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The Effect of Cognitive Behavioural Therapy Intervention in Reducing Maternal Anxiety During Pregnancy

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ABSTRACT

Anxiety is an emotional disorder that is felt naturally and is characterised by intense and unclear feelings of fear or worry (Puspitasari & Wahyuntari, 2020). According to the Indonesian Ministry of Health (2020), the rate of anxiety in pregnant women in Indonesia reaches 107,000,000 or 28.7% of which anxiety occurs in pregnant women before childbirth. According to WHO (2020), the level of anxiety during pregnancy ranges from 8-10% and increases to 12% before childbirth. Elvina et al (2018) in their research said that pregnant women in developing countries experienced anxiety disorders reaching 19.8%. Therefore, researchers are interested in conducting research on the effect of cognitive behavioural therapy interventions in reducing maternal anxiety during pregnancy in the Makrayu health centre working area. This research design is a *quasi-experiment* with a two group pre-test and post-test design with control. Respondents of this study were pregnant women who visited the obstetric clinic of the makrayu health centre with a total of 30 respondents. To measure the level of anxiety using the PASS instrument (*Perinatal Anxiety Screening Scale)*. The data that has been obtained is processed and analysed by *paired sample t-test with a p-value of 0.05* using the SPSS program. From the results of the study it can be concluded that the results of the *t-test* obtained a p value = 0.000; (<0.05) indicate an effect on changes in the anxiety level of pregnant women in the intervention group and control group after being given CBT intervention. This shows that there is a significant decrease in the anxiety level of pregnant women before and after the intervention, so it can be concluded that cognitive behavioural therapy / CBT is effective for reducing anxiety levels in pregnant women. Where it can be interpreted that respondents in the intervention group before being given the intervention obtained moderate to severe anxiety levels, after being given the intervention the anxiety level decreased to no anxiety to moderate anxiety. Advice to pregnant women to be able to play an active role in following counselling or consulting if they feel anxious during pregnancy.

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INTRODUCTION

Anxiety is a state where feelings arise when we feel worried or afraid of something. According to Cristianto et al (2020) anxiety is an early warning sign that serves to prepare itself from the dangers and threats that come. Anxiety is a life problem for every individual caused by a

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feeling of threat whose cause or object is not yet clear (Mukholil, 2018). Anxiety can also be interpreted as an objective feeling of tension, fear, nervousness and worry related to nervous system arousal (Kusumastuti, 2020).

Anxiety is an emotional disorder that is felt naturally and is characterised by intense and unclear feelings of fear or worry (Puspitasari & Wahyuntari, 2020). According to the Indonesian Ministry of Health (2020), the rate of anxiety in pregnant women in Indonesia reaches 107,000,000 or 28.7% of which anxiety occurs in pregnant women before childbirth. According to WHO (2020), the level of anxiety during pregnancy ranges from 8-10% and increases to 12% before childbirth. Elvina et al (2018) in their research said pregnant women in developing countries experienced anxiety disorders reaching 19.8%.

According to data obtained by Baro'ah (2020) for pregnant women who experience anxiety, where pregnant women who do not experience anxiety are 15 people (21%), mild anxiety are 37 people (51%) and severe anxiety are 8 people (11%). Research by Siregar et al (2021) showed that pregnant women who experienced mild anxiety were mostly <20 years old and >35 years old (20%), PT / Diploma education level (20%), not working (11.5%), primigravida (60%), and did not get husband support. 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 sectio caesarean section, premature birth, giving birth to babies with LBW and in the long term is related to behavioural and emotional disorders of children.

Pregnant women who experience anxiety will have an impact on the condition of the foetus and mother during pregnancy. The changes experienced by pregnant women during pregnancy itself cause physical discomfort in pregnant women and pregnant women thinking about childbirth. So that it causes feelings of anxiety in pregnant women, especially in Primigravida pregnant women (first time pregnancy) (Sari et al, 2020).

