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# THE EFFECTIVENESS OF HIPER (HARAPAN IBU TENTANG PERSALINAN) COLORING THERAPY TO REDUCE FEAR OF FACING CHILDBIRTH DURING A PANDEMIC

## ABSTRACT

Background: Childbirth is a critical and traumatic event of birth of a baby, causing anxiety to fear in pregnant women. Women who experience fear in facing childbirth are at high risk of childbirth complications which contribute to maternal mortality. Objective: This study aimed to determine the effectiveness of HIPER (Harapan Ibu Tentang Persalinan) coloring therapy to reduce the fear of childbirth during the pandemic. Method: This study used a pre-experimental research design, namely the one-group pre-test-post-test design technique. The sampling method used was non-random sampling with a purposive sampling technique with a total of 27 respondents. The instruments used in this study were the demographic questionnaire, the Wijma Delivery Expectancy Questioner-A (WDEQ-A), the Perceived Social Support from Family questionnaire, the Perceived Stress Scale (PSS) questionnaire, the knowledge questionnaire, and the media for coloring pictures. Results: The results showed that there was a decrease in the level of fear of childbirth in respondents before and after the intervention was given with a value of  $p = 0.002$  ( $p < 0.05$ ). Conclusions: Researchers recommend health services and educational institutions provide intervention in the form of coloring therapy as an effort to reduce fear of childbirth.

Keywords: HIPER (Harapan Ibu Tentang Persalinan) coloring therapy, Fear of childbirth, Pregnant mother.

## Introduction

Fear of facing childbirth is a mental health problem that often occurs among pregnant women in the world. Fear of giving birth occurs in 20-25% of pregnant women in Europe with various levels ranging from mild to severe (Molgora et al., 2018). Previous studies have shown high variations in fear of giving birth in Europe, Australia, Asia, and India, namely 11%, 4.8%, 10.6% and 17.7% respectively (Fenwick et al., 2015; Jaju et al., 2015; Takegata et al., 2014; Toohill et al., 2014). In Indonesia, data on fear of facing childbirth is reported that 69% of pregnant women are afraid of facing moderate childbirth (Marcelina et al., 2019).

Fear of giving birth is negative thought and feelings about childbirth. The high level of fear in facing childbirth includes feelings of fear, horror, worry, hatred, doubt, uncertainty, anxiety, heavy burdens,

and feelings of anxiety when approaching the birth of the baby (Adams et al., 2012). The causes of the emergence of fear of facing childbirth include lack of information or knowledge about pregnancy and the birth process, birth trauma, feelings of guilt or sin, and fear of having an abnormal baby. In addition, pregnant women also experience anxiety about the birth of their baby and the beginning of a new phase in their life. Feelings of fear for pregnant women in facing the delivery process will be felt more severely for pregnant women who have not had childbirth experience (Alipour et al., 2012).

Fear of facing childbirth experienced by pregnant women is increasing every year (Osok et al., 2018). Research in Sweden states that art therapy in the form of painting and drawing can provide positive feelings in dealing with difficult situations for pregnant women (Wahlbeck et al., 2020). In Indonesia Caestara et al (2019) has also conducted research which shows that art therapy in the form of drawing and painting can reduce *pregnancy specific* distress in pregnant women. Based on several studies, the various benefits obtained from coloring therapy include encouraging clients to be able to express their feelings, helping to improve relationships with others, helping to adjust body image, encouraging clients to be creative and confident, helping to think about pain and discomfort control, helping to control anxiety, depression and fear (Sezen & Unsalver, 2018).

The formulation of the problem in this study is the high number of fears of childbirth during the Covid-19 pandemic. Pregnant women who has fear of giving birth will have a negative impact on both the mother and the fetus, the mother may have the increase of blood pressure, prolonged labor, increase of labor by caesarean section, post-traumatic stress disorder (PTSD), postpartum depression, and negative birth experiences that may be repeated in impending birth (Lukasse et al., 2014). Childbirth is considered as a dramatic birth process and physically as well as emotionally draining for the mother. Pregnant women tend to be filled with feelings of fear of giving birth that makes the preparation of birth process not optimal. Pregnant women need support both physically, psychologically and psychosocially before delivery (Gao et al., 2015). Various non-pharmacological efforts have been made to reduce fear of giving birth including providing education, exercise, sleeping patterns, relaxation therapy and massage techniques (Wahlbeck et al., 2020). However, until now there has been no specific research that explains the effectiveness of coloring therapy for pregnant women in reducing fear of giving birth.

Based on the problem description above, this study aims to determine the effectiveness of coloring therapy in reducing the fear of giving birth for pregnant women during the Covid-19 pandemic. The data generated from this study will be a reference for health workers in the nursing service area and as a reference for teaching materials for lecturers in nursing education.

