

## Group Cognitive-Behavioral Therapy for Reducing Anxiety in Middle-Aged Women

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### Abstract

Middle-aged women are susceptible to experiencing anxiety, which, if left untreated, can lead to decreased productivity and hinder social interactions, ultimately impacting overall well-being. This study aimed to investigate the effectiveness of cognitive-behavioral group therapy in alleviating anxiety in middle-aged women. The research design employed a quasi-experimental approach with a one-group pre-test-post-test design and follow-up assessment. The participants included seven middle-aged women aged between 53 and 60 years (mean age = 56.71). They were selected based on screening results using the DASS42 anxiety scale, which indicated severe and very severe anxiety. Data collection consisted of pre-test, post-test, and follow-up assessments using the Beck Anxiety Inventory (BAI). Data were analyzed using the repeated measures ANOVA method. The results of the data analysis revealed an F-value of 120,  $p < .001$ , indicating significant differences between the pre-test, post-test, and follow-up assessments. Specifically, significant differences were found between pre-test and post-test ( $p < .001$ ), pre-test and follow-up ( $p < .001$ ), and post-test and follow-up ( $p < .001$ ) results. These findings demonstrate the effectiveness of cognitive-behavioral group therapy in reducing anxiety among middle-aged women. Therefore, cognitive-behavioral group therapy emerges as a viable intervention for addressing anxiety in this demographic.

**Keywords:** anxiety, cognitive-behavioral group therapy, middle-aged women

### Abstrak

*Wanita paruh baya rentan mengalami kecemasan. Kecemasan yang dibiarkan tanpa penanganan dapat mengakibatkan menurunnya produktivitas dan interaksi sosial sehingga dapat menurunkan kesejahteraan. Penelitian ini bertujuan untuk mengetahui efektivitas terapi kelompok kognitif perilaku terhadap kecemasan pada wanita paruh baya. Desain penelitian yaitu quasi eksperimen dengan one group pre-test – post-test design with follow up. Partisipan pada penelitian yaitu 7 wanita paruh baya berusia 53 - 60 tahun (rata-rata usia = 56.71). Partisipan dipilih berdasarkan hasil skrining dengan menggunakan skala kecemasan dari DASS42 yang menunjukkan kecemasan pada kategori parah dan sangat parah. Pengumpulan data yang dilakukan yaitu melalui tahapan pra tes, post tes dan tindak lanjut menggunakan skala Beck Anxiety Inventory (BAI). Analisis data menggunakan metode analisis repeated measures ANOVA. Hasil analisis data menunjukkan  $F = 120, p < .001$ , yang mengindikasikan adanya perbedaan antara pra tes, post tes dan tindak lanjut. Selain itu, terdapat perbedaan signifikan antara hasil pra test dan post tes ( $p < .001$ ), pra test dan tindak lanjut ( $p < .001$ ), dan post-test dan tindak lanjut ( $p < .001$ ). Hasil ini menunjukkan bahwa terapi kelompok kognitif perilaku efektif dalam menurunkan kecemasan pada wanita paruh baya. Oleh karena itu, terapi kelompok kognitif perilaku dapat digunakan untuk penanganan kecemasan pada wanita paruh baya.*

**Keywords:** kecemasan, terapi kelompok kognitif perilaku, wanita paruh baya.

## Introduction

The midlife period, often referred to as middle adulthood, represents a transitional phase in a person's life, bridging the gap between young adulthood and late adulthood. Typically, it is defined as occurring within the age range of 40 to 60 years (Santrock, 2022). During this stage of life, individuals commonly grapple with specific developmental tasks, one of which is the pursuit of generativity (Erikson, 1993). Generativity, a concept in Erik Erikson's psychosocial theory, represents the middle-aged adults' innate desire to create, nurture, and leave a lasting impact extending beyond their own lifetime (McLean & Syed, 2015). It involves fostering the next generation by raising children, mentoring, and supporting younger individuals, demonstrating care and compassion for others through emotional support and assistance to those in need, and taking on roles that contribute to the betterment of society, such as through volunteerism, civic engagement, or participation in causes aligned with their values (McLean & Syed, 2015).

