



EFFECTIVENESS OF POSTPARTUM EXERCISE AND MUSIC THERAPY IN REDUCING ANXIETY IN POSTPARTUM MOTHERS

Karnilan Lestari Ningsi Sam

Diploma III in Midwifery, Polytechnic of Borneo Medistra, Jl. Three No. 99, Mount Samarinda, North Balikpapan, Mt. Samarinda, North Balikpapan, East Kalimantan 76125, Indonesia

nilanlestari99@gmail.com

ABSTRACT

Data shows that 16.2% of mothers were diagnosed with a pure anxiety disorder (phobia, panic, acute adjustment disorder with anxiety) 6 weeks after giving birth, in addition, 82% of diagnosed phobias were first discovered during the postpartum period. Untreated anxiety can lead to depression. Objective to find out the Effectiveness of Postpartum Exercise and Music Therapy in Reducing Anxiety in Postpartum Mothers. Using the true experimental design method using one group design, pre test-post test design, sampling technique using purposive sampling with 61 research samples. Postpartum Mothers will have their Anxiety scale measured using the State Anxiety Inventory Score (STAI), data analysis is carried out univariately to describe the frequency distribution and bivariately using the Wilcoxon test. The results of the Wilcoxon signed rank test statistical test show a value of $p < 0.001$, which means that there is an effect of reducing anxiety in postpartum mothers with non-pharmacological therapy, namely postpartum gymnastics and music therapy. Postpartum Exercise and music therapy can reduce anxiety in postpartum mothers.

Keywords: anxiety; music therapy; postpartum exercise; postpartum

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INTRODUCTION

Anxiety is defined as the psychological consequence of exposure to a real or imagined threat. The transition to motherhood often causes anxiety due to a lack of preparation for the responsibility of childcare (Shrestha et al., 2014). Data show that 16.2% of mothers are diagnosed with a pure anxiety disorder (phobia, panic, acute adjustment disorder with anxiety) 6 weeks after giving birth, in addition to 82% of diagnosed phobias are first discovered in the postpartum period (Reck et al., 2008). The prevalence of postpartum anxiety is 40%, in addition to the impact of postpartum anxiety on the UK economy as much as £6.6 billion and 60% of this cost is due to the impact of anxiety on children's development (Worrall et al., 2023). Untreated anxiety can lead to depression. Therefore, there is a need for efforts to treat anxiety in postpartum mothers.

Efforts to reduce anxiety can use non-pharmacological therapy, namely postpartum gymnastics and music therapy. Based on research results, it shows that antidepressants and long-term exercise have the same anti-sololytic effect, the anti-sololytic effect can also prevent anxiety (D. Wang et al., 2014). Physical activity during the postpartum period can improve blood circulation, strengthen abdominal and spinal muscles, stimulate lactation, control body weight, anti-inflammatory, accelerate uterine involution, prevent urogynecological dysfunction, and improve the mental and physical condition of the mother, in addition to reducing the level of depression in postpartum mothers (Bozkurt, 2020; Irena, 2019; Sam, 2022; Watson et al., 2018). Meanwhile, music therapy based on research results shows that it can reduce psychopathological symptoms (such as anxiety and depression), affect sleep quality, reduce pain, increase patient moral immunity, openness, cooperation and readiness for treatment (S. Wang & Agius, 2018). The aim of this research is to determine the effectiveness of

postpartum exercise and music therapy in reducing anxiety in postpartum mothers. Therefore, future research results can be used as an alternative non-pharmacological treatment for postpartum mothers who experience anxiety.

METHOD

This research uses a true experimental design method using one group design, pre test-post test design. The population of this study was all postpartum mothers from February to August 2025 who were treated at the Beriman Hospital in Balikpapan and the Ibnu Sina Clinic with 61 research samples. The sampling technique used purposive sampling. The inclusion criteria for this study were postpartum mothers with anxiety and postpartum mothers who were not taking antidepressants. The exclusion criteria for this study were postpartum mothers with depression. Pregnant women's anxiety levels were measured using the State Anxiety Inventory Score (STAI) before and after treatment. The research instruments are State Anxiety Inventory Score (STAI) questionnaire from Spielberger. The research instruments were Research SOPs and State Anxiety Inventory Score (STAI) in the Postpartum Exercise and Music Therapy interventions. Data analysis was carried out univariately to describe the frequency distribution and bivariately using the Wilcoxon test to see the Effectiveness of Postpartum Exercise and Music Therapy in Reducing Anxiety in Postpartum Mothers. This research has received ethical approval with number 3275/F/KEP/USM/II/2025 from Sari Mutiara Indonesia University.

