village government and are agreed upon by the residents.

“... There is a form of payment. Usually around Rp. 2000” (IT-IB)

This voluntary contribution follows the Governor of Central Java's Regulation on Posyandu management, which states that posyandu funding sources can come from the government, non-governmental organizations, and foreign aid (Peraturan Gubernur Jawa Tengah Nomor 57 Tahun 2006 Tentang Pedoman Operasional Pos Pelayanan Terpadu (Posyandu) Model Di Jawa Tengah, 2006). The puskesmas and the community can explore other potential sources of funding, such as individual/group donations and social funding sources (zakat, infak, sedekah) (Kementerian Kesehatan Republik Indonesia, 2011), and independent Posyandu funds (Eko et al., 2015).

Funding Allocation

Cadres' needs

Cadres require incentives and training. Cadre incentives come from the Health Operational Assistance and the village government budget (Village Fund Allocation and Village Fund). The Puskesmas Health Operational Assistance is intended to assist Puskesmas operations, such as efforts to improve community nutrition. The Puskesmas Health Operational Assistance was used to provide cadre incentives, transportation, and training. The cadres received cash incentives as a substitute for activity transportation costs. The budgeting also varied between 8-12 months a year and was adjusted to the villages' or puskesmas' financial conditions.

“The Health Operational Assistance funds the cadre’s transport fees…” (IU-NN)

Incentives are important because they make cadres feel part of the government (Wisnuwardani, W, 2012). Cadres who receive incentives will be more enthusiastic and improve their performance when performing their duties (Wisnuwardani, W, 2012). They can motivate mothers with children under five years to come to posyandu (Hidayat, 2018).

“The training are usually from the Health Operational Assistance funds. We have already budgeted it in the Health Operational Assistance funds.” (IT-EV)

Training for cadres at the puskesmas level is budgeted through funds from the Local Community Service Agency and Health Operational Assistance. In contrast, training for cadres at the village level is financed by the village government (Village Fund Allocation and Village Fund). The frequency of training varies between 1-2 times a year. Training is also conducted when cadres must be trained in using new anthropometric tools. The training needed is standardized training related to anthropometric measurements (Sanjaya et al., 2021) and is continuously held so cadres can carry out their duties properly (Tambi, Imelda, F.S; Yueniwati, 2019).

Administration

To support posyandu activities, anthropometric tools and supporting facilities are required. Funds from the Puskesmas Health Operational Assistance can improve
the performance of puskesmas in providing services to the community (Yuliantini et al., 2019), including increasing the scope of growth monitoring and measuring the weight of children under five (Priyatiningtyas & Nur wahyuni, 2019; Septiyantie & Cahyadin, 2013). The standardized anthropometric tools come from the Stunting Health Operational Assistance, which procured 100 sets of standardized anthropometric tools in 2022. These tools were addressed to the District Health Office and distributed to the puskesmas. Procurement of anthropometric tools by puskesmas is budgeted from Local Community Service Agency funds (one puskesmas) and the village government budgets from the Village Fund and Village Fund Allocation (four puskesmas). "The standardized equipment is old; that is why we will usually use the village budget (to buy new equipment)..." (IU-NL)

Standardized tools are needed for accurate measurements (Handayani et al., 2020). They can increase public trust in posyandu, increasing the visitation rate of children under five (Hidayat, 2018). Moreover, the Village Funds support facilities such as tables, chairs, and tripod scales. Books and stationery are purchased from voluntary contributions from posyandu visitors. **Children’s Needs**

Supplementary feeding is a program for children. The provision of supplementary feeding at posyandu comes from the village government budget and voluntary contributions from the residents. The mothers who come to the posyandu would donate money to the container. The residents and the village midwife have agreed upon the amount of money to donate. "... For the posyandu itself, for example, for the supplementary food distribution, people would submit donations of around Rp. 2000..." (IT-EV)

This is supported by research by Aditianti et al. (2019), which states that supplementary feeding funds come from community contributions put into containers (Aditianti et al., 2019). Procurement of supplementary feeding is also important because it can increase the visitation rate of children under five to posyandu (Hidayat, 2018).

**Posyandu Funding Efforts**

**Advocation**

The posyandu, puskesmas, and the health Office all contribute to meeting the posyandu's funding. One of the strategies for community empowerment in the health sector is advocacy (Peraturan Menteri Kesehatan Republik Indonesia Nomor 8 Tahun 2019 Tentang Pemberdayaan Masyarakat Bidang Kesehatan, 2019). The advocacy process is performed through several activities, such as the Development Planning Meeting (Musyawarah Perencanaan Pembangunan/musrenbang), the Healthy Village House (Rumah Desa Sehat), the Stunting Forum (Rembuk Stunting), and Cross-Sector Coordination.

