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# The Efectiveness Of Cognitive Behavioral Therapy (CBT) In Reducing Anxiety In Pregnant Women

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**ABSTRACT**
Anxiety in pregnant women can arise due to the long process of waiting for birth. Every pregnant woman is vulnerable to stress that continues to the stage of depression. Stress and depression disorders based on the facts that are developing today show an increase from year to year. Where pregnant women are vulnerable to stress and depression disorders because they experience physical and psychological changes, as well as role changes from pregnancy, labor, postpartum and worries about taking care of the baby, besides that women are 3.01 times at risk of experiencing anxiety compared to men. Recent studies have shown that pregnant women experience as much as 37 percent anxiety. In addition, reviews of cognitive behavioral therapy for perinatal mental health have largely focused on depression, with far less attention given to anxiety and stress. Therefore, researchers are interested in conducting research on the effectiveness of cognitive behavioral therapy in reducing anxiety in pregnant women in the working area of Makrayu Community Health Center. The design of this study was a quasi-experiment, the sample was pregnant women who visited the obstetrics clinic at the makrayu health center. The number of samples was 15 people in the experimental group and 15 people in the control group with purposive sampling technique. To measure anxiety levels using the TMAS instrument (Taylor Manifest Anxiety Scale). The data that has been obtained is processed and analyzed by t test using SPSS program. From the results of the study it can be concluded that the results of the t-test obtained a significance value of 0.000, this means "cognitive behavioral therapy very significantly reduces anxiety in pregnant women". Thus it can be concluded that cognitive behavioral therapy shows a decrease in anxiety of pregnant women. conclusion, cognitive behavioral therapy can significantly reduce anxiety in pregnant women. Suggestions for obstetrics poly health services are expected to conduct early detection or screening of the possibility of anxiety in pregnant women that can increase into depression and prevent the occurrence of other psychological problems during pregnancy.



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## INTRODUCTION

Anxiety in pregnant women can arise due to the long process of waiting for birth. Every pregnant woman is vulnerable to stress that continues to the stage of depression. Anxiety

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and depression disorders based on the facts that are developing today show an increase from year to year. Where pregnant women are vulnerable to anxiety disorders and depression because they experience physical and psychological changes, as well as role changes from pregnancy, childbirth, postpartum and worries about taking care of the baby, besides that women are 3.01 times at risk of experiencing anxiety compared to men. Recent studies have shown that pregnant women experience 37 percent anxiety (Sri Chalada, 2023).

Pregnancy and childbirth are exciting but also *stressful* periods of life. Pregnancy and childbirth bring about many psychological and psychosocial changes. Women in pregnancy and the *postpartum* period tend to experience considerable *stress* due to physical limitations that must limit activities and experience the process of adaptation from pregnancy to motherhood so that in this period there is the potential for stress and *postpartum* depression (Smitt *et al*, 2011)

Antenatal stress and anxiety are associated with obstetric outcomes. Women who suffer from stress and anxiety during pregnancy will experience an increased risk of congenital abnormalities such as failure to close the palate, risk of sectio caesarean section, delivery by instruments, premature birth, delivery of low birth weight babies (LBW) and in the long term is associated with behavioral and emotional disorders of children (O'oconnor & Glover, 2022).

Several studies published in recent years suggest that psychosocial factors, including stress and anxiety, are associated with birth abnormalities. A study conducted by Lobel et al showed that a high stress index score (consisting of life events, anxiety levels, and stress exposure) significantly predicted a shorter gestational age.

Another study confirmed that women with high prenatal anxiety gave birth earlier than women with low levels of anxiety, controlling for income, education, marital status, ethnicity, age, and parity. Efforts to deal with anxiety in psychology require intervention in the handling process, namely by using a cognitive behavioral therapy approach or better known as CBT.

According to Cooper, Murray and Halligan (2010), explained that research on the application of therapy focused on the effectiveness of psychotherapeutic interventions. Later known meta analysis of psychotherapy for *postpartum depression* is Cognitive Behavioral Therapy (CBT), social support, interpersonal therapy, counseling with unstructured interviews, and psychoanalysis therapy.

