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## Health Education Affected the Anxiety Levels of Pregnant Women In Facing Childbirth



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### Abstract

Indonesian women within the 20-to-44-year age bracket are particularly vulnerable to experiencing depression or anxiety in the context of vaginal childbirth, with a reported risk of 10% to 25%. Of this cohort, a notable proportion, specifically 10% to 15%, may experience these psychological difficulties as complications during the delivery process, and the risk of anxiety in caesarean section patients is 15-25%. This was pre-experimental research with a One-Group Pretest and Posttest design. The sample was 40 respondents taken by a Non-Random Sampling technique; Accidental Sampling. This research was conducted October 15 - November 10 2023. The instrument used a questionnaire sheet. A Wilcoxon test was employed for data analysis, demonstrating a significant decrease in anxiety levels after an educational intervention. The mean anxiety score decreased from 2.74 before education to 1.83 afterward, yielding a p-value of 0.001 (which is less than the significance level of 0.05). These results underscore the importance of healthcare providers delivering more comprehensive education on anxiety management to pregnant women facing childbirth, with the aim of alleviating pre-delivery fear and apprehension.

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## INTRODUCTION

Labor and birth are physiological events in life. (Przybyła-Basista et al. 2020) state that during pregnancy, changes do not occur in the form of physical changes, but also changes such as discomfort, disappointment, rejection, anxiety and sadness. The role of education is mostly offered in the context of relationships and the main focus is on problem solving, especially in midwifery practice.

Pregnancy at an age that is too young and too old is included in the criteria for a risky pregnancy, both of which play a role in increasing mortality and death rates for the mother and fetus. And the role of midwives in providing education is very important to detect early risks that occur in pregnant women (Masita et al., 2023). Pregnancy is a process in a woman's life. The pregnancy process that occurs in a person will result in several changes. There are three factors that influence pregnancy, namely physical factors, psychological factors and social, cultural and economic factors. Maternal stress during pregnancy poses significant risks to both the pregnant individual and the developing fetus. Potential adverse outcomes for the fetus include developmental delays and postnatal emotional disturbances if the stress experienced by the mother is not managed properly. Pregnant women experience anxiety, including reactions related to worries about themselves and their fetus, continued pregnancy, childbirth, the period after giving birth, and moments when acting as a mother (Alza & Ismarwati, 2018)

Anxiety disorders include the most frequently found mental disorders. The National Comorbidity Study mentions that one in four respondents met diagnostic criteria for at least one anxiety disorder. Severe anxiety disorders also occur more frequently in women (30.5%) than men (19.2%). The symptoms that arise in each individual are different. Symptoms of anxiety can include restlessness, dizziness, palpitations, shaking and others. One source of anxiety is pregnancy, especially for mothers whose mental health is unstable. Anxiety of pregnant women can arise, especially in TM III of pregnancy until delivery, where during this period pregnant women feel anxious about various things

such as whether the baby is born normally or not, the pain that will be felt and so on (Schetter et al., 2022).

The impact that may arise from anxiety is a weakening of labor contractions or a weakening of the mother's pushing strength, which can hinder the progress of labor and cause labor to take a long time. The danger of prolonged labor can cause fetal distress. If this situation is not controlled, maternal mortality and morbidity rates will continue to increase (Suyani, 2020).

Research has shown that conditions such as anxiety during pregnancy are associated with increased cortisol in the uterus and are associated with impaired cognitive development in children (Stoye et al., 2020). It can also cause long-term behavioral and emotional problems. The anxiety felt by pregnant women can cause side effects for the fetus and themselves. Among the physiological responses, uterine contractions are particularly noteworthy. This response can lead to an increase in maternal blood pressure, potentially precipitating severe complications such as preeclampsia and miscarriage. Moreover, the negative ramifications of anxiety in pregnant women extend to fetal development, contributing to the LBW and preterm births (Matsas et al., 2023).

Maternal anxiety during gestation represents an emotional state in pregnant women that is intrinsically linked to the health and welfare of both the mother and her unborn child, attempts at pregnancy, labor, the birth period and the time when she assumes the role of mother. Pregnancy and giving birth are happy moments for every mother-to-be in the world. However, it cannot be denied that undergoing pregnancy and preparing for childbirth can increase the mother's anxiety. A substantial health burden in developing countries is highlighted by the prevalence of anxiety and depression, which exceeds 20%, in contrast to the 7-20% observed in developed nations (Alza & Ismarwati, 2018). This disparity extends to maternal mortality, where WHO reports approximately 830 daily global maternal deaths due to complications of pregnancy or childbirth, with developing countries accounting for 99% of these fatalities. Consequently, the

maternal mortality rate in developing countries is significantly higher at 239 per 100,000 live births, compared to just 12 per 100,000 live births in developed countries ([WHO, 2024](#)).