All informants stated that they had proposed the posyandu budget to the village government through the Village Development Planning Meeting. This activity was conducted in the n-1 fiscal year, meaning the 2022 budget has been planned since 2021. As a representative for the puskesmas, the village midwife will attend this meeting and convey the needs for the health budget in the village, including the posyandu. Furthermore, the village midwife must also continue to supervise and continue to coordinate with the village government so that the health budget can be included in the Village Government Work Plan (Peraturan Menteri Dalam Negeri Republik Indonesia Nomor 114 Tahun 2014 Tentang Pedoman Pembangunan Desa, 2013).

"... That is why it’s crucial for midwives to attend the Development Planning Meeting. If they attend the meeting, it will be included in the budget..." (IU-NL)

The perceived obstacle is the mindset of the village government that posyandu belongs to the puskesmas while posyandu belongs to the community. This aligns with Hidayat’s research (2018), which stated that the village government does not feel it owns the posyandu (Hidayat, 2018). However, in most cases, the use of village funds for health issues is still low (Putro, 2018) and usually focuses on physical buildings and infrastructure (Wicaksono, 2022). Nevertheless, the village government plays an important role in meeting the need to monitor the growth and development of children under five at posyandu (Suhroh & Pradana, 2021). The village government and community leaders must cooperate to overcome health
service problems and improve children's health (Pardosi, 2017).

The budget submission for posyandu needs can be made through the Healthy Village House (Rumah Desa Sehat/RDS), but not all villages have this. A Healthy Village House is a joint secretariat for community empowerment and village development activists in the health sector. One of their functions is to advocate for policies in the health sector.

"... When we advocate, we would also communicate with the village government... For the stunting issue, we have the RDS program, and the posyandu budget is included in it. It covers the budget for facilities and infrastructure, cadres, and transport." (IU-LL)

Every village in the district/city where stunting prevention is prioritized is expected to have a Healthy Village House. The Healthy Village House can improve the bargaining position of health activists in advocating for access to health services in villages, including posyandu (Kementerian Desa Pembangunan Daerah Tertinggal dan Transmigrasi, 2018).

Advocacy for meeting posyandu needs is also conducted through the Stunting Forum (Rembuk Stunting), which is the third of the eight actions in integrated stunting prevention interventions performed at the district/city and sub-district levels (Kementerian PPN/Bappenas, 2018). During the meeting, the Health Service, puskesmas, and related parties (relevant agencies, sub-district/village governments, religious leaders, and community leaders) would discuss the planning and evaluation of the stunting prevention program, including meeting the needs of the posyandu.

"Through the forum, we can convey to the public what determines a child to be stunting or not stunting and inform them of the available facilities and infrastructure..." (IT-SR)

Various participants attend the stunting forum, and each village has representatives, such as the village head, community leaders, and sub-district heads. It is hoped that there will be a mutual agreement to make efforts to reduce stunting. The agreement results are then outlined in the Village Government Work Plan and Health Office Work Plan (Kementerian PPN/Bappenas, 2018).

Furthermore, cross-sectoral meetings are a regular agenda for the puskesmas every quarter. This meeting would involve related parties (relevant agencies, sub-district/village governments, religious leaders, and community leaders). The puskesmas can plan and evaluate their activities, including posyandu activities (Peraturan Menteri Kesehatan Republik Indonesia Nomor 44 Tahun 2016 Tentang Pedoman Manajemen Puskesmas, 2016).

"During the cross-sectoral meeting, we would mention the stunting issue because it has recently been highlighted (by the government). We would also mention the activities we would do with the budget." (IT-IB)

At the regency level, The Tegal District Health Office provided input on drafting a district head’s regulation on technical guidelines for using Village Funds and Village Fund Allocations. The technical guideline contains a menu for the health sector budget, including efforts to reduce stunting. This cross-sector collaboration needs to be improved because good cooperation between organizations affects the performance of policy implementation (Jamaluddin, 2020).

**Conclusion**

Three themes were obtained from this study: funding sources, funding allocations, and posyandu funding efforts. The growth and development of children under five in posyandu can be monitored through sufficient funding and proper allocation. The diversity of posyandu funding follows the policies and conditions of the community in each region. Transparency in fund management is needed to increase public trust in posyandu. Cross-sector cooperation must also be strengthened to meet the posyandu’s operational needs. Future studies on posyandu funding can be conducted with a broader scope to obtain a comprehensive picture of the fulfilment of posyandu funding and provide relevant input for posyandu funding by the government.

**Limitations**

This study has limitations in that it only involved four puskesmas in one district. Thus, it cannot be generalized to all posyandu in Indonesia.

**Acknowledgement**

We express our gratitude to the Indonesian Ministry of Health for funding this
research, as well as to everyone who supported the implementation of this research.

Conflict of Interest

We declare there is no conflict of interest in this research.

