The Effect of Religious Music Therapy on Reducing the Degree of Menstrual Pain in Adolescent Girls

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HIGHLIGHTS

- The most important that have found in a research

ARTICLE INFO

A B S T R A C T / A B S T R A K

Adolescence is a period marked by physical and psychological changes, including the onset of menstruation. Dysmenorrhea, a common gynecological problem among adolescent girls, can significantly disrupt daily activities. One effective non-pharmacological method to manage menstrual pain is religious music therapy, which works by stimulating the brain to release endorphins and serotonin, thus providing a calming effect and reducing pain perception. This quasi-experimental study used a one-group pretest-posttest design to examine the effect of religious music therapy on menstrual pain among 15 adolescent girls in RT 09, Kp. Mekar Baru, Tangerang. The intervention involved playing instrumental religious music for 15 minutes daily during menstruation over three consecutive days. Pain intensity was measured using the Numeric Rating Scale (NRS), and data were analyzed using the Wilcoxon signed-rank test. Results showed a significant reduction in menstrual pain after the intervention (pretest mean: 7.07; posttest mean: 3.00; p = 0.001). Religious music therapy significantly reduces menstrual pain intensity in adolescent girls. It is a safe, cost-effective, and easily implementable non-pharmacological intervention.

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1. INTRODUCTION

Dysmenorrhea is generally caused by increased prostaglandin hormones. The rise in prostaglandin levels is triggered by a decrease in estrogen and progesterone

hormones, causing the endometrial lining to swell and shed due to the absence of fertilization (Nuraeni et al., 2021). According to the World Health Organization (WHO), the global prevalence of menstrual pain is around 55% among women of reproductive age, with 15% reporting limitations in daily activities due to pain. On average, 50% of women in each country experience menstrual pain, with incidence rates reported at 59.7% in the United States and 72% in Sweden (Esan et al., 2024). In Tangerang, Indonesia, the Provincial Health Office reported 237 cases of dysmenorrhea in 2011, with increasing numbers in subsequent years (Komariah et al., 2020).

Understanding the physiology of pain opens opportunities for non-pharmacological interventions such as distraction therapy through sensory stimulation, including music, to inhibit pain perception (Hinkle & Cheever, 2018). Religious music therapy is considered a promising intervention because it provides not only physiological relaxation but also emotional and spiritual comfort, particularly among adolescents (Hayati & Zaen, 2025). Listening to religious music regularly can elevate endorphin and serotonin levels, reduce muscle tension, and decrease sympathetic nervous system activity associated with pain perception. Its psychospiritual effects also bring about a sense of peace and strengthen positive coping mechanisms (Gustina & Djannah, 2018).

In Kampung Mekar Baru, the study setting, the community is known for its high level of religious practice, making religious music therapy a culturally and spiritually relevant intervention. While prior studies such as Pratiwi (2024) have demonstrated the effectiveness of music therapy in reducing menstrual pain, most utilized classical or instrumental music. Religious music harmonizes with natural rhythms and sound frequencies that can stimulate internal healing processes, promoting relaxation of both body and mind (Bradshaw et al., 2019; Walter & Altorfer, 2022). Music therapy is effective in diverting attention away from pain and stimulating the brain to release endorphins, reducing the perceived intensity of pain (Az Zahra & Wahyuliati, 2023; Finnerty, 2018).

This study introduces religious music therapy as a more socially and spiritually contextualized alternative, particularly in communities with strong religious values. Furthermore, few studies have evaluated religious music therapy in a community setting using a one-group pretest-posttest design. The novelty of this study lies in its integration of biological and spiritual approaches to pain management, especially for adolescents with limited access to pharmacological treatment. It also contributes to the development of culturally rooted, low-cost, and minimally invasive non-pharmacological therapies. Therefore, the results of this study are expected to serve as a reference for more holistic and humanistic practices in community-based nursing care.

The purpose of this study was to determine the effect of religious music therapy on reducing menstrual pain intensity in adolescent girls in RT 09, Kampung Mekar Baru, Tangerang Regency.

2. RESEARCH METHOD

This study employed a quasi-experimental one-group pretest-posttest design. Conducted in RT 09, Kp. Mekar Baru, Tangerang Regency, the research was carried out over June–July 2022. A total of 15 adolescent girls aged 13–19 were selected using purposive sampling from a population of 50. Pain levels were measured using the Numeric Rating Scale (NRS), which has been previously validated in adolescent populations for reliability in pain intensity assessment (Yuliatun, 2013). The intervention protocol involved the use of instrumental religious Islamic music without lyrics, played for 15 minutes per session. The music therapy was administered once per day over three consecutive days during menstruation, specifically in the morning between 08:00 and 08:15 WIB. Sessions took place in quiet environments, either at the participant's home or a designated community center, to ensure optimal conditions for relaxation. To minimize external disturbances, participants used headphones and sessions were held in spaces with limited background noise. Each session was directly supervised by the

researcher and supported by trained local health cadres to ensure adherence to the protocol and to observe the participants' responses throughout the intervention. Using purposive sampling technique for experimental group research, the number of sample members is between 10-20 each. So the sample size in this study was 15 adolescent girls in RT 09 Kp. Mekar Baru. This research uses the T test with the SPSS v.22.

