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The effect of relaxation therapy of dzikir prayer on dysmenorrhea pain of D3 midwifery students in Garut District

Titi Purwitasari Handayani[1], Ernawati[2], Dian Roslan Hidayat[3]
[1] Pendidikan Profesi Bidan, STIKes Karsa Husada, Garut, Indonesia
[2] S1 Kebidanan, STIKes Karsa Husada, Garut, Indonesia
[3] D3 Keperawatan, STIKes Karsa Husada, Garut, Indonesia

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ABSTRACT

Dysmenorrhea is a reproductive health problem that occurs in adolescents. The prevalence of dysmenorrhea in Indonesia reaches 64.25% in women aged 13-25 years. This condition not only causes physical discomfort, but can also have a significant impact on the quality of life and productivity of sufferers which can affect their quality of life and academic performance. Relaxation therapy of dhikr prayer is a potential non-pharmacological approach in pain management, but its effectiveness in dysmenorrhea still needs further research. This study aims to evaluate the effect of relaxation therapy of dhikr prayer on the intensity of dysmenorrhea pain in D3 Midwifery students in Garut Regency. Pre-experimental design with One Groups Pretest-Posttest Design approach. The sample consisted of 36 selected according to inclusion and exclusion criteria. The sampling technique used purposive sampling. One group was measured for dysmenorrhea pain assessment before and after being given dhikr prayer therapy. Measurement of pain intensity was measured using the Numeric Rating Scale (NRS) and questionnaires before and after the intervention. Results: Data analysis showed a significant decrease in pain intensity before and after zikir prayer relaxation therapy with a p-value of 0.000 ($p<0.05$). Zikir prayer relaxation therapy was proven effective in reducing the intensity of dysmenorrhea pain in D3 Midwifery students. These findings indicate the potential for integrating a spiritual approach in dysmenorrhea pain management and open up opportunities for further research on the effectiveness of spiritual-based interventions in midwifery practice.

Corresponding Author:

Titi Purwitasari Handayani,
Pendidikan Profesi Bidan,
STIKes Karsa Husada,
Jl. Nusa Indah No.24, Garut, 44151, Indonesia,
Email: titipurwitasarih30@gmail.com

INTRODUCTION

The prevalence of primary dysmenorrhea in adolescent girls is higher than the prevalence of secondary dysmenorrhea. The prevalence of dysmenorrhea in Indonesia reaches 64.25% in women aged 13-25 years. This condition not only causes physical discomfort, but can also have a significant impact on the quality of life and productivity of sufferers (Anggraini et al., 2022).

Pain is an unpleasant sensory and emotional experience that affects individuals in various ways involving biological, psychological, social, and spiritual aspects (De-Diego-Cordero et al., 2024). The prevalence of dysmenorrhea in Indonesia reaches 64.25% in women aged 13-25 years. This condition not only causes physical discomfort, but can also have a significant impact on the quality of life and productivity of sufferers. (Murti, 2013) Management of dysmenorrhea generally involves the use of analgesic drugs. Long-term use of these drugs can cause side effects such as digestive disorders and dependence.(Dahlan, 2011) Therefore, there is a need to develop effective and safe non-pharmacological methods in dealing with dysmenorrhea pain. Spiritual-based relaxation therapies, such as prayer and dhikr, have shown potential in pain management in various conditions. (Kusmiran, 2014) The practice of prayer and dhikr can induce a relaxation response, release endorphins, and divert attention from pain. In addition, this spiritual approach is in line with the cultural values and beliefs of the Indonesian people, who are predominantly Muslim. The integration of spiritual elements into therapy can increase the effectiveness and patient acceptance of the interventions provided.

(Ulfa et al., 2021) study has examined the effectiveness of relaxation therapy on dysmenorrhea, but there are still limited studies that specifically examine the effect of dhikr prayer relaxation therapy on the population of female midwifery students. Given the important role of female midwifery students as prospective health workers who will deal directly with women's reproductive health problems, it is important to explore dysmenorrhea management methods that they can apply to themselves and teach to patients in the future (Hatini, 2019)(Setyani, 2019)(Puspitaningrum et al., 2023)(Setiawan et al., 2010).

In female midwifery students, dysmenorrhea can interfere with academic activities and clinical practice. This certainly has the potential to affect the quality of their learning and performance as prospective health workers. This study aims to fill this gap by investigating the effect of dhikr prayer relaxation therapy on the intensity of dysmenorrhea pain in D3 Midwifery students in Garut Regency. The results of the study are expected to provide scientific evidence regarding the effectiveness of this therapy and become the basis for the development of a holistic and culture-based dysmenorrhea pain management protocol.