RESULT

Table 1
Respondent Characteristics Based on Age (n=61)

| Age | f | % |
|-----------------|----|------|
| 16-25 years old | 54 | 88,5 |
| 26-35 years old | 6 | 9,8 |
| 36-45 years old | 1 | 1,6 |

Table 1 shows the age characteristics of the respondents, namely 54 (88.5%) respondents aged 16-25 years, 6 (9.8%) respondents aged 26-35 years and 1 (1.6%) respondent aged 3-45 years.

Table 2
Respondent Characteristics Based on Number of Children (n=61)

| Number of Children | f | % |
|--------------------|----|------|
| First | 15 | 24,6 |
| Second | 21 | 34,4 |
| Third | 18 | 29,5 |
| Fourth | 5 | 8,2 |
| Fifth | 2 | 3,3 |

Table 2 shows the characteristics of the number of children of respondents, namely those who have 1 child are 15 (24.6%) respondents, those who have 2 children are 21 (34.4%) respondents, those who have 3 children are 18 (29.5%) respondents, those who have 4 children are 5 (8.2%) respondents and those who have 5 children are 2 (3.3%) respondents.

Table 3
Respondent Characteristics Based on Education (n=61)

| Education | f | % |
|-----------|----|------|
| SD | 5 | 8,2 |
| SMP | 7 | 11,5 |
| SMA | 41 | 67,2 |
| College | 8 | 13,1 |

Table 3 shows the characteristics of respondents' education, namely 5 (8.2%) respondents had elementary school education, 7 (11.5%) respondents had junior high school education, 41 (67.2%) respondents had high school education, and only 8 (13.1%) respondents had tertiary education. Table 4 shows the characteristics of the respondents' jobs, namely that the most common job is housewife with a total of 55 (90.5%) respondents and private sector jobs with a total of 6 (9.8%) respondents.

Table 4
Respondent Characteristics Based on Job (n=61)

| Job | f | % |
|-----------|----|------|
| Housewife | 55 | 90,2 |
| Employee | 6 | 9,8 |

Table 5
Respondent Characteristics Based on Ethnic group (n=61)

| Ethnic group | f | % |
|--------------|----|------|
| Java | 16 | 26,2 |
| Buginese | 25 | 41 |
| Other | 20 | 32,8 |

Table 5 shows the characteristics of the respondents' ethnic groups, namely 16 (26.2%) Javanese, 25 (41%) Bugis respondents and 20 (32.8%) other ethnic groups.

Table 6
The Effectiveness of Postpartum Exercise and Music Therapy in Reducing Anxiety in Postpartum Mothers

| Variable | N | z | p |
|---------------------------------------|----|--------|-------|
| Postpartum Exercise and Music Therapy | 61 | -5.657 | 0.000 |

Based on table 6 above, the results of the Wilcoxon signed rank test show that the value of $p < 0.001$, which means that there is an effect of reducing postpartum mothers' anxiety with non-pharmacological therapy, namely postpartum gymnastics and music therapy.

DISCUSSION

Characteristics of the participants

Table 1 shows the characteristics of postpartum mothers who experience anxiety at the age of 16-25 years with the results of 54 (88.5%) respondents, this is in accordance with research from Laurensia, 2013 which states that there is a significant relationship between age and the level of anxiety of primiparous mothers during the postpartum period (Yunita et al., 2013). Therefore, the researcher's suggestion for prospective brides and grooms and other health workers is to pay attention to the initial age of marriage. Table 2 shows the characteristics of the number of children of the respondents with the results that the number of children they have is 2 people with a total of 21 respondents (34.4%). According to Elin's research, 2024 showed that there is no relationship between the number of children or parity and anxiety in postpartum mothers (Nita et al., 2025). Thus, all mothers are at risk of experiencing anxiety during the postpartum period.

Table 3 shows the characteristics of respondents' education with the results of the most common education attained by respondents, namely high school education, amounting to 41 (67.2%) respondents. According to Nurul's research, 2025 there is no relationship between education and anxiety that occurs in postpartum mothers (Nurul Ariningtyas1, 2025). However, according to researchers, a person's education will have an impact on the level of knowledge and understanding of each individual, so that the more a person has extensive knowledge and understanding, especially regarding handling anxiety in a simple way, the easier it will be for that person to manage anxiety, especially anxiety during the postpartum period.