Healthy aging is a hope for people who are aging. Having good physical and mental health, financial stability, and social support are all necessary for healthy aging (Solhi et al., 2022). However, middle-aged adults face various challenges, such as midlife crises, empty nest syndrome, aging, and career transitions (Jackson, 2020; Budhia et al., 2022). Addressing these challenges and promoting generativity can play a vital role in supporting middle-aged adults in achieving a fulfilling and healthy aging process. These challenges lead to the emergence of anxiety in middle-aged adults (Abrams et al., 2021; Thapa et al., 2018). Based on previous research, it has been shown that women have a higher tendency to experience anxiety. The results of a systematic review indicate that women are more susceptible to experiencing anxiety (Remes et al., 2016). This suggests that there are differences in anxiety between women and men.

Women are more vulnerable to psychological issues due to gender-related disparities. Research indicates that middle-aged women are burdened by work tasks and family responsibilities (Saporovskaia et al., 2021). Women experience a decline in emotional and psychological indicators, indicating that the pressures of work and family responsibilities have a negative impact on the emotional well-being of middle-aged women. Anxiety levels are elevated in middle-aged women (Bansal et al., 2015). This suggests that women in the middle-aged period are prone to anxiety. The prevalence of anxiety in middle-aged women is approximately 14.2% (Wang et al., 2022). This underscores the need for serious attention to anxiety issues in middle-aged women and the importance of specialized care.

Effectively managing anxiety is of paramount importance for middle-aged adults, as untreated anxiety can have a profound and detrimental impact on their overall quality of life and well-being (Wilmer et al., 2021). As highlighted in studies, anxiety left unaddressed can lead to decreased productivity and strained social relationships (de Oliveira et al., 2023; Malivoire & Koerner, 2022), eroding life satisfaction and daily functioning (Saldivia et al., 2023). Furthermore, untreated anxiety can result in enduring consequences, potentially shaping the course of one's life and contributing to long-term emotional, psychological, and physical health challenges (Altamura et al., 2013; Kang et al., 2017). Beyond its personal toll, untreated anxiety, as demonstrated by Lamoureux-Lamarche et al. (2022), also places a burden on the healthcare system, increasing the risk of high treatment utilization in primary care settings. In essence, recognizing and effectively managing anxiety in middle-aged adults is vital not only for their immediate well-being but also for preventing long-lasting negative effects and reducing unnecessary healthcare costs.

Depending on the type of anxiety and the unique needs of the individual, several psychological treatment approaches might be utilized. Types of psychotherapy that can be used to help with anxiety disorders include psychoanalytic therapy (Keefe et al., 2014), acceptance and commitment therapy (Hasheminasab et al., 2015), mindfulness-based therapy (Haller et al., 2021), cognitive behavioral therapy (Baker et al., 2021), and ruqyah method (Fadilah, 2015).

Cognitive Behavioral Therapy (CBT) is widely acknowledged as one of the most effective psychotherapeutic methods for ameliorating symptoms of anxiety (Baker et al., 2021). As described by Trager (2013), CBT represents a structured and goal-oriented type of talk therapy with its primary objective being to address and reshape negative thought patterns and behaviors that are often associated with an individual's difficulties, including those related to anxiety. This therapeutic approach equips individuals with the tools to become aware of inaccurate or negative thinking patterns, empowering them to gain clearer perspectives on challenging situations. By fostering this awareness, individuals can respond to these situations more effectively and constructively. Ultimately, CBT is instrumental in helping individuals develop healthier cognitive and behavioral responses, contributing significantly to their improved mental well-being. The systematic and evidence-based nature of CBT has firmly established its reputation as a highly regarded approach in the field of mental health.

CBT is widely recognized as the gold standard in the psychotherapeutic treatment of anxiety disorders. Notably, meta-analyses of CBT research have consistently identified high effect sizes in the majority of treatment studies (Bhattacharya et al., 2023; Hanrahan et al., 2013). These meta-analyses systematically synthesize findings from multiple studies, providing robust evidence for the efficacy of CBT in managing anxiety disorders. Furthermore, recent years have witnessed a proliferation of meta-analyses and reviews that reaffirm the consensus regarding the utility and effectiveness of CBT in treating anxiety disorders (Otte, 2011). This growing body of literature reinforces the pivotal role of CBT as a preferred treatment choice.

