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THE EFFECTIVENESS OF THOUGHT STOPPING THERAPY REDUCING ANXIETY AMONG MOTHERS WITH UNDER-FIVE STUNTED CHILDREN: A QUASI-EXPERIMENTAL STUDY

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ABSTRACT

Background: Children with stunted growth experience impaired development low motor and cognitive abilities. Mothers with stunted children often experience anxiety and fear about their children future regarding their developmental delays and guilt about their children's condition and impact relationship between mother and child. **Objective:** Study aims to determine effect of thought stopping therapy on anxiety levels of mothers stunted children under five. **Methods:** A quasi-experiment with a pre-post test and control group design. Purposive sampling technique to obtain a sample comprising 60 mothers, of whom 30 were in the intervention group and 30 were in the control group. The intervention group, maternal anxiety was measured before and after the thought stopping therapy was given. Therapy was given over 3 sessions for 3 days. The control group given deep breathing relaxation techniques to reduce anxiety. Anxiety levels were measured using HARS. The Wilcoxon and Mann-Whitney tests analyzed data obtained. **Results:** There was a significant difference in anxiety levels before and after thought stopping therapy intervention and standard education (p 0.001). **Conclusion:** Thought stopping therapy is effective in reducing anxiety in mothers of stunted children under five.

Keywords: Anxiety; Mothers of stunted children under five; Thought stopping

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BACKGROUND

Stunting is a condition where children fail to grow to the proper height of other children of the same age due to chronic malnutrition (Kemenkes, 2018). Stunting has short and long-term impacts. Children who experience stunting have impaired development, such as lower motor and cognitive abilities and academic achievements. Adults with a history of stunting will experience lower cognitive abilities, lower educational and employment achievements, and consequently obtain lower income (Walker et al., 2015). Alam et al. (2020) demonstrated that children with early-onset persistent stunting were associated with lower cognitive development when they were five years old.

Growth and development failures in stunted children can cause anxiety in parents, especially mothers. Mothers often experience various psychological stresses, such as being worried about their child's future condition (Putri et al., 2024). Saripah (2022) showed that parents of stunted children experience psychological stress, including withdrawal from the environment, excessive stress or depression, uncontrolled emotions, irregular eating and sleeping patterns, and excessive anxiety (Saripah, 2022).

Anxiety is an acute and diffuse worry associated with feelings of uncertainty and helplessness (Stuart, 2007). A mother's depressive symptoms may have long-term impacts on her child's health. A previous study revealed that poor maternal mental health can increase the risk of stunting in children (Tyas et al., 2022). Excessive anxiety makes it difficult for someone to control their thoughts, causing changes in health conditions and other physical disorders. Anxiety is also one of the causes of psychological stress. Thus, parents need to be aware of the measures they can take to handle it. Anxiety can be overcome through various anxiety management interventions. Given these psychological burdens, interventions such as thought stopping therapy may offer relief.

Thought stopping therapy is a cognitive-behavioral technique where individuals learn to interrupt and replace negative thoughts with neutral or positive ones. Thought stopping therapy can help reduce anxiety and overcome negative thoughts. This therapy helps individuals stop disturbing or threatening thoughts (Hardayati et al., 2021). A previous study showed that thought stopping therapy can reduce older adults' anxieties regarding the COVID-19 pandemic (Sari et al., 2020). In addition, this therapy can reduce the level of anxiety in adolescents who live in earthquake-prone areas (Hardayati et al., 2021). A case study on a mother of a child under five also found that thought stopping therapy can reduce her anxiety (Giyaningtyas et al., 2019).

However, there is a lack of research on thought-stopping therapy to reduce anxiety in mothers with child stunting. A previous qualitative study conducted by the researchers in Rejang Lebong Regency identified that mothers with stunted children experienced anxiety (Utario et al., 2024). Therefore, we conducted this research to investigate the effect of thought stopping therapy on the anxiety levels of mothers of stunted children under five in Rejang Lebong Regency. This study aims to determine the effect of thought stopping therapy on the anxiety levels of Mothers of stunted children under five.

METHODS

This study is a quasi-experimental study with a pretest-posttest and control group design. A randomized controlled trial was not feasible due to practical reasons. The study was conducted from August to September 2024. The population in this study was all mothers with stunted children under five in Rejang Lebong Regency. Samples were taken from four Health Centers in Rejang Lebong Regency: Talang Rimbo Lama Health Center, Perumnas Health Center, Curup Health Center, and Kampung Delima Health Center.