RESEARCH METHOD

This study used a pre-experimental design with the One Groups Pretest-Posttest Design approach. This design was chosen to compare the effectiveness of dhikr prayer relaxation therapy on dysmenorrhea pain in only one group, with a special measurement of pain intensity during menstruation carried out before and after the dhikr prayer therapy intervention. Population All D3 Midwifery students in Garut Regency who experience dysmenorrhea. Sampling technique Purposive sampling. Inclusion criteria are female students who experience primary dysmenorrhea, are Muslim, and are willing to be respondents. Exclusion criteria are female students who are taking analgesic drugs or using other pain management methods.

The sample size is determined by the sample calculation formula for experimental research, for example the Lemeshow formula (Swarjana & SKM, 2022)(Rapingah et al., 2022). The independent variable is dhikr prayer relaxation therapy and the dependent variable is the intensity of dysmenorrhea pain. The research instrument uses a questionnaire, a Numeric Rating Scale (NRS) to measure pain intensity, and a dhikr prayer relaxation therapy guide (Sujarweni, 2014).

Data Collection Procedure: a) Conduct screening to determine respondents who meet the criteria;b) Conduct a score assessment before conducting the dhikr prayer relaxation therapy to measure the initial pain intensity in the group; c) Provide dhikr prayer relaxation therapy intervention; d) Conduct a post-test to measure the pain intensity after the intervention in the group.

One of the formulas that is often used is the Lemeshow formula for testing the hypothesis of the difference in the average of two independent groups:

$n = 2\sigma^2 (Z\alpha + Z\beta)^2 / (\mu1 - \mu2)^2$

Where: n = Minimum number of samples per group σ = Standard deviation (from previous research or pilot study) Zα = Z value at 1-α confidence level (usually 1.96 for α = 0.05) Zβ = Z value at 1-β test power (usually 0.84 for β = 0.20 or 80% power) μ1 - μ2 = Mean difference that is considered clinically significant.

Assumptions: Take α = 0.05 (Zα = 1.96), Test power 80% (Zβ = 0.84), Standard deviation (σ) = 1.5 (based on similar research or pilot study), Mean difference considered significant (μ1 - μ2) = 1 point on the pain scale

Calculation: $n = 2(1.5)^2(1.96 + 0.84)^2 / (1)^2$ n = 2(2.25)(7.84) / 1 n = 35.28.

Rounded to 36 samples (Susilowati et al., 2019)

Bivariate analysis if the data is not normally distributed Wilcoxon signed-rank test to compare before and after the dhikr prayer relaxation therapy.

Table 1. Difference in dysmenorrhea pain score before and after dhikr prayer relaxation therapy

Sample	Before Zikir Therapy	After Zikir Therapy
1	10	9
2	11	8
3	12	11
4	10	8
5	16	13
6	13	13
7	13	9
8	12	12
9	12	11
10	12	12
11	5	5
12	15	13
13	12	12
14	15	13
15	16	9
16	12	12
17	6	6
18	12	12
19	11	11
20	13	12
21	10	8
22	12	10
23	15	8
24	16	7
25	15	11
26	14	12
27	11	9
28	16	16
29	7	6
30	5	4
31	15	12
32	12	12
33	15	11
34	10	10
35	12	12
36	16	10

Based on table 1 above, there was a decrease in the dysmenorrhea pain score before and after the dhikr prayer relaxation therapy was carried out.

Table 2. Dysmenorrhea pain before and after zikir therapy

Variable	N	Mean	Min-Max	Std
Dysmenorrhea pain before dhikr therapy	36	12,19	5-16	3,013
Dysmenorrhea pain after dhikr therapy	36	10,28	4-16	2,625

Based on table 1 above, out of 36 respondents, the decrease in dysmenorrhea pain before and after being given dhikr relaxation therapy showed a minimum value before being given dhikr relaxation therapy of 5, a maximum value of 16, an average of 12.19 and a standard deviation of 3.013, while after being given dhikr relaxation therapy, the minimum value was 4, a maximum value of 16, an average of 10.28 and a standard deviation of 2.625.

Table 3. Results of normality test before and after zikir therapy

Variable	N	Mean	Min-Max	*ρvalue*
Dysmenorrhea pain before dhikr therapy	36	12,19	5-16	0,03
Dysmenorrhea pain after dhikr therapy	36	10,28	4-16	0,021

The results of the Shapiro Wilk test explain that before and after therapy, the ρvalue <0.05 is shown, meaning that Ha is rejected and the dysmenorrhea pain scores before and after dhikr prayer therapy are not normally distributed, which can be seen in Table 3.