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S/Downloads/Nomer 7 Tahun 2021.pdf
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s/218269/permenkes-no-2-tahun-2022022-juknis.html
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s/113092/permenkes-no-44-tahun-2016
s/111301/permenkeu-no-79-tahun-2018
s/207672/perbup-kab-tegal-no-92-tahun-2021
Peraturan Presiden Republik Indonesia No 18 Tahun 2020 Tentang RPJMN 2020-2024, Kemenkumham 2271 (2020).


Family Support for COVID-19 Vaccination in Older Adults: Scoping Review

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**Introduction**

The COVID-19 vaccination program is considered the key to the pandemic rate because it can reduce morbidity and mortality and build group immunity against the COVID-19 virus (Setiyo Adi Nugroho, 2021). Older adults, vulnerable to the COVID-19 virus, are one of the priority groups receiving the COVID-19 Vaccination. Data from the Ministry of Health (Wilsa Azmalia Putri, 2021) shows that the coverage of COVID-19 vaccination in older adults has only reached 41.18%.

The low coverage of COVID-19 Vaccination in older adults is due to older adults having concerns and doubts about the vaccine’s side effects. Therefore, efforts can be made to reduce anxiety and doubts about the side effects of vaccines in older adults by providing factual information on the COVID-19 vaccination process. The family can provide accurate information about the effectiveness of COVID-19 vaccination in older adults as the closest support system for the elderly. The form of support that families can provide to older people can be informed about the importance of vaccines.

The trustworthiness of information provided by families is the same as trusted formal sources of information from governments and organizations that handle COVID-19. Based on a study conducted by (Tan et al., 2022) shows that information about the need for COVID-19 vaccination in the elderly can increase motivation and achievement of COVID-19 Vaccination.

Other forms of support that can be provided by the family apart from providing information can be in the form of providing easy access for older adults to carry out the vaccination process (Hutomo et al., 2021).

Based on Friedman's theory, the family has four dimensions of support: emotional, informational, instrumental and appreciation support. The different conditions of the COVID-19 pandemic have made the form of appreciation support given from family to older adults unable to run because the COVID-19 Vaccination is a mandatory program in handling the pandemic (Deni Suwardiman, 2011). This scoping review aims to explore the various types of support families provide to older adults in the COVID-19 vaccination process based on published articles.

**Method**

The design of this study used the scoping review method. The data sources used in the article search used four databases, Embase, CINAHL, Cochrane, Pubmed, and Google Scholar, as other reference sources. Controlled vocabulary searches in 3 databases were carried out by searching for MeSH (Medical Subject Heading) and Emtree and synonyms found in Table 1. Articles selected for review must meet the inclusion criteria, namely articles that discuss the role of the family as a support system for older adults in the COVID-19 vaccination process. Furthermore, the researcher issued an article discussing older adults with complicated diseases.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Synonym</th>
<th>Controlled Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>(&quot;aged patient&quot; OR &quot;aged people&quot; OR &quot;aged person&quot; OR &quot;aged subject&quot; OR &quot;elderly&quot; OR &quot;elderly patient&quot; OR &quot;elderly people&quot; OR &quot;elderly person&quot; OR &quot;elderly subject&quot; OR &quot;senior citizen&quot; OR &quot;senium&quot; OR &quot;aged, 80 and over&quot; OR &quot;centenarian&quot; OR &quot;centenarians&quot; OR &quot;nonagenarian&quot; OR &quot;nonagenarians&quot; OR &quot;octogenarian&quot; OR &quot;octogenarians&quot; OR &quot;very old&quot; OR &quot;older adult&quot; OR &quot;older adults&quot; OR &quot;Elderly&quot; OR &quot;Old Persons&quot; OR &quot;Older Persons&quot; OR &quot;80 and Over, Aged&quot; OR &quot;80 and over&quot; OR &quot;Aged over 80&quot; OR &quot;Over 80&quot; OR &quot;ageing&quot; OR &quot;Retired&quot;)]</td>
<td>&quot;Aged&quot; OR &quot;Aged, 80 and over&quot; (MeSH and Emtree)</td>
</tr>
<tr>
<td>Concept</td>
<td>(&quot;Family support&quot; OR &quot;support, social&quot; OR &quot;family attitude&quot; OR &quot;parent attitude&quot; OR &quot;social care&quot;)</td>
<td>&quot;Family support&quot; And &quot;Social Support&quot; (MeSH and Emtree)</td>
</tr>
</tbody>
</table>
Results and Discussion

The database search was carried out on February 1, 2022, on the PubMed, Cochrane, Embase, and CINAHL databases, while the Google Scholar search was carried out on February 2, 2022, with full detail of obtaining articles from four databases and one other reference, 351 articles. The article was duplicated and issued an abstract conference and a full-text search; after finding the full-text article, further screening was carried out to find seven articles that matched the inclusion criteria. For more details, the author documents the search for articles using the PRISMA flow diagram, shown in Figure 1. After screening the Prisma flow diagram, the article that will be reviewed is analyzed for the character of each article which can be seen in Table 2. If we look at the distribution of the articles found, three articles came from America, and four other articles came from Europe and Asia, intending to see the perception of older adults in vaccinating against COVID-19. Based on the results obtained from the article to be reviewed, most older adults have fears and doubts about the side effects of the COVID-19 vaccine. In addition, it was also found that the support provided by the family was more moral than the older adults received for the COVID-19 vaccination process. Based on the results obtained from the articles to be reviewed, older adults experience worries and fears about the vaccine's side effects due to a lack of information from their family or closest people.
Figure 1. PRISMA Flow Diagram
Table 2. Preliminary Synthesis Data