## Method

The method used in this study was pre-experimental, namely the one-group pre-test-post-test design technique. The data collection method used was non-random sampling with a purposive sampling technique. The population in this study was all pregnant women in Central Jakarta. Meanwhile, the sample used in this study were pregnant women in the working area of the Sawah Besar Health Center, Central Jakarta, who met the inclusion criteria. The inclusion criteria for this study sample were pregnant women in the third trimester of pregnancy, first pregnancy, married status, living with husband, and able to read and write. The sample calculation method uses a purposive sampling technique with a total of 27 respondents (including dropouts).

The time for conducting the research started from April – September 2022 for data collection. This study used an instrument consisting of five questionnaires, including the Respondent Characteristics Questionnaire which included women's age, education level, and family income, and the Wijma Delivery Expectancy Questioner-A (WDEQ-A) Fear of giving birth questionnaire. This questionnaire has been modified to Indonesian language and conducted in Indonesia by (Marcelina et al., 2019) with Cronbach's Alpha reliability test of 0.94. This instrument consists of 33 question items with a Likert

scale (0 = disagree; 5 = strongly agree). Value range between 0-165; the higher the score obtained, the higher the fear experienced by pregnant women. Pregnant women who have a score > 85 means they have a high fear of giving birth, *the Perceived Social Support from Family* Measuring Questionnaire which has been modified in Indonesian and carried out in Indonesia by (Wardhani et al., 2017). The Knowledge Questionnaire about Childbirth has been used in Indonesia by Rahmawati et al (2019) with the research title “Childbirth Expectancy affecting Childbirth Self Efficacy in Teenage Pregnant Women”. The questionnaire has been tested for reliability by Putranti (2014) with a Cronbach Alpha value of 0.737. The Stress Perceived Stress Scale (PSS) questionnaire consists of 10 question items. The range of values uses a Likert scale of 0-4, namely 0=never, 1=rarely, 2=sometimes, 3=often, 4=always. Interpretation of a score of 0-13 means mild stress, 14-26 moderate stress, and 27-40 high stress and the HIPER (A woman's Hope about Childbirth) coloring book contains 4 sheets of paper with the theme of pregnant women with a beautiful natural background. Each session of the respondent's meeting colored 1 page of the book.

Data analysis carried out in this study included descriptive-analytic and Wilcoxon tests to measure the reduction in fear of giving birth before and after an intervention. Ethics in this research is made to guarantee the rights of respondents in their participation as respondents. This research has been submitted to STIKes Bani Saleh for ethical testing and has received an ethically proper letter No: EC.131/KEPK/STKBS/VII/2022.

## Results

Table 1 describes the average age of pregnant women, namely 26.52 years with SD of 5.094, half of whom have an educational background equivalent to high school/equivalent, namely 15 people (55.6%), most of whom have an income of more than Rp. 4,641,845, - about 18 people (66.7%), half of whom had a high level of stress in dealing with childbirth, there were 12 people (44.5), half had good social support were 14 people (51.9%), and most them had good knowledge about childbirth were 23 people (85.2%).

**Table: 1. Characteristics of pregnant women based on education, income, stress level, social support, and knowledge about childbirth (n=27)**

Characteristics	Mean	SD	f	%
<b>Age</b>	26,52	5,094	-	-
<b>Education level</b>	-	-		
Without education			1	3,7
Elementary School			4	14,8
Junior High School			6	22,2
Senior High School			15	55,6
College			1	3,7
<b>Income</b>				
>Rp. 4.641.845,-			18	66,7
<Rp. 4.641.845,-			9	33,3
<b>Stress level</b>				
Mild			10	37
Moderate			5	18,5
High			12	44,5
<b>Social support</b>				
Good			14	51,9
Not good			13	48,1
<b>Knowledge about childbirth</b>				
Enough			4	14,8
Good			23	85,2
<b>Total</b>	-	-	<b>27</b>	<b>100</b>

**Table 2. Description of the fear of giving birth in pregnant women before and after the intervention (n = 27)**

<b>Fear of facing childbirth</b>	<b>f</b>	<b>%</b>
<b>Before</b>		
High fear	15	55,6
Low fear	12	44,4
<b>After</b>		
High fear	5	18,5
Low fear	22	81,5

Table 2 explains that half of the pregnant women had high fear of facing childbirth before the intervention, namely about 15 people (55.6%), and most of the pregnant women who had low fear after the intervention about 22 people (81.5%).