Indonesia experienced a concerning rise in maternal mortality, with 7,389 deaths reported in 2021 by the Directorate General of Public Health, Ministry of Health. This marks a 56.69% increase from the previous year. Consequently, the maternal mortality rate in Indonesia for 2022 escalated to 207 per 100,000 live births, significantly surpassing the established strategic plan goal of 190 per 100,000 live births. One of the complications of pregnancy that can result in maternal death is emotional disorders experienced by pregnant women during pregnancy. Ethiopia, Nigeria, South Africa, Uganda, and Zimbabwe are 15.6% of developing countries in the world that experience psychological disorders in pregnant women ([WHO, 2017](#)). The risk of experiencing depression or anxiety during vaginal delivery in Indonesia ranges from 10 to 25%, which is most common in women aged 20 to 44 years. The risk of experiencing anxiety during a cesarean section operation ranges between 15 and 25 percent. Research conducted on primigravida pregnant women in Magelang showed that Anxiety prevalence rates indicate that 85% of individuals experienced mild forms, 14% moderate, and 1.4% severe anxiety ([Hasim, 2018](#)). While global efforts led to an approximate 38% reduction in the maternal mortality ratio from 2000 to 2017, the WHO reports that around 810 women still die daily due to pregnancy and childbirth complications. This persistent challenge is particularly acute in low- and middle-income countries, which account for a staggering 94% of all maternal deaths. Proper care before, during and after birth can save the lives of mothers and newborns.

There are several therapies to reduce anxiety, namely pharmacological and non-pharmacological therapies ([Antos et al., 2024](#)). There are various types of non-pharmacological therapy, including: relaxation therapy, music therapy, massage distraction therapy and cognitive behavioral therapy (CBT), and awareness therapy which is indicated for cases of mild anxiety. Meanwhile, cases of

moderate to severe anxiety require a combination of both pharmacological and non-pharmacological treatment ([Murdayah et al., 2021](#)).

Efforts that can be made to overcome anxiety during pregnancy are by conducting health education aimed at increasing knowledge, changing the mother's attitude so that she understands childbirth. In accordance with the policy in Law no. 36 of 2009 concerning health, that the government is obliged to ensure the availability of information and reproductive health service facilities that are safe, high quality and affordable for the public. The Community Health Service Center is a public health facility that aims to improve public health. Limited knowledge about childbirth can increase anxiety. Mothers who receive health education during pregnancy have been shown to reduce anxiety and labor pain ([Sari & Pakpahan, 2021](#)).

Researcher stated that the increase in cases of prolonged labor is due to anxiety/fear in facing childbirth where mothers do not receive sufficient information about childbirth so their knowledge is lacking ([Diezi et al., 2023](#)). The results of research conducted by ([Dewi et al. 2022](#)), showed that pregnant women experienced severe anxiety facing childbirth, where of the 19 respondents before the counseling was carried out. The initial findings indicated that nearly half of the respondents, specifically 11 individuals, presented with severe anxiety. Post-counseling, a marked improvement was observed, as almost half of the respondents (14 individuals) then reported mild anxiety, and no cases of severe or very severe anxiety were identified. Based on these preliminary results, researchers subsequently interviewed 10 pregnant women attending antenatal care at the Durenan Community Health Center, Trenggalek Regency. After conducting interviews, it was concluded that the majority of mothers said they felt anxious because they were approaching childbirth, they felt afraid and worried about childbirth, labor pain, fear of having an abnormal birth and complications during labor for themselves and their babies. Based on this problem, the author is interested in knowing the effect of health education on the level of anxiety of pregnant women facing childbirth.

## METHODS

The type of the research used a pre-experimental method without a control group with a one group pretest and posttest design approach. This research was conducted on 15 October – 10 November 2023. The research instrument used a questionnaire sheet. The questionnaire used is HARS (Hamilton Anxiety Rating Scale). The HARS questionnaire is a measurement of anxiety that is based on the appearance of symptoms in individuals who experience anxiety. The HARS questionnaire contains 14 symptoms that appear in individuals who experience anxiety. Questionnaires were given before and after the researchers provided health education regarding preparation for childbirth through leaflets. The population in this study were all pregnant women who came to the Community Health Center who met the inclusion and exclusion criteria ([Nursalam, 2016](#)). Inclusion

criteria include pregnant women who do not take anxiety medication and are willing to be respondents, while exclusion criteria include having pregnancy complications, not taking the pre-test/post-test and giving birth at the time of data collection. In this study were all pregnant women who came to the Community Health Center. Sampling in this research was carried out using the Non-Random Sampling technique with Accidental Sampling, resulting in a sample of 40 respondents. Data analysis using the Wilcoxon test. This article has the ethical suitability Number. 59/K-STIKesHAH/ EC/VIII/2024, August 6, 2024).

## RESULTS

Data processing was carried out using the Wilcoxon test. The Wilcoxon test results can be seen in the table below:

**Table 1.** Frequency Distribution the influence of education on anxiety levels

Variable	Ranks	N	Mean Rank	Sum of Rank	Z	p-Value
pre-test and post-test anxiety	Negative rank	1(a)	1,83	1,83	-3,6	<b>0,001</b>
	Positive Rank	39 (b)	71,37			
	Ties	0 (c)		11,847		
	Total	40				

**Source:** Primary Data 2023

The table above explains that based on the results of the Paired Sample Ttest it can be concluded that there is a significant difference in the level of anxiety before and after the intervention with a P value = 0.001, which means that there is a statistically significant influence between the Health Education Intervention and the Level of Anxiety in Pregnant Women Facing Childbirth.