<table>
<thead>
<tr>
<th>No.</th>
<th>Authors and year of publication</th>
<th>Country</th>
<th>Purpose of the study</th>
<th>Sample of the study</th>
<th>Result of the study</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Laura D. Allen, Idalina Z. Odziemczyk, Jolanta Perek-Białas, Liat Ayalon (2021)</td>
<td>US (United States)</td>
<td>Analysis of comments on online newspaper articles on perceptions and order of priority for COVID-19 vaccines.</td>
<td>Four hundred forty online comments on that article.</td>
<td>When analyzing the results of the commentators, older adult families perceive that their parents deserve to be a priority for the COVID-19 vaccine because they want their parents to enjoy a minimal remaining life.</td>
</tr>
<tr>
<td>2.</td>
<td>Bhanu, C. Gopal, D. P. Walters, K. Chaudhry, U. A. R. (2021)</td>
<td>US (United States)</td>
<td>To report perceptions, beliefs, and attitudes towards COVID-19 vaccination in the elderly from ethnic minority backgrounds.</td>
<td>This research is a systematic review, a total of 28 article reviews.</td>
<td>Due to misunderstandings and lack of information about the efficacy or side effects of the COVID-19 vaccine, it is challenging to take the COVID-19 vaccination in older adults.</td>
</tr>
<tr>
<td>3.</td>
<td>Fitria Istina Dewi (2021)</td>
<td>Bogor, Indonesia</td>
<td>Providing information on obstacles in the implementation of the COVID-19 vaccination program for the elderly so that it can be taken into consideration in achieving the successful implementation of the COVID-19 vaccination program for the elderly</td>
<td>10 sample older adults.</td>
<td>Barriers to implementing the COVID-19 vaccination program for older adults are concerns and fears about the vaccine's side effects. Environmental factors also significantly affect the participation of older adults in the Covid-19 vaccination.</td>
</tr>
<tr>
<td>4.</td>
<td>Fadda, M. Suggs, L. S. Albanese, E. (2021)</td>
<td>Southern Switzerland</td>
<td>to explore the attitudes and beliefs of older adults regarding future covid-19 vaccinations.</td>
<td>19 sample older adults</td>
<td>The attitude of older adults who are against or unsure of the efficacy and effectiveness of vaccines will impact the low coverage of COVID-19 vaccination in older adults.</td>
</tr>
<tr>
<td>No.</td>
<td>Authors and year of publication</td>
<td>Country</td>
<td>Purpose of the study</td>
<td>Sample of the study</td>
<td>Result of the study</td>
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<tr>
<td>5.</td>
<td>Sri Martini, Ira Kusumawaty, Yunike (2021)</td>
<td>Palembang, Indonesia</td>
<td>To determine the perception and readiness of the elderly to receive the COVID-19 vaccine.</td>
<td>Ten samples of older adults (six males and four females)</td>
<td>The older adults’ perception of COVID-19 vaccination is influenced by information from the media and the environment. So the number of vaccination coverage in older adults is low. Family support is an essential aspect for older adults to influence the readiness of the older adults to receive vaccines.</td>
</tr>
<tr>
<td>6.</td>
<td>Fuchs, J. R., Fuchs, J. W., Tietz, S. E., Lum, H. D. (2021)</td>
<td>US (United States)</td>
<td>To improve the health system and clinic-level interventions to promote access to COVID-19 Vaccination for older adults with LEP.</td>
<td>2550 sample aged 70 and older</td>
<td>During the COVID-19 vaccination process, especially in older adults with LEP, several interventions can be done involving family members or trusted caregivers to help schedule vaccination appointments.</td>
</tr>
<tr>
<td>7.</td>
<td>Malesza, Marta Bozym, Magdalena (2021)</td>
<td>Polandia</td>
<td>To achieve a better understanding of what affects the COVID-19 vaccine</td>
<td>1427 respondents inclusion criteria (being aged 70+ and living amongst the general public)</td>
<td>A significant influence in receiving vaccines is concerns about vaccine safety and fear of vaccine side effects.</td>
</tr>
</tbody>
</table>
The results of the articles reviewed can be seen in Table 3. Three supports are given to elderly families in the COVID-19 vaccination process to help older adults be vaccinated.