**Table 3. The differences in fear of giving birth before and after intervention in pregnant women**

<b>Fear of facing childbirth</b>	<b>f</b>	<b>%</b>	<b>Value p</b>
<b>Before</b>			
High fear	15	55,6	0,002
Low fear	12	44,4	
<b>After</b>			
High fear	5	18,5	
Low fear	22	81,5	

Table 3 explains that there is a statistically significant difference in fear of childbirth before and after the intervention with a value of  $p = 0.002$  ( $p < 0.05$ ).

## Discussion

The results of this study indicated that there was an effect of giving Harapan Ibu tentang Persalinan (HIPER) on the fear of pregnant women facing childbirth with Ho being rejected. This study showed that there was a decrease in the level of fear of giving birth in pregnant women after being given Harapan Ibu tentang Persalinan (HIPER) with a value of  $p = 0.002$  ( $p < 0.05$ ). This happened because the coloring therapy Harapan Ibu tentang Persalinan (HIPER) which was given to pregnant women used the method of coloring on drawing paper with pictures that were attractive to pregnant women.

The results of this study are in line with research conducted by (Rajendran et al., 2020) in Australia who researched on interventions given to patients treated in the emergency department in the form of coloring therapy. This intervention which focused more on coloring therapy showed that there was an effect of the given coloring therapy intervention on reducing anxiety levels as indicated by the value of  $p=0.01$ . The same results were also found in a study conducted by Rigby (2016) in England which provided intervention in the form of coloring therapy in cancer patients who were hospitalized. Based on the interventions given, the results show that cancer patients experience a decrease in anxiety levels about their treatment.

Other research that can strengthen the results of this study includes research conducted by Koo et al (2020) in Taiwan by providing coloring activities to reduce anxiety and improve mood in adolescents living in community shelters. After being given coloring activities, teenagers in Taiwan feel calm, safe, relieved, able to rest, satisfied and feel good. This research brings long-term benefits, namely the emotional and psychological well-being of adolescents can be managed properly.

Feelings of fear and anxiety in pregnant women about to give birth are generally triggered by thoughts of bad things that could happen during giving birth, starting from pain during contractions, the possibility of having to have a caesarean section, to complications during childbirth, such as tearing of

the birth canal or heavy bleeding. The fear of giving birth that is buried alone can make pregnant women think the worst things about childbirth, and this will make pregnant women more afraid and stressed. Therefore, this fear must be faced (Nilsson et al., 2018). Providing HIPER (Harapan Ibu tentang Persalinan) coloring therapy is needed by pregnant women to reduce anxiety and worry about the delivery process with coloring activities.

The results of this study indicated that the last education of pregnant women who experienced fear of childbirth was mostly senior high school. This is inversely proportional to research conducted by Slade et al (2019) which showed that fear of childbirth tends to be experienced by pregnant women with low educational background. Meanwhile, pregnant women with higher levels of education tend to have more self-confidence in facing childbirth smoothly and safely.

The results of this study also showed that the family income of pregnant women is mostly high. This was inversely proportional to previous research which stated that pregnant women with high family income conditions tend to have good physical, mental and emotional readiness for childbirth (Khwepeya et al., 2018). Primigravida pregnant women with both high and low family income tend to have fear in facing childbirth.

The results of this study indicated that most pregnant women experienced high levels of stress. The level of stress experienced by pregnant women is caused by several factors including internal and external factors. The stress experienced by pregnant women can affect the fear of mothers in facing childbirth. Most pregnant women considered childbirth to be a dramatic event that required physical, mental, material and psychological readiness for both the pregnant woman herself and her family. Mothers with high stress tend to have higher fears in facing childbirth than mothers with mild stress (Stoll & Hall, 2013).

Providing interventions to reduce fear in facing childbirth has been carried out in various ways including music, massage, acupuncture, and relaxation therapy, as well as classes for pregnant women and psychotherapy (MA et al., 2019). Intervention in the form of coloring therapy for pregnant women is an interesting form of art activity for pregnant women. Pregnant women can imagine and express their work through colors on drawing paper. The images given were also nuanced landscapes and pictures of mothers and babies in arms. This made pregnant women feel the joy of being a mother.

In coloring therapy, pregnant women emphasize processes that demand one's creativity. Coloring activity is one of the art therapies to deal with stress and anxiety during pregnancy. By coloring pregnant women can improve mental health and control emotions during pregnancy. Even choosing colors when coloring is believed to be able to help pregnant women express their feelings (Harini, 2013).

Giving coloring therapy is one of the activities to reduce anxiety in facing childbirth, as the results of this study showed a decrease in the level of fear in facing childbirth after being given coloring activities. Pregnant women can play with the many colors that can be chosen according to their wishes. This is therapy for self-expression, maintaining the mother's mood and reducing emotions. In line with research conducted by Samuel et al (2022) which showed that coloring therapy had a positive effect on emotional regulation and patient depression. This study combined color therapy with conventional so that the results obtained reduced anxiety and negative emotions in individuals who have generalized anxiety disorder problems.