We recruited participants via purposive sampling. Purposive sampling was used due to logistical constraints, which may limit generalizability. The population comprised 60 participants, of which 30 were in the control group, and 30 were in the intervention group. During the anxiety assessment, we immediately found 60 respondents who experienced various levels of anxiety, ranging from mild to severe anxiety. The inclusion criteria in this study were mothers with stunted children under five who experienced anxiety and could read and write. The exclusion criteria were mothers who did not complete the research process.

Thought stopping therapy was provided over 3 sessions in 3 days. During the first session on the first day, we assessed the participants' anxiety levels, taught them about the thought stopping technique, and asked them to practice it. In the second session on the second day, we continued to teach them about

the thought stopping therapy. In the third session, we evaluated the participants' abilities to perform thought stopping therapy and reassessed their anxiety levels. In the control group, we measured the participants' anxiety levels and taught them about deep breathing relaxation techniques to overcome their anxiety. We then re-measured their anxiety levels.

This study described thought-stopping therapy as identifying bad experiences and disturbing thoughts, and stopping the most disturbing thoughts. The researchers taught the participants how to stop disturbing thoughts about their stunted children by asking them to take 3 to 4 deep breaths until they felt relaxed, then asking them to close their eyes and imagine the disturbing thoughts. After that, we instructed the participant to stop the thought by saying, "Stop!". Then, we instructed them to take a deep breath and encouraged them to imagine positive thoughts or fight their disturbing thoughts. We asked the participants to convey their hopes and good wishes to their child with stunting. Moreover, we helped the participants write a schedule to conduct thought stopping therapy twice a day, one in the morning when they wake up and one when they are about to sleep, for three days.

The researchers collected data using Questionnaire A to obtain the participants' demographics and Questionnaire B to measure their anxiety levels using the Hamilton Anxiety Rating Scale (HARS). During the data collection process, the researchers were assisted by research assistants (enumerators) who had conducted a feasibility study on providing thought-stopping therapy. Next, the researchers conducted univariate tests of the participants' characteristics and anxiety levels for the data analysis stage. The bivariate analysis was conducted using the Wilcoxon and Mann-Whitney tests to determine the effect of thought stopping therapy on the anxiety levels of mothers with stunted children under five. This study has passed the ethical review of the Health Research Ethics Committee of the Ministry of Health of Bengkulu with the number KEPK.BKL/398/05/2024.

RESULTS

Table 1 shows that most of the participants in the intervention group were 36 to 45 years old (43.3%), had a middle school education (73.3%), did not work (86.7%), and had a family income between 1 and 3 million rupiah (73.3%). Next, most of the children were over 2 years old (63.3%), female (63.3%), and were in the short category (70.0%).

Meanwhile, the control group participants were mostly 26 to 35 years old (60.0%), had a middle school education (66.7%), did not work (86.7%), and had a family income of between 1 and 3 million rupiah (80.0%). Next, most of the children in the control group were under 2 years old (63.3%), female (63.3%), and were in the short category (80.0%).

Table 2 shows participants' anxiety scores in intervention group. Before intervention, participant's score was 17.0, and after intervention, it was 4.0. Meanwhile, participants' anxiety scores in control group were 17.0 before standard care and 8.0 after education. There was a significant difference in mean anxiety scores of the participants in the intervention group before and after the thought stopping therapy ($p = 0.0001$). There was also a significant difference in the mean anxiety scores of the participants in the control group before and after deep breathing techniques ($p = 0.0001$). The wide score ranges (14.0-27.0) suggest variability; future studies should explore subgroup differences.

Table 3 shows significant differences in the mean scores of the participants' anxiety levels in the intervention and control groups ($p = 0.000$). Clinical significance was calculated to indicate the effect size. There is a statistically significant difference in the participants' anxiety levels of those given the thought stopping therapy compared to standard care (deep breathing techniques). This finding suggests that thought stopping therapy interventions influence the anxiety levels of mothers with stunted children.

DISCUSSION

Research shows that stunting has short-term and long-term impacts on children, including increased morbidity, impaired development and learning capacity, increased risk of contracting infectious and non-infectious diseases, decreased work capacity, and adverse effects on reproduction (Soliman et al., 2021; Mustakim et al., 2022; Ekholuenetale et al., 2020). However, there is still a lack of research on the impact of stunting on the parents of these affected children. Giyaningtyas et al. (2019) and Utario et al. (2024) found