Anxiety can be intervened pharmacologically and non-pharmacologically. Pharmacological therapy consists of Alprazolam, Clonazepam, Diazepam, Lorazepam, Benzodiazepines and Buspirone. Non-pharmacological therapy consists of Cognitive behaviour therapy (CBT), relaxation, and mindfulness therapy (Susilowati et al., 2019). Pregnant women who use pharmacological therapy or drugs must be under the supervision of health workers to avoid any side effects that can harm the fetus. The use of drugs without the supervision of health workers during the first trimester will cause birth defects (teratogenesis) with the greatest risk being at 3-8 weeks of pregnancy, in the second and third trimesters can affect fetal growth and development and poison the placenta (Ummah et al, 2018). This explanation shows that non-pharmacological therapy is better than pharmacological therapy where non-pharmacological has little or almost no side effects, in contrast to the side effects produced when using pharmacological therapy. One of the non-pharmacological therapies is cognitive behavioural therapy or CBT which can help individuals interpret and evaluate what is happening now and the impact of these perceptions on their emotional experiences (Wahidah et al, 2019). Many studies have proven that CBT therapy is effective in treating anxiety. CBT therapy is a psychological therapy based on the

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theory that the problem is maintained due to dysfunctional cognition and certain beliefs (Duana and Hadjam, 2012).

According to Haeba (2011), CBT therapy focuses on how the thought process and contribution to maladaptive behaviour and emotions. Pura (2018) added that CBT therapy has an influence on reducing postpartum depression. Research conducted by illustri (2024) on "the effectiveness of cognitive behavioural therapy in reducing anxiety levels in pregnant women", the results of this study concluded that there were differences between cognitive behavioural therapy and control in reducing the anxiety level of pregnant women. That cognitive behavioural therapy is effective in reducing anxiety levels in pregnant women, where there is a significant decrease in anxiety scores in the intervention group compared to the control group.

Based on the description above, the researcher is interested in conducting research on "The effect of cognitive behavioural therapy intervention in reducing maternal anxiety during pregnancy?". In this study, will see the effect of cognitive behavioural therapy intervention in reducing maternal anxiety during pregnancy. The hope of this study can help in increasing the awareness and ability of pregnant women in dealing with anxiety during pregnancy.

METHODS

The design of this study was a *quasi-experiment* using a *two group pre-test and* post-test research design. The population in this study were pregnant women who checked themselves into the obstetrics clinic of the Palembang Makrayu Community Health Centre. The sample of this study was divided into 15 intervention groups and 15 control groups. The intervention group is pregnant women who experience anxiety who are given CBT therapy, while the control group is pregnant women who experience anxiety who are not given CBT therapy.

The sampling technique is purposive random sampling. To measure the level of anxiety using the PASS (Perinatal Anxiety Screening Scale) instrument that has been developed and has been tested for validity by Somerville et al (2014) in the study The Perinatal Anxiety Screening Scale: Development Preliminary Validation of King Edward Memorial Hospital Western Australia. This instrument consists of 31 question scale items, where the components measured are excessive worry and special fears, perfectionism, control and trauma.

The data obtained were processed and analysed by paired sample t-test with a p- value of 0.05 using the 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 Behavioural Therapy and the control group is used as a comparison that does not get therapy.

So to see the effect of cognitive behavioural therapy intervention in reducing maternal anxiety during pregnancy can be seen from the difference in pre-test and post- test values. Then continued data analysis with paired sample *t-test* test with the help of SPSS statistical data processing.