The fear of facing childbirth in pregnant women is also influenced by the social support they get in preparing for childbirth. Social support influences the mother's readiness to face childbirth which is considered a long process that requires various physical, psychological and mental preparations.

However, this study showed that most mothers got good social support during pregnancy. This is inversely proportional to research conducted by Kim & Kang (2013) which showed that social support affects the fear of mothers in facing childbirth. The social support that pregnant women need the most is the people closest to them, namely their husband and biological mother. Primigravida pregnant women who get support from their partners have a small risk of experiencing fear of childbirth and make them more motivated in preparing for childbirth.

Many women may feel unsure about their ability to survive difficult childbirth and delivery because childbirth is an experience that requires a variety of coping behaviors, such as the ability to calm down, catch one's breath after contractions and listen to cues from others. Women describe their childbirth process through personal experiences as well as through experiences of giving birth from other women, discussions with competent people about childbirth, or other health professionals, family members, and friends who have experienced childbirth before. This makes pregnant women have strong motivation in facing the birth process without excessive fear (Zhou et al., 2021).

The difference in coloring therapy is very visible from other art therapies that have been done before. This coloring therapy is given through a method that is more interesting among pregnant women. Even though it seems that this coloring activity is like a child, pregnant women enjoy this activity with enthusiasm. They feel free to be creative in choosing colors and coloring pictures. This coloring therapy is one of the entertainment for pregnant women. Pregnant women seem to be reminded of their childhood memories, coloring happily with friends. This makes pregnant women happy so that the fear of facing childbirth is reduced.

The difference in the coloring therapy given in this study is that it provides pictures of landscapes and pictures of pregnant women, and newborns. The pictures prepared are easy to apply in coloring techniques. The sketch of the picture is made simple so that pregnant women are more interested in the picture. Coloring therapy that has been done before has pictures with batik patterns with more complex sketches. The selection of images in this study was made simpler so that pregnant women are more interested and enthusiastic about coloring.

This research is in line with research conducted by Guseva et al (2021) in Russia that showed that coloring and art therapy can reduce fear and depression in patients with multiple sclerosis. In this study, it explained about the color selection shows the characteristics of the color itself. Colors tend to be active, including red, orange and yellow, while colors tend to be calm, namely green, blue and purple. While negative colors are black and gray. If those colors are combined properly, you get a beautiful and soothing color for those who see it.

In this study, the measurement of fear of childbirth was carried out before and after pregnant women completed all the pictures to be colored. Pregnant women are given time to finish coloring one picture in one week. While pregnant women have to finish coloring around 4 pictures, so that pregnant women finish all the pictures for one month. In contrast to the research by Caestara et al (2019) applying art therapy in the form of drawing and painting which was carried out in six sessions.

The limitations of this study include that the research design will be more representative if a control group is used. Another limitation in this study is that the number of respondents in this study will be more representative if it reaches 100 respondents so that the multivariate can be analysed.

HIPER coloring therapy (Harapan Ibu tentang Persalinan) which given to pregnant women can provide positive benefits in terms of reducing the level of fear of childbirth. This coloring therapy is also effective and efficient given to pregnant women in increasing self-confidence and reducing the level of

anxiety or fear in facing childbirth. This shows that it is very important for health workers to pay attention to the psychological problems of women during pregnancy.

Coloring therapy given to pregnant women requires media that is more applicable, attractive, and innovative. This study proves that coloring therapy given to pregnant women using pictures of scenic nuances of pregnant women and newborns will affect the decrease in the level of fear of facing childbirth. These results add to *evidence-based practices* in nursing, especially maternity nursing, and are of significant value to health service providers, especially maternity health services, to improve the welfare of women facing childbirth.

## **Conclusions**

This research can answer the purpose of the research. This study showed that the level of fear of childbirth decreased after being given a coloring therapy intervention was very significant with  $p=0.002$ . This shows that coloring therapy is an applicable, attractive, and innovative form of therapy to reduce the fear of facing childbirth. Apart from that, the pictures for coloring therapy are simpler, namely the nuances of the landscape, pregnant women, and newborns so that pregnant women seem enthusiastic in coloring these pictures.

Suggestions for health services need to pay attention to the psychological problems that occur in pregnant women in preparing for childbirth. For the development of science, the results of this study can show the importance of coloring therapy as a step in paying attention to the psychological aspects of pregnant women, one of which is the fear of childbirth. Suggestions for further research can develop research on providing other interventions that can be combined with coloring therapy using android-based digitalization to make it more accessible to pregnant women.

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