



## EFFECTIVENESS OF THE "FATIMA" INTERVENTION PROGRAM (SHORT FILM, MUSIC THERAPY, AND DIAPHRAGM RELAXATION) TO REDUCE POSTPARTUM STRESS DURING THE COVID 19 PANDEMIC

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### ABSTRACT

**Background:** The postpartum phase is a critical period in the mother's life, involving physical, psychological, and interpersonal changes. Postpartum experiences that don't meet expectations can trigger stress, anxiety, and mood disorders that negatively impact mothers and babies. The COVID-19 pandemic exacerbated this condition with social restrictions and isolation, which reduced social support during childbirth. Lack of access to family and environmental support increases the risk of maternal mental health disorders.

**Objectives:** This study aims to test the effectiveness of educational films, music therapy, and diaphragm relaxation interventions in reducing postpartum stress during the COVID-19 pandemic to improve maternal well-being, confidence, and satisfaction in caring for babies. The research uses a quantitative method with a pre-post experimental design.

**Methods:** The respondents were mothers who gave birth physiologically without complications, recruited from PMB, health centers, and hospitals. Respondents were randomly divided into three intervention groups, and stress was measured using the Perceived Stress Scale (PSS-10). Post-intervention data were collected during the postpartum period (40-42 days) and analyzed using SPSS version 25 with paired t-test.

**Results:** The statistical tests show that before the intervention, the Mean and Standard Deviation in the PSS-10 questionnaire were  $30.5 \pm 7.33$ . However, after the intervention, the stress level was  $25.2 \pm 7.14$ . The results of the paired t-test show a significant difference between the pre-test and the post-test.

**Conclusion:** of the study are expected to be recommendations for interventions that are practical, cheap, and can be carried out at home with physical distancing protocols so that they become a useful alternative during the COVID-19 pandemic.

**Keywords:** *Postpartum Stress; COVID-19; Short Film; Music Therapy; Diaphragm Relaxation*

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## INTRODUCTION

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The coronavirus (COVID-19) emerged from China, which caused a pandemic due to the rapid increase in cases and significant spread in various countries<sup>1</sup>. This requires the government to take steps as a preventive measure to control each region against the potential for new cases. Social restrictions and lockdowns are programs carried out by almost all infected countries<sup>2</sup>. On March 2, 2020, the President of Indonesia announced the first case of 2 suspected people; because of the surge in cases, the government finally took similar action. All aspects of life-related to crowds are discontinued<sup>3</sup>. One of the many that feel the impact is health services. Quarantine during a pandemic impacts psychological condition that can increase stress, confusion, and fear. A literature study by Yan H (Wang et al., 2020) et al. concluded that the prevalence of mental disorders in pregnant women and postpartum during the pandemic was very high compared to the previous population. Postpartum itself is a stage that makes mothers stressed because of hormonal changes, adequate mother's sleep, taking care of babies, and adapting to becoming new parents. Forced quarantine and limited access to support, both from health professionals and family support, during the examination and delivery process can increase feelings of fatigue and isolation.<sup>5,6</sup>

Meeting the need to improve the mental health of postpartum mothers during the COVID-19 pandemic is a step that must be taken immediately because several studies show that mental disorders in pregnant and postpartum women cause adverse effects on the mother, fetus, and baby<sup>7</sup>. In addition, it can interfere with physical activity, nutritional fulfillment, the mother's rest pattern, and the mother's mood when carrying out a new role as a parent.<sup>6</sup>

Interventions that are appropriate to the case and still pay attention to health protocols to reduce mental problems in postpartum mothers

must be sought. Empowerment-based interventions, which can be done at home, are flexible, simple, and practical steps that can be taken during a pandemic. So, this study aims to test the effectiveness of intervention programs (film, music, diaphragm relaxation) in reducing stress in postpartum mothers during the covid 19 pandemic.

This study aims to analyze the effectiveness of the FATIMA intervention program (film, music, diaphragm relaxation) in reducing stress in postpartum mothers during the COVID-19 pandemic.