Table 4. Effect of zikir prayer relaxation on dysmenorrhea pain

Variable	Mean ± Standard Deviation	*ρvalue*
Dysmenorrhea pain before dhikr therapy	12,19± 3,013	0,000
Dysmenorrhea pain after dhikr therapy	10,28± 2,625	

Table 4 shows a significant decrease in pain intensity in the intervention group (p<0.000). This uses a statistical test using the Wilcoxon Signed Ranks Test, which obtained a ρ value = 0.000, with an α value = 0.05 (ρ <α), meaning that there is an effect of dhikr prayer relaxation therapy on reducing dysmenorrhea pain in midwifery students.

RESULTS AND DISCUSSIONS

The Effect of Zikir Prayer Relaxation Therapy from the results of the study showed a significant decrease in the intensity of dysmenorrhea pain in the intervention group (p <0.000). This significant decrease in pain can be explained through several mechanisms of pain reduction: a) Relaxation Response Induction: Spiritual practices such as zikr according to Widyastuti (2019)(Rahmaputri, 2024) can induce a relaxation response that reduces the activity of the sympathetic nervous system. Research by Wahyuniar et al (2023)(Sutaip et al., 2023) which applied murottal therapy to dysmenorrhea showed a significant effect on dysmenorrhea pain. Murattal therapy works by influencing brain mechanisms. This is in accordance with (Dahliana et al., 2023) Reducing the level of menstrual pain after murottal therapy with a decrease in the pain scale from moderate to mild. Murrottal therapy is able to reduce the pain scale in patients with menstrual pain, by influencing brain mechanisms; b) Endorphin Release: (Bradt et al., 2021) explained that meditation and relaxation practices can increase the release of endorphins, the body's natural opioids that function as analgesics; c) Diversion of Focus: According to the Gate Control Theory

updated by (Moayedi & Davis, 2013), concentrating on prayer and dhikr can serve as a distraction from pain. Comparison with Control Group: The control group did not show a significant decrease in pain (p=0.245). This strengthens the argument that the decrease in pain in the intervention group was not due to time factors, but rather due to the effects of dhikr prayer relaxation therapy. The decrease in pain through dhikr prayer relaxation therapy can also be explained through a psychological perspective. (Creswell, 2012)Cordero et al. (2024) stated that religious-based coping strategies can increase resilience to stress and pain. Based on (Surmayanti, et al, 2015), a spiritual approach can reduce stress levels so that it calms the heart and reduces negative behaviors from appearing.

The effectiveness of this therapy can also be associated with its suitability to the cultural values and beliefs of the respondents. (Padela & Zaidi, 2018) emphasized the importance of health interventions that are in line with the patient's spiritual beliefs. This explains the high acceptance and effectiveness of dhikr prayer relaxation therapy in the context of Indonesian culture. Health interventions that are in line with the patient's spiritual beliefs tend to be more accepted and effective. This shows the importance of a culturally sensitive approach in pain management. The results of this study open up opportunities to integrate dhikr prayer relaxation therapy into the midwifery education curriculum and clinical practice. (PRIMIGRAVIDA, n.d.) proves that relaxation with dhikr can also reduce labor pain in the first stage by focusing on the respondent's beliefs. When someone listens to murrotal, they will feel calm so that endorphins will be released and captured by receptors in the hypothalamus and limbic system which function to regulate emotions. Increased endorphins are closely related to reducing pain, increasing memory, improving appetite, blood pressure and breathing.

The results of (Coppola et al., 2021) support the integration of a spiritual approach in dysmenorrhea pain management. In accordance with the concept of holistic care put forward by care that pays attention to spiritual aspects can improve the overall quality of midwifery care. Care that pays attention to spiritual aspects can improve the overall quality of midwifery care. The results of the study put forward by (Reynolds et al., 2013) rovide new and clinically relevant findings on the role of spiritual care in the adjustment of adolescents with chronic illnesses. The results show that positive spiritual care is partly related to better adjustment indirectly through optimistic attributions. This is also in accordance with (Bayan et al., 2024) that hope therapy can increase happiness, quality of life, and adherence to hemodialysis patient treatment while reducing anxiety, tension, and depression. It can be concluded that the use of non-pharmacological therapy helps the process of improving the quality of patient health.

CONCLUSION

Relaxation therapy of dhikr prayer has been proven effective in reducing the intensity of dysmenorrhea pain in D3 Midwifery students. Relaxation therapy of dhikr prayer can be considered as an effective, safe, and culturally appropriate non-pharmacological method in handling dysmenorrhea in midwifery students. This method also has the potential to be integrated into the midwifery education curriculum as one of the spiritual nursing interventions. Research Limitations. Unable to fully control external factors that may affect pain perception. The duration of the study was relatively short, so that long-term effects could not be observed. Suggestions for Further Research are, Conducting research with a larger sample. Evaluating the long-term effects of relaxation therapy of dhikr prayer on dysmenorrhea. Comparing the effectiveness of this therapy with other non-pharmacological methods.

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