3. RESULT

Table 1. respondent characteristics (n=15)

Charateristic	Frekuensi (n)	Persentase (%)
Age		
• 13-15 years	5	33.3
• 16-19 years	10	66.7
Educatuin		
• SMP	4	26.7
• SMA	11	73.3
Pain level before listening music		
• Moderate	3	20
• Severe	12	80
Pain level after listening music		
• Moderate	11	73.3
• Severe	4	26.7

Based on Table 1, the results of the age characteristics of more than half of the respondents aged 16-19 years were 10 respondents (66.7%). The results of educational characteristics of more than half of the respondents with a high school education history as many as 11 respondents (73.3%). Frequency of Pain Levels Before Religious Music Therapy was performed, the category of menstrual pain levels before music therapy intervention was obtained with a severe pain score of 12 respondents (80.0%). The frequency of pain levels after religious music therapy was obtained in the category of more than half of the respondents experiencing mild pain as many as 11 respondents (73.3%).

Table 2. The Effect of Religious Music Therapy on Reducing the Degree of Menstrual Pain in Adolescent Girls (n=15)

Charateristic	N	Median (Min maks)	Mean ± SD	P-Value
Pre Intervensi	15	7,00 (6-2)	7,07 ± 0,704	0,001
Post Intervensi	15	3,00 (8-4)	3,00 ± 0,706	0,001

Based on Table 2 shows that the degree of menstrual pain before and after the intervention in adolescent girls, the average degree of menstrual pain before the intervention was 7.07 then after the intervention was 3.00. With a p-value = 0.001 <= (0.05) which means that there is an effect in the provision of religious music therapy on reducing menstrual pain in adolescent girls, with the results of the mean difference in the decrease in the degree of pain which is 4.07.

4. DISCUSSION

This is in line with the explanation by Casey, Duhoux, and Cohen (2010) that adolescence is a transitional period from childhood to adulthood. As adolescents grow older, their way of thinking matures, particularly in how they perceive and react to pain. Supporting this, Cameron et al. (2025) state that adolescents with psychological immaturity, emotional instability, and limited knowledge about menstruation are more susceptible to experiencing dysmenorrhea. A similar finding was reported by Nyirenda

et al. (2023), where 49.6% of the respondent experienced dysmenorrhea at the age of 13–15 years.

This finding also aligns with the theory presented by Hegde, Chandran, and Pattnaik (2022) that high school is a transition phase into adulthood, encompassing biological, psychological, and social changes. Adolescence is described as the period starting from the first signs of puberty until sexual maturity is achieved. Based on this understanding, the present study found that most of the respondents had a high school education background, with 73.3% (11 respondents) falling into this category.

Based on the frequency distribution of pain levels before the religious music therapy intervention, 80% (12 respondents) reported severe menstrual pain. According to Dekkers (2018), pain is an unpleasant sensation that is highly subjective; each individual perceives and describes pain differently depending on several influencing factors. This is supported by Rahmani et al. (2024) who noted that dysmenorrhea is a subjective discomfort, which, if left untreated, may disrupt students' daily activities. One of the non-pharmacological interventions that can be used to manage pain is distraction therapy, such as music therapy, which helps reduce pain intensity. Listening to music is believed to trigger the release of endorphins that can inhibit pain impulse transmission in the central nervous system, thus lowering the sensation of menstrual pain.

The findings of this study are also supported by Rahmah et al. (2025), who emphasized that religious music therapy can serve as an effective alternative for reducing dysmenorrhea intensity through a distraction mechanism that activates alpha brain waves and stimulates the limbic system without adverse side effects. Similarly, Pratiwi (2024) observed that music therapy reduced the severity of menstrual pain and helped schoolgirls resume daily activities. Religious music therapy is considered highly effective in alleviating dysmenorrhea pain and has minimal contraindications compared to pharmacological interventions, which may cause hypersensitivity, gastrointestinal bleeding, or renal impairment. Furthermore, it helps relax abdominal and uterine muscles.

Nasichah, Jannah, and Andini (2023) argue that religious music elicits positive psychological responses not only because of the sound but also due to the religious values embedded within it, which resonate strongly with individuals from religious communities. The participants in this study, who were predominantly Muslim, believed that religious music brought a sense of calm and peace. This belief may have triggered an expectancy effect, where the perception of pain relief was influenced by spiritual significance rather than purely physiological mechanisms. Similarly, a study by Komariah, Nainar, and Sepdiana (2020) confirmed that the spiritual response evoked by religious music contributes significantly to how pain is perceived.

However, the quasi-experimental one-group pretest-posttest design used in this study has several limitations. The decrease in pain intensity might have been influenced by external factors such as menstrual cycle timing, rest, dietary intake, or even social suggestion. Without a control group, attributing the outcome solely to the intervention becomes problematic. According to Miller, Smith, and Pugatch (2020), designs lacking control groups generally have weak internal validity because they cannot distinguish between actual treatment effects and naturally occurring changes.

Therefore, while the findings of this study are promising, they should be interpreted cautiously and not generalized broadly. Future studies are recommended to adopt randomized controlled trials (RCTs) or at least use two-group comparative designs to evaluate the effectiveness of religious music therapy against neutral music or no intervention. Furthermore, the role of individual spirituality should be considered in evaluating outcomes, given its potential influence on pain perception and modulation (Finnerty, 2018). By integrating psychospiritual dimensions and utilizing more rigorous research designs, future studies can strengthen the evidence base for religious music

therapy as a non-pharmacological approach to managing menstrual pain, both in community and clinical settings.

5. CONCLUSION

Religious music therapy significantly reduces menstrual pain intensity in adolescent girls, offering a safe, low-cost, and easily applicable non-pharmacological intervention. This approach holds potential for integration into adolescent reproductive health programs and warrants further research to evaluate its long-term effectiveness and adaptability across diverse cultural and religious backgrounds.

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