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## METHOD

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This study uses an experimental research method to determine the effectiveness of intervention programs in reducing stress in postpartum mothers during the COVID-19 pandemic. This study uses a one-group pretest-posttest design, a research design that only uses groups that are given interventions. The first observation (*pretest*) is conducted before the experimental group is given an intervention to determine the initial data. The following observation (*posttest*) is carried out after the experimental group is given an intervention. The form of the scratch is as follows:

The variable tied to this study is postpartum maternal stress, which is a psychological state/condition that is under pressure from inside and outside a person under certain conditions. The measuring tool used is Cohen's PSS-10, which can be used on college students, pregnant women, and postpartum mothers. Data on the ordinal scale (low stress: 0-13, moderate stress 27-40, severe stress 27-40).

Filmmaking aims to reduce stress by modifying postpartum cognitive assessments that cause stress. Literature studies suggest that providing a picture of reality to mothers will change their outlook and facilitate positive changes during the transition period. The film will last 15-20 minutes and feature characters (Psychologists,

midwives/nurses, and parent testimonials). The material contains sleep patterns, stress, postpartum depression, baby care during the pandemic, breastfeeding difficulties, working mothers, postpartum sexual patterns, and changes in body shape after childbirth. The music therapy that will be given is music therapy that has previously been validated for expert judgment. When providing the music, the researcher first explained the benefits and when the music was used. Diaphragm relaxation is included in practical breathing exercises that are easy to do anywhere, even at home. This breathing exercises the body in an efficient thinking process to overcome stress.

The estimated occurrence of *the baby boom* during the pandemic is directly proportional to the increase in births in Indonesia. Normal childbirth is recommended at the first health facility and Surakarta Hospital. The population in this study is all postpartum mothers who give birth. The sample in this study is mothers who gave birth without postpartum complications at health services in Surakarta or adjacent areas and met the inclusion criteria. The following are the inclusion criteria in this study: 1) single pregnancy 2) no history of complications during pregnancy and after childbirth 3) childbirth in health services around Surakarta 4) no history of psychological disorders 5) typical newborn (BBL) 6) willing to participate until the end of the study by signing *Informed Consent* 7) Have media to play movies and music.

Univariate analysis was carried out on the variables from the research results. Generally, this analysis only produces the distribution and percentage of each characteristic, the independent variable, namely the intervention program and the postpartum stress bound variable. Bivariate analysis was carried out on two variables suspected to be related or correlated. The bivariate analysis in this study was an intervention program on the independent variable (breast cancer) and the bound variable (postpartum stress). Before the statistical test, a data normality test was carried out to determine whether the data in this study

was standard or not using *the Kolmogorov-Smirnov formula*. If it is usually distributed, a hypothesis statistical test will be carried out with a *t-test (paired sample t-test)*, while if it is not normally distributed, *Man Whitney will be used*.

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**RESULT**

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This research has been conducted with demographic data that can be seen in the following table:

Table 1. Demographic Data Table

Variable	N=40
<b>Age</b>	
21-30	<b>22 (55%)</b>
>30	<b>18 (45%)</b>
<b>Education</b>	
Basis	<b>29 (72.5%)</b>
Tall	<b>11 (27.5%)</b>
<b>Work</b>	
Not Working	<b>25 (62.5%)</b>
Work	<b>15 (37.5%)</b>
<b>Types of Childbirth</b>	
Normal	<b>31 (77.5%)</b>
SC Operations	<b>9 (22.5%)</b>

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From the demographic data obtained, it is known that respondents aged 21-30 years are 22 people (55%), and over 30 years old are 18 people (45%). Most respondents had a basic education; 29 people (72.5%), 25 people (62.5%) did not work, and 31 people (77.5%) gave birth typically. The results of statistical tests carried out before and after the intervention can be seen in the following table:

Table 2. Differences between the Pretest and Post-Test After Mean ± Elementary Intervention

	Mean ± SD	t	p-value
Pre-test	30.5 ± 7.33	6.953	<0.05
Post-test	25.2 ± 7.1		

The statistical tests show that before the intervention, the Mean and Standard Deviation in the PSS-10 questionnaire were 30.5 ± 7.33. However, after the intervention, the stress level was 25.2 ± 7.14. The results of the paired t-test show a significant difference between the pre-test and the post-test.