Additionally, randomized clinical trials, exemplified by Bandelow et al.'s (2017) study, offer tangible empirical proof of CBT's ability to effectively reduce the symptoms of anxiety. These trials provide real-world validation of CBT's efficacy in clinical settings. In summary, CBT's position as an evidence-based, highly effective, and systematic approach in the treatment of anxiety is well-grounded in a wealth of research, underlining its significance for individuals grappling with anxiety disorders and its essential role in the broader field of mental health.

CBT has demonstrated considerable efficacy in treating anxiety disorders across various age groups (Kaczurkin & Foa, 2015). It is a well-known and empirically proven therapeutic strategy that emphasizes the interaction between thoughts, emotions, and behaviors. Cognitive-behavioral therapy (CBT) is a brief, skills-based treatment that aims to change the patient's beliefs, behaviors, or both in order to change their maladaptive emotional responses (Kaczurkin & Foa, 2015). Through CBT, a person can improve their capacity to manage their psychological and emotional issues and foster situational adaptation (Lai et al., 2021).

Cognitive Behavioral Therapy (CBT) offers two primary intervention techniques: group therapy and individual therapy (Olivares-Olivares et al., 2016). Both approaches have their own advantages and are suitable for different situations and individuals. Group CBT effectively treats adult anxiety disorders (Skjernov et al., 2018; Wolgensinger, 2015). This therapeutic approach involves a trained therapist leading a group of individuals who share similar mental health concerns through a structured program of cognitive-behavioral techniques. In the context of Group CBT, individuals come together to collectively address their anxiety-related challenges, creating a supportive and empathetic environment (Christensen et al., 2021).

Within the group setting, a therapist plays a central role in teaching individuals a wide range of coping strategies and techniques tailored to manage anxiety symptoms effectively. These techniques often encompass strategies for identifying and challenging negative thought patterns, managing stress, and developing healthy behavioral responses to anxiety triggers. Through this collaborative process, participants in Group CBT gain valuable insights into their own thought processes and behaviors, which can be powerful tools for managing anxiety in their daily lives (Wolgensinger, 2015).

The primary goal of Group CBT is to empower individuals with the skills and tools they need to effectively manage their anxiety and, subsequently, enhance their overall quality of life. By fostering a sense of community and shared experiences, Group CBT can provide individuals with a supportive

network that understands and validates their struggles (Thimm & Antonsen, 2014). This can be particularly beneficial in reducing feelings of isolation often associated with anxiety disorders.

In essence, Group CBT combines the evidence-based principles of CBT with the dynamics of group therapy to create a structured yet collaborative approach to managing anxiety (Guo et al., 2021). It offers participants a platform to learn from each other, receive guidance from a trained therapist, and develop the practical skills necessary for anxiety management. This approach is firmly grounded in research, providing individuals with a well-supported path towards managing their anxiety and improving their overall well-being.

Group Cognitive Behavioral Therapy (CBT) stands out as a highly advantageous approach for individuals grappling with anxiety disorders, particularly when compared to individual CBT. Research by Guo et al. (2021) has indicated that in terms of symptom reduction, there are no discernible differences between individual and group CBT, suggesting that both are equally effective. However, the distinct benefits of group CBT are evident.

Firstly, group CBT provides a sense of normalization and peer support as individuals facing similar challenges interact with each other. This environment reduces the feelings of isolation and stigma often associated with anxiety disorders, as observed in Guo et al.'s findings. Additionally, the group setting offers opportunities for mutual learning and encouragement, with participants able to draw strength from one another. Moreover, participants in group CBT have the advantage of witnessing positive peer modeling, which can reinforce their motivation for change. Observing others successfully apply CBT techniques can bolster their own learning and confidence in the therapy process. Furthermore, the social support inherent in group CBT contributes significantly to participants' well-being. This built-in support network enhances motivation, boosts self-esteem, and fosters a sense of belonging, all of which are vital for effective anxiety management (Guo et al., 2021). Lastly, the cost-effectiveness of group CBT cannot be overstated. Research by Naufeld et al. (2020), Olmstead et al. (2019), and Thimm & Antonsen (2014) highlights that group CBT is more economically efficient compared to individual CBT. This cost advantage is primarily due to the therapist's ability to simultaneously deliver services to multiple participants, making therapy more accessible and financially sustainable.