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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 the intervention 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	Variable	Intervention group		Group Control group	
		n	%	n	%
1	Age				
	1. 17-25 years	8	53,3	6	40
	2. 26-35 years	5	33,3	5	33,3
	3. 36 - 45 years	2	13,3	4	26,7
	TOTAL	15	100	15	100
2	Parity				
	1. Primigravida	12	80	10	66,7
	2. Multigravida	3	20	5	33,3
	TOTAL	15	100	15	100
3	Education				
	1. PRIMARY SCHOOL	0	0	1	6,7
	2. JUNIOR HIGH	3	20	2	13,3
	3. HIGH SCHOOL	10	66,6	9	60
	4. PT	2	13,3	3	20
	TOTAL	15	100	15	100
4	Gestational age				
	1. 1st trimester	4	26,7	3	20
	2. Trimester 2	4	26,7	4	26,7
	3. Trimester 3	7	46,6	8	53,3
	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 the age of the intervention group, the majority of respondents were aged 17-25 years or 53.3%, while the age of the majority of respondents in the control group was 40% at the age of 17-25 years. Based on parity, the majority of respondents in the intervention group were 12 people or 80% in primigravida parity, while the majority of respondents in the control group were 10 people (66.7%) in primigravida parity. Based on the level of education, the majority of respondents, namely 10 people (66.6%) had high school education in the intervention group, while the control group as many as 9 people (60%) had high school education. Based on the gestational age of the majority of the intervention group, 7 people (46.6%) were in the 3rd trimester, while in the control group there were 8 people (53.3%) in the 3rd trimester.

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Table 2. Difference between intervention group and control group before and after intervention

	Mean	SD	Min Max	P - Value
Control Group				
Pretest	51,24	10,898	31-69	0,240
Posttest	53,99	11,015	35-68	
Intervention Group				
Pretest	58,67	8,147	43-72	0,000
Posttest	29,10	9,387	16-40	

In the table above, it can be explained that the p-value of the intervention group is 0.000 <0.05 which means that there is an effect of cognitive behavioural / CBT intervention, the interpretation of this figure is:

a. 0 – 20 = Not anxious
b. 21 - 26 = Mild anxiety
c. 27 – 40 = Moderate anxiety
d. 41 – 93 = Severe anxiety

Based on the results of the table above, it can be seen the difference between the pretest and posttest groups in the two research groups, namely the CBT intervention group before being given the intervention, the scores obtained were mostly at the level of moderate to severe anxiety, both in the control group and the intervention group. Whereas for the group that had been given CBT intervention, the respondents were found to be at the level of anxiety not anxious to moderate. Meanwhile, the control group was not given CBT intervention so that there was no significant change in the level of moderate to severe anxiety.

Based on the table above, it is known that cognitive behavioural therapy / CBT intervention reduces anxiety levels in pregnant women in the intervention group. The results of the research analysis p value = 0.000; (<0.05) indicate a significant effect on changes in anxiety levels of pregnant women in the intervention group and control group after being given CBT intervention. 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 behavioural therapy / CBT is effective for reducing anxiety levels in pregnant women. Where it can be interpreted that respondents in the intervention group before being given the intervention obtained moderate to severe anxiety levels, after being given the intervention the anxiety level decreased to no anxiety to moderate anxiety.

Discussion

Based on the results of research and statistical analysis that has been done, it is known that there is an effect of cognitive behavioural therapy intervention in reducing maternal anxiety during pregnancy. This study will discuss the level of anxiety of pregnant women before being given CBT intervention, the level of anxiety of pregnant women after being given CBT intervention, and the effect of cognitive behavioural intervention/CBT in reducing maternal anxiety during pregnancy.

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Anxiety level of pregnant women before and after given CBT Intervention

Based on the results of the characteristics of respondents can be seen comparison of anxiety in the intervention group, and the control group. Based on the age of the intervention group, the majority of respondents were aged 17-25 years or 53.3%, while the age of the majority of respondents in the control group was 40% aged 17-25 years. Both groups of respondents were in the majority of the same age of 17-25 years where based on the results of interviews, respondents said they tended to experience anxiety related to their pregnancy. Even respondents with severe anxiety responded with dislike towards their pregnancy.

Based on parity, the majority of respondents in the intervention group were 12 people or 80% in primigravida parity, while the majority of respondents in the control group were 10 people (66.7%) in primigravida parity. This is in line with the research of Nurdin and Fattah (2021), stating that gavidity affects the anxiety of pregnant women. Primigravida pregnant women experience more anxiety than multigravida mothers. Because basically primigravida mothers are pregnant women with little experience, so they are more prone to experiencing anxiety in their pregnancy.