Table 3. Family Support in the COVID-19 Vaccination Process

<table>
<thead>
<tr>
<th>NO.</th>
<th>Family Support in the COVID-19 Vaccination Process</th>
<th>Reference</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Emotional</td>
<td>(Bhanu et al., 2021); (Allen et al., 2021)</td>
</tr>
<tr>
<td>2.</td>
<td>Accessibility</td>
<td>(Bhanu et al., 2021); (Istina Dewi, 2021); (Fuchs et al., 2021); (Malesza &amp; Bozym, 2021)</td>
</tr>
<tr>
<td>3.</td>
<td>Informational</td>
<td>(Martini et al., 2021); (Fadda et al., 2021); (Bhanu et al., 2021); (Malesza &amp; Bozym, 2021)</td>
</tr>
</tbody>
</table>

Table 3. Family Support for the COVID-19 Vaccination in the Elderly

The COVID-19 vaccination is a government program in various countries to protect each individual against COVID-19. The pros and cons of the COVID-19 vaccination process are also problems that governments in these countries must face in creating communal immunity. As one of the main targets in the vaccination process, older adults cannot be separated from these pros and cons. As the smallest unit in society, the family has a vital role in the success of achieving communal immunity. According to the articles found, there are three types of support given by the family to older adults related to COVID-19 Vaccination. These three supports are emotional, accessibility, and informational. According to the famous theory of family support, there are four types of support given by the family: emotional, instrumental, informational, and appreciation. Based on the articles found, appreciation support is the only support that not showed during the COVID-19 Vaccination. This is because the COVID-19 vaccination is a government-mandated program in most countries, so there are regulations that require Vaccination as a condition for community activities such as holidays or gatherings(Tan et al., 2022). Information circulating in the community about the negative aspects of vaccines is one of the barriers for older adults to be vaccinated. Providing family motivation, such as a positive influence on the importance of vaccines playing an active role, can result in older adults being willing to be vaccinated (Bhanu et al., 2021). This happens because emotional support and family members play a significant role in changing the behaviour of older adults, so they want to be vaccinated (Allen et al., 2021).

Another obstacle to achieving COVID-19 vaccination in older adults is easy access to COVID-19 vaccination locations (Bhanu et al., 2021). A large number of older adults people with transportation problems causes older adults to have to walk further to the location of the COVID-19 vaccination (Malesza & Bozym, 2021). With the physical decline of older adults, older adults need a place and location for the COVID-19 vaccination that is easily accessible. As the closest support system for older adults, the family can help with the COVID-19 vaccination process by preparing transportation and assisting with the vaccination location. The availability of transportation by ensuring the availability of adequate vaccination centres for older adults is a form of support that families can think of to facilitate easy access for older adults (Istina Dewi, 2021). In addition to transportation...
modes that are friendly to older adults, the availability of supporting facilities and infrastructure, such as safe road and pedestrian access for older adults, is an alternative solution that the government can facilitate in terms of ease of accessibility to vaccination locations (Fuchs et al., 2021).

Another support program that can be facilitated for older adults is to provide positive and readily accepted information (Malesza & Bozym, 2021). Lack of information about the importance of vaccination and misconceptions about side effects are significant barriers for older adults to be vaccinated (Bhanu et al., 2021). Concern about the side effects of the COVID-19 vaccine is the highest perception older adults feel. Older adults need factual information to understand the need for COVID-19 vaccination in their age group (Fadda et al., 2021). Accurate information about the safety and effectiveness of COVID-19 vaccinations conveyed by families can increase confidence and influence older adults to carry out vaccinations. This happens because the family has a psychological closeness that can affect older adults’ thinking (Martini et al., 2021).

Conclusion
Families provide various support to older adults in the COVID-19 vaccination process, including emotional, accessibility, and informational support. Providing the correct information accompanied by solid motivation from the family is an essential key to the success of the COVID-19 vaccination process in older adults. Ease of accessibility is the main supporting factor beyond the motivation and information provided by the family. Strengthening the family as the primary motivator for the older adults in the COVID-19 vaccination process in older adults is expected to be a support system for the older adults to want to be vaccinated.

Limitations of the study
The number of journal databases is the author’s limitation in obtaining articles to be reviewed. In addition, the number of articles that can be accessed in full is another limitation the author must face.

Acknowledgement
The author would like to thank those who provided support and motivation in preparing this article. This research received full support from STIKes Banten to develop knowledge, especially in nursing.

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family Support for COVID-19 ... https://doi.org/10.15585/mmwr.mm6912e2


Original Research

Support of Family For Type 2 Diabetes Mellitus Patients in Primary Health Center During The Covid-19 Pandemic

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ABSTRACT
Diabetes Mellitus is one chronic disease that is still a health problem requiring prolonged treatment, so good family support is needed. This research aims to identify family support for diabetes mellitus type II patients at the primary health center. The research conducted is by using a quantitative approach. The sampling technique used was a total sampling as much of 91 respondents. The instrument used was a questionnaire, which included: demographic data and family support according to the Hensarling Diabetes Family Support Scale (HDFSS). Data analysis was carried out using descriptive analysis and was used frequency distribution and percentage. This research showed that family support for diabetes mellitus sufferers was mostly good, with a percentage of 91.2%, emotional support had good support (93.4%), reward support had good support (79.1%), and instrumental support had good support. (78.0%), information support has good support (93.4%). The research results are expected to provide information and knowledge related to family support applied to diabetes mellitus sufferers.