While Hyun Jo Cho, et al (2008), said that recently it was known through his published study that Cognitive Behavioral Therapy (CBT) was effective in reducing symptoms of postpartum depression (perinatal), it is hoped that CBT will focus more on the cognitive component than the behavioral component because if not, then the therapy will not be effective in healing clients.

Further research is needed to assess the efficacy of CBT across the prenatal and postnatal periods. Furthermore, there are no meta-analyses that comprehensively examine the short- and long-term efficacy of CBT. In addition, reviews of cognitive behavioral

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therapy for perinatal maternal mental health have largely focused on depression, with far less attention paid to anxiety and stress.

In this study, we will look at the effectiveness of cognitive behavioral therapy in reducing anxiety in pregnant women. The hope of the results of this study can help in increasing the awareness and ability of pregnant women in dealing with anxiety during pregnancy. Based on the description above, the researcher is interested in conducting research on the effectiveness of cognitive behavioral therapy in reducing anxiety in pregnant women in the working area of the Makrayu Health Center".

## METHODS

This research design is a *quasi-experiment*. The type is *pre and post test control design* (Kothari, 2004). The population in this study were all pregnant women who checked themselves into the obstetrics clinic of the makrayu palembang health center. The sample of this study was divided into 15 people in the intervention group and 15 people in the control group. The technique is *purposive random sampling.* To measure the level of anxiety using the TMAS instrument (*Taylor Manifest Anxiety Scale)* which consists of 50 statement scale items. The data that has been obtained is processed and analyzed by t test using SPSS program. After measuring the anxiety of the research subjects, the intervention group and control group will be given treatment to the experimental group (as the intervention group) while the control group is not given treatment. The experimental group is the group that will be given treatment in the form of Cognitive Behavioral Therapy and the control group is used as a comparison that does not get therapy.

So to see the effectiveness of cognitive behavioral therapy in reducing anxiety in pregnant women can be seen from the difference in pretest and posttest scores. Then proceed to analyze the data with the *t-test* statistical test. *Chi Square,* multilevel linear regression with the help of SPSS statistical data processing.

## RESULTS AND DISCUSSION

Based on the results of the inclusion and exclusion criteria, the study sample size was divided by *purposive random sampling.* Where 15 pregnant women were obtained as a treatment group and control group. The results of this study explain or describe the research data in the form of respondent characteristics of anxiety of pregnant women presented in several tables as follows:

**Table. 1** Frequency distribution of characteristics

| No. | Variables | Intervention group | | Group Control | | Analysis | |
|---|---|---|---|---|---|---|---|
| | | n | % | n | % | $X^2$ | p |
| 1 | Pregnancy status | | | | | | |
| | 1. Planned | 11 | 73,3 | 12 | 80 | 1,986 | 0,071 |
| | 2. Not planned | 4 | 26,7 | 3 | 20 | | |
| | TOTAL | 15 | 100 | 15 | 100 | | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | Parity | | | | | | |
| | 1. Primiparous | 5 | 33,3 | 3 | 20 | 0,841 | 0,223 |
| | 2. Multiparous | 10 | 6,67 | 12 | 80 | | |
| | TOTAL | 15 | 100 | 15 | 100 | | |
| 3 | Education | | | | | | |
| | 1. SD | 0 | 0 | 1 | 6,7 | 0,412 | 1,031 |
| | 2. SMP | 3 | 20 | 2 | 13,3 | | |
| | 3. HIGH SCHOOL | 6 | 40 | 9 | 60 | | |
| | 4. PT | 4 | 26,7 | 3 | 20 | | |
| | TOTAL | 15 | 100 | 15 | 100 | | |
| 4 | Pregnancy history | | | | | | |
| | 1. Normal | 12 | 80 | 4 | 26,7 | 0,211 | 1,030 |
| | 2. Abortion | 3 | 20 | 11 | 73,3 | | |
| | TOTAL | 15 | 100 | 15 | 100 | | |