Based on the level of education, the majority of respondents, namely 10 people (66.6%) had a high school education in the intervention group, while the control group as many as 9 people (60%) had a high school education. This is in line with the results of research by Siregar et al (2021) which states that the level of education does not affect the level of anxiety of pregnant women, this is supported by the research of Zamriati et al (Siregar et al, 2021) that there is no relationship between the level of education and the anxiety of pregnant women, this is in line with the results of the study that the true level of education of pregnant women does not affect the level of anxiety, because at the time in the field pregnant women with the latest high school education have the same level of anxiety as those who have the latest level of education College.

Based on the gestational age of the majority of the intervention group, 7 people (46.6%) were in the third trimester of pregnancy, while in the control group there were 8 people (53.3%) in the third trimester. This is in line with the research of Astuti and Rahmawati (2022), stating that there is a significant relationship between husband support and anxiety of third trimester pregnant women. Where husband support is part of emotional support, thus providing a sense of security and pregnant women feel not alone in going through their pregnancy.

Based on the results of the research conducted, it shows a significant decrease in the anxiety level of pregnant women who have been given CBT intervention. This is in line with the research of Anis Sukandar (2009), stating a lower level of anxiety compared to the group that was not given CBT intervention. Erfiana and Fawziyah's research (2022), is also in line where individuals who were given CBT interventions as many as 30% of respondents said they had reduced anxiety experienced. So it can be concluded from the two studies above in line with the results of this study, where cognitive behavioural interventions can be used as an effective strategy to reduce maternal anxiety levels during pregnancy.

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Effect of CBT intervention in reducing maternal anxiety during pregnancy

The results of this study indicate the effect of cognitive behavioural intervention/CBT in reducing maternal anxiety during pregnancy. It can be concluded that, this study is proven by the results of research analysis p value = 0.000; (<0.05) indicates a significant effect on changes in the anxiety level of pregnant women in the intervention group and control group after being given CBT intervention. 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 behavioural therapy / CBT is effective for reducing anxiety levels in pregnant women. Where it can be interpreted that respondents in the intervention group before being given the intervention obtained moderate to severe anxiety levels, after being given the intervention the anxiety level decreased to no anxiety to moderate anxiety.

This is evidenced when the intervention group and control group respondents before being given the CBT intervention felt that environmental conditions and other people and themselves could affect their lives. Whereas after being given the CBT intervention, the respondent said that the anxiety diversion technique provided could calm him down and feel more positive. This study also proves the results of respondents who are in the intervention group and before being given CBT intervention, the results of the analysis of the PASS pretest instrument are at the level of moderate to severe anxiety, then the group is given CBT intervention and the Posttest is conducted again, it is found that the anxiety level of respondents in the group has decreased significantly, namely anxiety is at the level of no anxiety to moderate anxiety.

Whereas in the control group before being given CBT intervention, the results of the pretest PASS instrument analysis were at the level of moderate to severe anxiety, then the group was given CBT intervention and conducted Posttest again, it was found that the anxiety level of respondents in the control group did not experience significant changes at the level of moderate to severe anxiety. This shows that the provision of cognitive behavioural therapy interventions to mothers during pregnancy shows significant results. So it can be concluded that there is an effect of cognitive behavioural intervention in reducing maternal anxiety during pregnancy.

CONCLUSION

Based on the results of the study, the following conclusions can be stated that there is a difference between cognitive behavioural therapy and control in reducing anxiety levels in pregnant women. There is a significant difference between the decrease in anxiety scores of the intervention group compared to the control group. In statistical calculations it was found that the decrease in anxiety scores in the intervention group was significantly greater than the decrease in anxiety scores in the control group. And it can be concluded that there is an effect of cognitive behavioural intervention in reducing maternal anxiety during pregnancy.

ADVICE

Cognitive behavioural therapy is an effective therapy as an additional therapy for pregnant women who experience anxiety. The results of this study also expect pregnant women to be

able to play an active role in following counselling or consulting if they feel anxious during pregnancy. And this research can also be used to expand and deepen psychological studies, especially about anxiety in pregnant women, and cognitive behavioural therapy. This study can also be the basis for further research so as to provide benefits in the management of pregnant women who experience anxiety in the future. In addition, this study can be used 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 carried out in more than one health service so that the results are more accurate.

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