Keywords:
Diabetes mellitus
Family
Family support

Introduction

Diabetes Mellitus is one chronic disease that is a health problem worldwide. Based on the World Health Organization (WHO, 2017) data, diabetes mellitus was the seventh cause of death in 2017. Diabetes mellitus will increase yearly to 415 million people worldwide (WHO, 2016). In Indonesia, the prevalence of patients in 2018, most people with diabetes mellitus reached 1.5% or around 1,017,290 (Basic Health Research, 2018).

Based on Riskesdas’s (2018) data, the prevalence of diabetes mellitus in West Java is 1.3% or around 186,809. The results of the data obtained by the Garut Regency Health Office in 2017 stated that in Garut Regency, people with diabetes mellitus followed the second rank, and Wanaraja Health Center had the most prevalence of diabetes mellitus in Garut Regency. Diabetes Mellitus is a disease that requires prolonged treatment, with various factors such as strategies to reduce the risk of controlling increased blood sugar, self-management, education, and support are very important to prevent complications (American Diabetes Association, 2018).

Several symptoms cause diabetes, including excessive thirst, frequent urination, especially at night, weight gain at night, weight loss rapidly, and sometimes complaints of weakness, tingling in the fingers and toes, fast hunger, itching, and blurred vision (ADA, 2017). The risk factors for type 2 DM are most from genetic factors. A history of the family with DM and metabolic factors include obesity, unhealthy food or diet, less physical activity, smoking, and a history of gestational diabetes with old age (WHO, 2016). Then according to PERKENI (Indonesian Endocrinology Association, 2015), the causes besides heredity are also in the environment, including age, obesity, insulin resistance, food, physical activity, and unhealthy lifestyles of people who also play a role in the occurrence of diabetes. There are also internal factors and external factors that influence the behaviour of DM sufferers, namely internal factors such as knowledge, attitudes, perceptions, motivation, intelligence and emotions, while external factors such as family support, peers, and health workers (WHO, 2016).

Complications which usually happen in DM patients have increased risk of heart disease, stroke, neuropathy, diabetic retinopathy, kidney failure and risk of death, it will also have an impact on decreasing life expectancy, decreasing quality of life and human resources to increase morbidity and mortality rates—death (Kemenkes RI, 2014). Therefore, to prevent complications, it is necessary to treat diabetes mellitus, including four pillars, namely education, nutrition, exercise, and treatment PERKENI (, 2015). In addition, diabetes Mellitus (DM) requires medical attention and care for a long time to prevent complications and treatment of illness, thus, the need for family support for DM patients (Ministry of Health, 2016).

Family support is a way a family member reports to provide a sense of physical and psychological comfort when someone experiences illness (Friedman, 2014). Family is a support system that can provide benefits in the way of providing nursing services and management for DM patients; good DM support and behaviour can affect the compliance of Type II DM patients in taking treatment (Mayberry & Osborn, 2012).

Based on research conducted by Tamara, Bayhakki, & Nauli (2014), the respondents in their research stated that the family support provided by the families of DM sufferers could provide encouragement and help in treatment when the respondent is taking treatment when the family gives attention to the respondent and supports it. Families can improve the quality of life of type II DM because family support is provided in the form of emotional, instrumental reward and information that can give a sense of comfort and increase the motivation of people with type II diabetes undergoing treatment and self-care.

Based on Yanto & Setyawati’s (2017) research, good family support will affect the implementation of treatment programs carried out by patients. According to Priharianton (2013), there is a relationship between family support and regular control of blood sugar levels in people with Diabetes Mellitus in the Bendosari Health Center area, reinforced by research conducted by Senul, Supit, & Senek (2013), which states that there is a significant association between family...
support with adherence to a diabetes mellitus diet and based on research conducted by Chusmeywati (2016), said that family support is important for people with diabetes because without family support people with diabetes are unable to treat their disease. The novelty of this research is how family support for diabetic patients during the Covid 19 pandemic. The pandemic condition makes limitations patients’ self-care, so they need family support. This research aims to determine family support for Type 2 DM patients at the primary health care in Garut during the pandemic.

Method

The type of research used is descriptive quantitative. The population in this study were all Type 2 DM patients in the data of the Wanaraja Health Center, Garut Regency, with a total of 91 people. The sampling technique used is by using a total sampling of 91 respondents which makes the entire population the research sample. The family support questionnaire was used to determine the level of family support given by family members to a family member suffering from diabetes mellitus, the family support questionnaire in this study used the Hensarling Diabetes Family Support Scale (HDFSS) developed by Hensarling (2009) for type diabetes mellitus. II. The Hensarling Diabetes Family Support Scale (HDFSS) questionnaire has a range of values to determine the value of family support: the good support category in the value range of 59-116 and the poor family support category in the value range of 29-58.