## DISCUSSION

This study showed that after the intervention, in the form of watching movies, listening to music, and breathing diaphragms simultaneously, the stress level in postpartum mothers decreased compared to before the intervention. In this study, postpartum mothers were faced with watching a 20-minute DVD movie containing the leading causes of stress in the postpartum period. The material is in the form of presentations by doctors and testimonials from parents. The film also includes some health-related information, such as exclusive breastfeeding. This study shows that educational materials presented through films can reduce stress in postpartum mothers. This is supported by a study in Iran that shows that *group movie therapy* can reduce stress in mothers and children who experience mental retardation. Providing educational films aims to increase the understanding of postpartum mothers about how to relieve stress. This is evidenced by a study that compares the influence of audiovisual media and lectures on knowledge about early breastfeeding initiation in 60 postpartum mothers who are divided into an intervention group and a control group. The study concluded that the level of understanding of postpartum mothers through audiovisual media will be greater than that of the control group.<sup>8,9</sup>

Previous studies have evaluated the effects of postpartum interventions, including listening to music. The study shows that music therapy in postpartum mothers can calm down, improve patient well-being in the healing process, reduce anxiety, increase bonding, and calm the baby. Music used to add comfort and reduce anxiety is music with slow rhythms, not too high or too low notes, low volume, simple rhythms, and simple rhythms. Calming music can lower catecholamine levels, thus lowering heart rate and blood pressure. A study shows that pregnant women listening to music for 30 minutes can reduce cortisol levels and anxiety. In a meta-analysis, it was shown that listening to different music would also show various effects. Listening to music effectively reduces psychological and physiological responses to stress, especially when people intentionally listen to music to help them feel relaxed. The impact of music on stress reduction has been linked specifically through theories around well-being, with extensive literature linking stress and anxiety to mental health and well-being. It was found that high levels of anxiety can inhibit a woman's adaptation to motherhood in the early postpartum period, with adverse effects on well-being. Although this study only used 20 minutes to listen to music, it proves that providing relaxation music can reduce stress in postpartum mothers<sup>10-14</sup>

This study shows that diaphragmatic breathing can be used to reduce stress in postpartum mothers. This relaxation is used as an exercise for the body in an efficient thinking process to overcome stress. The diaphragm is the main muscle used in the respiratory process. These muscles under the lungs and heart contract continuously when inhaling and exhaling. Diaphragmatic breathing can occur, triggering the body's relaxation response and benefiting physical and mental health. Diaphragm relaxation is a basic breathing technique to increase calmness, comfort, balance, and calm the mind. Body stability can be improved through diaphragm respiration; it is hoped that respiratory function will be improved by increasing the strength and endurance of respiratory muscles through various types of

breathing exercises. This relaxation of the diaphragm is a type of slow breathing. In slow breathing, there is an interaction between the autonomic nerves, the parasympathetic, the central nervous system, and the brain, as well as psychological flexibility related to emotional control and well-being. Diaphragmatic breathing is useful in stress management, affecting heart rate, blood pressure, and blood volume. The heart rate increases during inspiration and decreases during expiration. This is also supported by previous research that tested cortisol levels in several adults after diaphragmatic respiratory interventions. The study proved a decrease in cortisol levels in the intervention group after 8 weeks of diaphragm breathing exercises.<sup>10-12</sup>

The intervention in this study combines three ways: film, music, and diaphragmatic respiration. Based on this combination, the results were obtained that non-pharmacological interventions were able to overcome anxiety in postpartum mothers during the covid-19 pandemic. Further research in a broader population and sample is highly recommended to determine the effectiveness of the

intervention in various groups, such as pregnant women or COVID-19 patients who are highly vulnerable to experiencing commutation and mortality during the pandemic. In addition, it is necessary to prove what interventions have the most effect on stress reduction compared to the group that received other interventions.

### Conclusion and Suggestions

The combination of film/audiovisual therapy, relaxation music, and diaphragm breathing significantly reduced stress levels in postpartum mothers who underwent the intervention for 28 days. Midwives or other health workers can use this intervention in healthcare settings to provide optimal services to maintain the mental health of postpartum mothers. Training and distributing materials in the form of films and relaxation music to the public can potentially improve the welfare and quality of life of postpartum mothers.

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