## DISCUSSION

Results of the Wilcoxon test value. Based on the analysis test results in table, it shows that from 40 respondents the average positive score after education was 71.37. Health education is the process of increasing people's ability to maintain

and improve their health. To achieve a perfect level of physical, mental and social health, people must also be able to understand and realize their desires and needs and be able to change or overcome their environment. Health education is the process of helping respondents to make decisions based on knowledge about factors that influence their personal health and that of others, both individually and collectively ([Rizvi, 2022](#)).

Pregnant women often experience anxiety because they have wrong views about the birthing process ([Rúger-Navarrete et al., 2023](#)). Childbirth is considered a scary and dangerous process. Pregnant women are afraid of experiencing pain during labor, which causes anxiety before delivery ([Wigert et al.,](#)

[2020](#)). After counseling, primigravidas experience a decrease in anxiety because they have the opportunity to express all their disturbing feelings and feel more relieved. It is hoped that when people feel more relaxed, they can release hormones that help reduce anxiety.

There are several ways that can be done to reduce anxiety and fear to prepare mothers to maintain pregnancy and the birth process, one of which is by providing pre-natal counseling ([Alizadeh-Dibazari et al., 2023](#)). Counseling, as articulated by the American Counseling Association, plays a pivotal role in enabling individuals to modify their thoughts, emotions, and behaviors. Corey delineates several fundamental goals for counseling, such as the reduction of anxiety, the remediation of emotional disturbances, the attainment of personal contentment and fulfillment, the facilitation of self-actualization, and the replacement of maladaptive behaviors with constructive alternatives.

There was an influence, because the value of 0.006 was smaller than 0.05. Video about Conventional Childbirth Against the Fears Faced by Pregnant Women Giving Birth in the Pangaribuan Community Health Center, North Tapanuli Regency. This findings show that the anxiety experienced by pregnant women before watching the normal birth video is moderate anxiety and after watching the normal birth video, most of them experience mild anxiety ([Sari & Pakpahan, 2021](#)).

It is very important to avoid anxiety for primigravida pregnant women when they are in the third trimester before delivery because it can have a negative impact on the health of the mother and fetus ([Susanti et al., 2024](#)). The birth video in question is a video that shows the normal birth process, which can be used to visualize how the birth process actually takes place or occurs. These videos also contain information on how to make labor easier, be more relaxed, make labor easier, and make labor calmer.

Education is a way to increase knowledge ([Hordern et al., 2021](#)). The provision of health education can manifest as direct instruction or the widespread distribution of health information

through a multitude of media and technological channels. Of particular note is experiential health education, which, drawing upon principles of learning theory, empowers individuals, groups, and communities by furnishing them with the essential information and practical skills necessary for sound health choices ([Chong et al., 2022](#)). The results of the health education analysis show that planned efforts to influence the health of other people in charge, whether individuals, groups, or communities, can produce the desired behavior from providers of health education and promotion. It also includes points such as input (educators and health education goals), process (plans and strategies), and output (performing as expected). The aim of health education or promotion is to improve behavior so that the target of health education can maintain health ([Hahn & Truman, 2015](#)).

The researcher's assumption is that mothers who receive health education about childbirth will feel more calm than mothers who do not receive health education about childbirth. The lack of information that mothers receive makes mothers feel more anxious. Therefore, outreach from health workers is very important to be carried out in every region so that pregnant and giving birth mothers can have insight, understanding and knowledge, especially during pregnancy and choosing a place of delivery so that mothers feel more at ease in preparing for their birth.

## CONCLUSION

Based on the results and discussion, this research reached the following conclusions: the influence of education on the level of anxiety of pregnant women in facing childbirth before education was carried out on average was 2.74, which is included in the moderate anxiety category, the effect of education on the level of anxiety of pregnant women in facing childbirth after education was carried out the average is 1.83, which falls into the mild anxiety category. The results of the pre-test and post-test analysis show that education has an influence in reducing the level of anxiety of pregnant women in facing childbirth with  $p=0.001$



( $p < 0.05$ ). Health Education Affected the Anxiety Levels of Pregnant Women in Facing Childbirth.

## SUGGESTION

It is hoped that health workers can improve the implementation of outreach by one way of distributing educational leaflets about the level of anxiety in pregnant women when facing childbirth and improving the standard of health services as well as possible.

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## CONFLICTS OF INTEREST

The authors affirm that they have no conflict of interests to disclose in connection with this publication.

## AUTHOR CONTRIBUTIONS

Each author was integral to every stage of the research, from initial preparations and fundamental data acquisition to application creation, manuscript development, data analysis, and the ultimate publication in this journal.

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