This questionnaire there are 4 dimension: the emotional dimension which consists of 10 questions with good categories in the range of values of 20-40 and bad categories in the range of values of 10-19, the award category which consists of 8 questions with good categories in the range of values of 15-32 and bad categories in the range of values of 8-15, the instrumental dimension consists of 8 questions with good categories in the range of values 15-32 and bad categories in the range of values 8-15 and the information dimension consists of 3 questions with good categories in the range of values 6-12 and bad categories in the range value 3-5. The results of the validity test of this questionnaire are the results of r table = 0.361 so that it can be concluded that the HDFSS questionnaire is declared valid. The HDFSS instrument will not be tested again for reliability because it has been carried out and shows the results of Cronbach alpha (0.940) The study was conducted by visiting all respondents from house to house while maintaining health protocols. The researcher obtained a research permit from the Padjadjaran University Research Ethics Commission with letter number 849/UN6.KEP/EC/2020.

Results and Discussion

Table 1 Frequency and percentage of support data and demographics of people with diabetes mellitus (N=91). Based on table 1, data on demographic characteristics shows that 47 (51.6%) are in pre-elderly age, with 69 (75.8%) being female, and 91 (100.0%) being Muslim, with an education level of 67 people. (73.6%), junior high school education, with marital status as many as 62 (68%) are married, with income < 1,600,000 68 (74.7%), long-suffering from 1-5 years as many as 74 (81.3%), and treatment of 89 (97.8%) most of the respondents took oral medication, and 59 (64.8%) of the respondents had complications, as many as 48 (52.7%) did exercise regularly. Regularly, respondents do not smoke as many as 80 (87.9%) and follow a regular diet as many as 46 (50.5%)

The table describes the results of research from respondents who mostly have good support, obtained data on emotional support for people with diabetes mellitus are more than 85 (93.4%), and six people (6.6%) have less harmful emotional support. Diabetes mellitus patients (79.1%) have good appreciation support, and 19 respondents (20.9%) have less aid for inadequate appreciation. For good instrumental backing, the data obtained are 71 (78.0%) more, and for inadequate instrumental support. More people with diabetes mellitus with good information support such as 56 (61.5%).

Most respondents had a good family support category, which was 91.2% and only a small proportion of respondents in the type of low-income family support, which is 8.8%. The results of this study are in line with Susanti, and Sulistyarini (2013) obtained good family support; this family support can come from blood relations, marital relations or adoption,
this is caused by existing sources of family support, the family can do existing sources of support by recognizing health problems as early as possible, such as when family who suffer from diabetes mellitus experience complaints when blood sugar levels increase or decrease. As supported by Kosim et al. (2017), family support as many as 34 respondents (85.0%) get good family support, and the family functions as an energy source that determines happiness.

<table>
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<tr>
<th>Characteristic</th>
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<td>46-60 years old</td>
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</tr>
<tr>
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<td>20</td>
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The table describes the results of research from respondents who mostly have good support, obtained data on emotional support for people with diabetes mellitus are more than 85 (93.4%), and six people (6.6%) have less harmful emotional support. Diabetes mellitus patients (79.1%) have good appreciation support, and 19 respondents (20.9%) have less aid for inadequate appreciation. For good instrumental backing, the data obtained are 71 (78.0%) more, and for inadequate instrumental support. More people with diabetes mellitus with good information support such as 56 (61.5%).

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Diabetes Mellitus appears after 45 years; this is because at this age are less active, gain weight, and decrease muscle mass and due to the ageing process, which results in progressive shrinkage of beta cells (Masruroh, 2018). Based on the results of the age characteristics of the respondents, the results of this study were the pre-elderly age of 46-60 years lacked support for as many as 47 respondents with a percentage of 51.6%, in this study showed that there was a relationship between age and the incidence of Type 2 DM, this means that people with age 45 years have an eight times greater risk of developing type 2 DM disease compared to people aged less than 45 years (Wuwungan, G. et al. 2013). Experts also agree that the risk of developing type II diabetes mellitus will increase from the age of 45 years and above; the increasing age, the individual will experience progressive pancreatic shrinkage, so too few hormones are produced and cause glucose levels to riseMasruroh (2018). Results This is in line with Latifah's research (2018) that age can affect the risk and occurrence of type 2 diabetes, the increase in blood sugar levels is closely related to age, so the prevalence of type 2 diabetes will increase with increasing age and result in higher glucose tolerance disorders.