Table 4 shows the job characteristics of respondents with the most frequently performed work being Housewives (IRT) with a total of 55 (90.5%) respondents. According to Wita's research, in 2022 there will be no relationship between work and postpartum mothers' anxiety (Solama & Handayani, 2021). So, every postpartum mother, whether working at home or outside the home, is at risk of experiencing anxiety. Table 5 shows that the ethnic characteristics of the respondents were mostly Bugis, representing 25 (41%). Currently, there is no specific research that describes the level of postpartum maternal anxiety related to ethnicity. However, according to researchers, a person's ethnic background will influence their behavior patterns and how they deal with anxiety.

Postpartum Exercise and Music Therapy

Based on table 6, the Wilcoxon signed rank test statistical test shows a p value of <0.001 , which means that there is an effect of reducing postpartum anxiety using postpartum gymnastics and music therapy. This research is supported by several studies showing that women who are physically active experience milder symptoms of depression than those who are inactive during the postpartum period, physical activity consistently reduces anxiety levels, can improve sleep quality, improve memory and improve heart health, and can be used as therapy for those experiencing anxiety with low effects (A. et al., 2018; Contreras-Osorio et al., 2022; Dipietro et al., 2019; Gordon et al., 2017; Illesca-Matus et al., 2023; Pearce et al., 2022; Sejbuk et al., 2022; Stubbs et al., 2017). In addition, postpartum gymnastics and yoga reduce postpartum depression levels in women with cesarean sections (Sam, 2022). The combination of gymnastics and fluoxetine administration can reduce anxiety and depression (Micheli et al., 2018).

Results of randomized controlled trials (RCTs) examining the effectiveness of exercise for postpartum women indicate that exercise interventions, ranging from 12 to 24 weeks, included group walking, individual walking, a gentle whole-body stretching program, and individualized exercise prescription based on achieving their target heart rate zone. Three of these trials found that women in the exercise condition reported significantly greater reductions in depressive symptoms at post-treatment compared to women who did not exercise (Nillni et al., 2018). In addition, two randomized controlled studies showed that exercise also reduced physical and mental fatigue in women with postpartum depression (Bozkurt, 2020).

The American College of Obstetricians and Gynecologists recommends routine physical therapy for healthy perinatal women, with a duration of 20–30 minutes per day of moderate-intensity physical therapy. Based on this recommendation, combined with the literature supporting the potential efficacy of this intervention for improving mood in the general population, research has begun to explore physical therapy interventions specifically designed for women during the perinatal period (Eustis et al., 2019). Healthy levels of physical exercise have been associated with a wide range of psychological benefits, such as improved self-esteem, perception of physical appearance, and quality of life, which can improve symptoms of depression and anxiety. At the biochemical level, increasing and maintaining physical activity improves biological functions, such as optimizing stress regulation through the hypothalamic-pituitary-adrenal (HPA) axis and enhancing the regulation of anti-inflammatory responses (Watson et al., 2018).

The positive effect of regular physical activity on the elimination of depressive disorders is explained by several mechanisms. Exercise increases the concentration of neurotransmitters such as 5HT, dopamine, and noradrenaline. Furthermore, physical activity increases the secretion of BDNF (a neurotransmitter produced in the brain), which is low in people with depression. BDNF plays a crucial role in the human body as it is responsible for neuroprotection, neurogenesis, and synaptic plasticity (Irena, 2019). Research related to music therapy from Meta Analysis Results shows that music therapy is effective in reducing stress, limiting stress responses and reducing anxiety, as well as improving symptoms of depression (Lu et al., 2021; Summary, 2020; Umbrello et al., 2019; Witte et al., 2020) music therapy also has an anxiety-reducing effect on patients before, during, and after surgery, but the anxiety-reducing effect is greatest before surgery (Kühlmann et al., 2018). Music therapy can also reduce anxiety during the birth process, especially in the first child (Management, 2020). Music therapy can benefit sleep quality, including subjective sleep quality, sleep latency, sleep duration, and habitual sleep efficiency (Huang et al., 2021). Music therapy can also be used as a complement to treat depression, anxiety, schizophrenia, and dementia (Article, 2017; S. Wang & Agius, 2018).

CONCLUSION

Postpartum Exercise and music therapy can reduce anxiety in postpartum mothers

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