Based on the results of the table above, it can be seen the comparison of anxiety scores in the CBT intervention group, and the control group. Based on pregnancy status, there was no significant difference between the intervention group and the control group ($X^2$ = 1.986, p=0.071; (>0.05)). Based on parity, there was no significant difference in parity between the intervention and control groups ($X^2$ =0.841, p=0.223). Based on education level, there was no significant difference between the intervention and control groups ($X^2$ =0.412, p=1.031). Based on pregnancy history, there was no significant difference between the intervention group and the control group ($X^2$ = 0.211, p=1.030; (>0.05)).

**Table. 2** Characteristics of TMAS Scores of CBT Group and Control Group

| Characteristics | TMAS Pretest | | TMAS Posttest | | Analysis | |
|---|---|---|---|---|---|---|
| | Average | SD | Average | SD | Z | p |
| CBT | 20,800 | 3,346 | 15,68 | 9,387 | -3,870 | 0,000 |
| Control | 19,630 | 2,782 | 18,02 | 2,564 | 1,677 | 0,102 |

Based on the results of the table above, it can be seen the comparison of pretest and posttest TMAS scores in the two research groups, namely the CBT intervention group and the control group. This study shows the initial TMAS score with after treatment (Z = -3,870, p = 0.000; (>0.05). While the control group there was no significant difference between the initial and final TMAS scores (t=1.677, p=0.102; (>0.05)).

**Table. 3** Characteristics of CBT and Control Group Baseline TMAS Scores

| Characteristics | CBT | | Control | | Analysis | |
|---|---|---|---|---|---|---|
| | Average | SD | Average | SD | Z | p |
| TMAS | 20,800 | 3,346 | 19,630 | 2,782 | -0,756 | 0,402 |

Based on the table above, the average initial TMAS score between the intervention group and the control group is known. Statistical test results showed that there was no significant difference in baseline anxiety between the intervention and control groups (Z = -

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0.756, p = 0.402; (>0.05).

**Table. 4** Characteristics of the Final TMAS Score of CBT and Control Groups

| Characteristics | CBT | | Control | | Analysis | |
|---|---|---|---|---|---|---|
| | Average | SD | Average | SD | t | p |
| TMAS | 15,68 | 9,387 | 18,02 | 2,564 | -4,311 | 0,000 |

Based on the table above, the level of anxiety at the end of the study among the research subjects is known. The results of statistical analysis show that there is a very significant difference between the intervention group and the control group. The statistical test results showed that (t = -4.311, p = 0.000; (< 0.05) the anxiety level of the intervention group was lower than the control group.

**Table. 5** Mean difference of TMAS score between CBT group and control group

| Characteristics | CBT | | Control | | Analysis | |
|---|---|---|---|---|---|---|
| | Average | SD | Average | SD | Z | p |
| TMAS PRE-POS | 5,12 | 2,355 | 1,89 | 2,098 | -4,512 | 0,000 |

Based on the table above, it is known that the effectiveness of cognitive behavioral therapy / CBT reduces anxiety levels in pregnant women in the intervention group. The results of the research analysis (Z = -4,512, p = 0.000; (<0.05) indicate that there is a very significant difference in changes in anxiety levels of pregnant women in the intervention group and control group. This shows that there is a very significant decrease in the anxiety level of pregnant women before and after the intervention, so it can be concluded that cognitive behavioral therapy / CBT is effective for reducing anxiety levels in pregnant women.

## Discussion

Based on the results of research and statistical analysis that has been done, it is known that there are differences between the cognitive behavioral therapy / CBT group and the control group. Based on the characteristics of the two research groups, there is no significant difference. Based on pregnancy status, there was no significant difference between the intervention group and the control group ($X^2$ = 1.986, p=0.071; (>0.05)). Based on parity, there was no significant difference in parity between the intervention and control groups ($X^2$ =0.841, p=0.223) (>0.05)). Based on education level, there was no significant difference between the intervention and control groups ($X^2$ =0.412, p=1.031) (>0.05)). Based on pregnancy history, there was no significant difference between the intervention group and the control group ($X^2$ = 0.211, p=1.030; (>0.05)). This indicates that the two research groups have equivalent or homogeneous characteristics.