Diabetes Mellitus can mostly be found in women compared to men; this is because women have LDL or bad cholesterol, triglyceride levels are higher than men, and there are also differences in carrying out all activities and daily lifestyles (Soharto, 2005). Characteristics of the sex of the respondents in this study, almost all of the respondents were female than male, and female respondents
were more or less supported with a percentage of 75.8%. The results of this study are not in line with Fadila et al (2015) patients with type II diabetes mellitus are higher than women; this shows that men are better able to face problems or difficulties in their lives. Another study explains that men are more likely to have diabetes than women; this shows that gender does not affect diabetes mellitus (Febriana R 2014).

The higher the education, the greater the health concern. The level of education influences the health of people who have higher education usually have knowledge about health so that people will have awareness in maintaining health (Ratag et al (2014)). In the results of this study, low education was at the elementary level as much as 73.6%, this level of education had something to do with families who cared for people with diabetes mellitus. Previous research showed the division of education levels in people with diabetes mellitus, DM patients mostly with elementary education, namely 36 respondents (56.3%) and a small proportion with higher education as many as five respondents (7.8%), it can be concluded that there is a tendency the higher the education, the more obedient in the diabetes mellitus diet (Prabowo, 2015). But not all DM patients have had formal education in the health sector; when one family member is sick, the family can play a role in caring for the ill family member (Wahidin et al., 2018).

Emotional support is very necessary for patients who have chronic diseases, one of which is type 2 diabetes mellitus. The negative impact of this disease is not only on the physical but also on the psychological. The psychological impact felt by type 2 DM patients is usually in the form of anxiety, stress or depression. In the results of this study, emotional support has very high support as many as 85 respondents with a percentage of 93.4%. The results of the analysis according to Rahmadiyah (2018), the association between type 2 DM client family emotional support obtained 40 respondents (69%) getting good emotional support, statistical test results show that there is a relationship between type 2 DM client family emotional support. In line with researchers Nuryanto, N (2019) that there is a relationship between emotions and the quality of life of people with type 2 DM, emotional support can increase confidence in their ability to carry out self-care, patients with good support will have a safe and comfortable feeling so that they will grow attention to themselves and increase motivation to manage the disease, this condition will also prevent the emergence of stress in patients with type 2 diabetes.

Appreciation for sick families can make an excellent emotional response that will provide anticipation of good handling of various signs of illness, giving good hope will improve the physical health of DM sufferers by reducing symptoms of stress or depression Nuryanto (2019). In the results of the research, the award support has very high support. Based on the results of the analysis of the relationship between award support and stress levels in patients with diabetes mellitus, p-value = 0.000, which means that family support for type 2 DM has a significant relationship with stress levels while suffering from DM, this is because the family reminds control blood sugar if the sufferer forgets, the family encourages to follow a diet/food plan, the family reminds to take diabetes medication, and the family encourages to do regular exercise, Syahir (2016).

Instrumental support is authentic support, including direct assistance to people with type 2 diabetes mellitus. Instrumental support has good support. Based on the research of Kurniawan, and Nuriswati (2014) showed that more than half of the respondents showed favourable family support, especially on the dimensions of instrumental family support. The results of this study are in line with Syahir (2016) that there is a relationship between instrumental support and the stress level of patients with type 2 diabetes mellitus with a value of p <0.05, which means that the instrumental support provided by the family to people with diabetes mellitus has a significant relationship with the level of stress during diabetes mellitus. This report is not in line with Nuryanto (2019) that there is an instrumental relationship with the quality of life of patients with diabetes mellitus, but the instrumental dimensions provided do not support type 2 DM patients. Researchers Bakri et al (2018) explained that the relationship between family support and instrumental dimensions p<0.05 so that there is no
relationship between fasting blood sugar levels with the instrumental dimension. This study shows that the support for information is very high. The results of statistical tests conducted by Rahmawati (2018), the relationship between information support and type 2 DM clients obtained a p-value of 0.000 and r value of 0.749, this indicates that there is positive relationship between information support and rank 2 DM clients. Around 50% of respondents stated that their families often help find information about DM, either through leaflets or seeking information from doctors, nurses or other medical personnel, as well as finding out about therapy, and physical exercise for DM clients, but some other respondents stated that families rarely provide information related to DM disease and its treatment.

Conclusion
The study results are expected to provide information and knowledge related to family support which is applied to Type 2 DM at the Primary Health Center, Garut Regency. It creates wider communication between people with diabetes mellitus, patient families, health workers and the surrounding community. Provide socialization to families of type 2 DM patients regarding family support to give positive attention and support to people with diabetes mellitus. It is advisable to provide educational facilities about diabetes mellitus family support programs in the form of posters, leaflets, banners and educational videos.

Acknowledgement
Thank you to Faculty of Nursing, Universitas Padjadjaran for supporting the study

No Conflict of Interest
None to declare

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Support of Family For Type 2 Diabetes Mellitus ...


Journal of Nursing Science Update (JNSU)

e-ISSN: 2829-0003
p-ISSN: 2829-7075

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