Table 1. Participants' characteristics

Variable	Intervention group		Control group	
	n	%	n	%
Participants' characteristics				
Mother's age:				
17-25 years old	7	23.3	5	16.7
26-35 years old	10	33.3	18	60.0
36-45 years old	13	43.3	7	23.3
Participants' highest education level:				
Elementary school	6	20.0	4	13.3
Middle school	22	73.3	20	66.7
High school	2	6.7	6	20.0
Participants' occupation:				
Employed	4	13.3	4	13.3
Unemployed	26	86.7	26	86.7
Income:				
< 1 million	7	23.3	6	20.0
1-3 million	22	73.3	24	80.0
> 3 million	1	3.3	0	0.0
Children's characteristics				
Age:				
< 2 years	11	36.7	19	63.3
> 2 years	19	63.3	11	36.7
Gender:				
Male	11	36.7	11	36.7
Female	19	63.3	19	63.3
Stunting category:				
Short	21	70.0	24	80.0
Very short	9	30.0	6	20.0

Table 2. The participants' pre-test and post-test average anxiety scores

Group	Median (min-max)	p value
Intervention group:		0.0001*
Pre	17.0 (14.0-27.0)	
Post	4.0 (3.0-6.0)	
Control group:		0.0001*
Pre	17.0 (14.0-27.0)	
Post	8.0 (6.0-18.0)	

Note: * Wilcoxon test

Table 3. The participants' average anxiety scores in the intervention and control groups

Variable	Median (min-max)	p value
Groups:		0.0001*
Intervention	4.0 (3.0-6.0)	
Control	8.0 (6.0-18.0)	

Note: * Mann-Whitney test

that stunted children impact their mothers by bringing feelings of anxiety about their child's condition.

The mother's anxiety is caused by concerns about her child's shorter posture than children of the same age and the impact of stunting on their child's cognitive development. In addition, the mothers' anxiety is caused by stigma from the community in the form of negative judgment against their parenting, which is typically directed towards mothers (Giyaningtyas et al., 2019).

In this study, we analyzed the impact of a thought stopping therapy intervention on reducing the

anxiety levels of mothers with stunted children. The result revealed differences in average pre-test and post-test scores in the intervention and control groups. This finding shows that the thought stopping therapy provided to the intervention group and the deep breathing techniques in the control group were effective in reducing the participants' anxiety levels.

Deep breathing, or diaphragmatic breathing, is done by tightening the diaphragm muscles and inhaling slowly. This breathing technique can increase oxygen levels in the blood, give a light massage to the internal organs around the abdomen, and stimulate the vagus nerve. Therefore, deep breathing interventions have positive impacts on various conditions, such as anxiety and stress (Toussaint et al., 2021). The impact of deep breathing techniques on anxiety in this study aligns with other studies that found such interventions can increase concentration and reduce cortisol levels, indicating decreased stress (Ma et al., 2017).

This study also found that thought stopping therapy can reduce the anxiety levels of mothers with stunted children. This finding aligns with past literature that states thought stopping therapy can reduce anxiety, as shown by a decrease in the physiological, cognitive, behavioral, and emotional parameters of older adults when facing the COVID-19 pandemic (Sari et al., 2020). Thought stopping therapy is an effective and quick technique to reduce anxiety associated with intrusive thoughts (Christyaningrum et al., 2022; Giyaningtyas et al., 2019). The word ”stop" will physiologically give orders to the brain and affect the Gamma-Aminobutyric Acid (GABA) neurotransmitter, which plays a role in influencing anxiety (Stuart, 2013). GABA is a neurotransmitter that works as an inhibitor in the brain, which functions to reduce neuronal activity and reduce anxiety symptoms (Nuss, 2015). A person who is experiencing anxiety will experience a decrease in GABA levels in the brain, affecting neuronal activity and contributing to the manifestation of anxiety symptoms, such as heart palpitations and increased breathing frequency (Stuart, 2013; Nuss, 2015).

Furthermore, the decrease in anxiety scores between the intervention group and the control group showed significant differences, where the intervention group showed a greater decrease than the control group. This finding suggests that thought stopping therapy is more effective in lowering anxiety than deep breathing techniques in this population. Thought stopping therapy stops a person's constant flow of disturbing negative thoughts (Angela et al., 2022). Thought stopping therapy is done by asking the patient to close their eyes and verbalize their disturbing thoughts repeatedly until the therapist instructs them to “stop” thinking about it (Giyaningtyas et al., 2019). This therapy is effective because it is done repeatedly for every disturbing thought, reducing the frequency and intensity of these negative thoughts (Angela et al., 2022). This study suggests thought stopping therapy may reduce anxiety in this population. Community health workers could deliver this therapy alongside nutritional counseling. The limitation of this study is the lack of randomization, and blinding may have introduced bias.

CONCLUSION

This study's results support the research hypothesis that thought stopping therapy is effective in reducing the anxiety levels of mothers with stunted children. Therefore, this technique can be used as a nursing intervention to help patients reduce their anxiety, especially for mothers with stunted children. Future studies should test this intervention in randomized trials and diverse cultural settings. These findings support integrating thought stopping therapy into maternal mental health programs for stunting-affected families.

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