The results of the research and statistical analysis that have been carried out can be seen that there is a very significant difference between the anxiety levels of research subjects with cognitive behavioral therapy / CBT treatment. Subjects with CBT treatment have a significantly lower level of anxiety than those without treatment. While the control

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group there was no significant difference between the initial and final TMAS scores (t=1.677, p=0.102; (>0.05)).

In addition, there was a very significant decrease in the anxiety level of the research subjects with the initial intervention (initial TMAS score of the intervention group 20.800 ± 3.346; final TMAS score 19.630 ± 2.782; with Z value = -3.870, p = 0.000; (>0.05)). While in the control group there was no statistically significant decrease in anxiety levels. This shows that the provision of cognitive behavioral therapy / CBT is effective for reducing anxiety levels in pregnant women, it can be concluded that the hypothesis in this study is proven. This is in accordance with previous research that cognitive behavioral therapy is effective for therapy in patients with anxiety disorders. Cognitive behavioral therapy in perinatal anxiety can prevent depression, anxiety and short-term perinatal stress, many literatures show the effectiveness of cognitive behavioral therapy in reducing anxiety levels in pregnant women.

Antenatal stress and anxiety are associated with obstetric outcomes. Women who suffer from stress and anxiety when pregnancy enters the third trimester, will experience an increased risk of congenital abnormalities in the form of delivery by devices, the risk of cesarean section surgery, premature birth, giving birth to babies with low birth weight / LBW and in the long term is related to behavioral and emotional disorders of children. Meta-analysis research on anxiety of pregnant women during the prenatal and postnatal periods, shows that high levels of anxiety in pregnant women during the prenatal phase are associated with obstetric problems, emotionally damaging fetal development, and long-term associated with behavioral problems in childhood and adolescence (Correia and Linhares, 2007).

Based on the results of the study, it is known the effectiveness of cognitive behavioral therapy / CBT in reducing anxiety levels in pregnant women in the intervention group. The results of the research analysis (Z = -4,512, p = 0.000; (<0.05) showed that there was a very significant difference in changes in anxiety levels of pregnant women in the intervention group and control group. This shows that there is a very significant decrease in the anxiety level of pregnant women before and after the intervention, so it can be concluded that cognitive behavioral therapy / CBT is effective for reducing anxiety levels in pregnant women. Grigoriadis et al: 2018 added that pregnant women who experience anxiety are more likely to experience mental health disorders during the postpartum period. Furthermore, pregnant women who experience prenatal anxiety are at higher risk of experiencing worse obstetric outcomes such as pregnancy complications, preeclampsia and suicidal behavior

## CONCLUSION

Based on the results of the study, it can be concluded as follows that there is a difference between cognitive behavioral therapy and control in reducing the degree of anxiety in pregnant women. There is a significant difference between the decrease in anxiety scores of the intervention group compared to the control group. Paa statistical calculation found a decrease in TMAS scores in the intervention group was significantly greater than the

decrease in TMAS scores in the control group. And it can be concluded that cognitive behavioral therapy is effective in reducing anxiety levels in pregnant women so that the hypothesis is accepted.

## ADVICE

Cognitive behavioral therapy is an effective therapy as an additional therapy for pregnant women who experience anxiety. So that this research can be used to expand and deepen psychological studies, especially about anxiety in pregnant women, and cognitive behavioral therapy. This research can also be the basis for further research so as to provide guidance in the management of pregnant women who experience anxiety in the future. In addition, this study can be utilized in the preparation of SOPs for the management of pregnant women with anxiety, especially in the treatment of anxiety disorders in pregnant women who experience anxiety disorders. Future researchers need to consider other factors that affect anxiety and be conducted in other health services with lower economic strata of pregnant women.

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