Furthermore, while some studies have explored the effectiveness of individual CBT interventions for anxiety (Mayi-Wilson et al., 2014), the specific benefits and potential advantages of group-based interventions remain relatively unexplored (Wolgensinger, 2015). Group therapy can provide a supportive and collaborative environment, allowing participants to share experiences, gain social support, and learn from others facing similar challenges. Investigating the unique therapeutic factors and mechanisms of change within group CBT interventions for anxiety would contribute to a more comprehensive understanding of their effectiveness and provide insights into the potential advantages of group formats over individual therapy.

Despite the prevalent presence of anxiety in the middle-aged women population, research on the efficacy of group-based CBT interventions specifically targeting middle-aged women remains limited. This gap limits our understanding of how group CBT interventions can be applied to this specific population.

The novelty of this study lies in its specific focus on middle-aged women and the use of group-based Cognitive Behavioral Therapy (CBT) to address anxiety in this demographic. While there is existing research on anxiety in middle-aged adults and the effectiveness of CBT, this study narrows its scope to middle-aged women, a population that often faces unique challenges related to work, family, and societal expectations. This study aims to determine the effectiveness of the CBT group on anxiety in middle-aged women. The hypothesis is that group CBT can reduce anxiety in middle-aged women.

## Methods

### Study design

A common research design used by behavioral researchers to determine the impact of a therapy or intervention on a particular sample is the one-group pretest-posttest design with follow-up (Allen, 2017). The dependent variable is measured three times in this design: once before the therapy is started, once after it is started, and once more at a later follow-up period (Knapp, 2016). This design is a type of quasi-experiment and is characterized by two features: the absence of a control group and the use of a pre-test to establish a baseline for the dependent variable (Cranmer, 2017).

### Participant

The characteristics of the participants of this study, namely (1) women, (2) aged between 53 and 60 years, and (3) screening scores using anxiety scale from DASS42, showed anxiety in the severe and very severe categories. Participants are recruited from the elderly *Posyandu*. The elderly *Posyandu* is a platform for providing healthcare services and guidance to the elderly population in a particular area. It involves active community participation through healthcare volunteers and collaborative efforts across various programs and sectors. The primary goal is to enhance the overall health status of the community, with a specific focus on the elderly population. The elderly *Posyandu* is selected because it naturally serves as a gathering point for the elderly population within a community. Consequently, it represents an ideal location for identifying and recruiting research subjects who belong to the elderly demographic. The elderly “*Posyandu*” events typically drew 15 individuals and were used to source participants. Only 12 participants attended for the assessment, and seven were classified as having severe or very severe anxiety. **Table 1.** show the participant demographic characteristic.

**Table 1.** Demographic

The Participant's Initials	Age	Sex	Education	Marital status	Anxiety score (Category)
YN	60	Women	High school	Widowed	17 (Severe)
MJ	53	Women	High school	Married	18 (Severe)
AN	57	Women	High school	Married	26 (Very severe)
JM	54	Women	High school	Married	17 (Severe)
SM	55	Women	Bachelor degree	Married	20 (Very severe)
SW	58	Women	High school	Married	18 (Severe)
NS	60	Women	High school	Widowed	19 (Severe)

Sources : Personal data (2021)

### Instruments

Instrument for screening is anxiety scale from DASS42. The Indonesian version of the DASS-42 had good reliability ( $\alpha = .96$ ) (Huda et al., 2022). For anxiety scale, the reliability coefficient is .903 (Widyana et al., 2020), indicates that the scale has a high level of internal consistency. This suggests that the items in the anxiety scale are strongly related to each other and are measuring a consistent construct, which is anxiety in this case. The anxiety scale consists of 14 items.

The Beck Anxiety Inventory (BAI) scale is used to measure anxiety as pre-test, post-test and follow-up. The Beck Anxiety Inventory (BAI) is a self-report anxiety assessment tool used to evaluate an individual's level of anxiety from early adulthood through late middle age (Balsamo et al., 2018). The scale is presented in Indonesian. The BAI is a scale developed to assess individuals' anxiety levels. There are 21 items, which are arranged based on three aspects: (1) cognitive; (2) affective; and (3) somatic (Beck, Brown, Epstein, & Steer, 1988). BAI consists of 21 symptoms experienced with four response responses, namely never (0), almost never (1), sometimes (2), and almost always (3). Internal consistency in BAI is included in the high category with a Cronbach alpha coefficient of .92 (Beck & Steer, 1993).

The BAI has been demonstrated to be responsive to change over time (Julian, 2011). The BAI is specifically tailored to assess anxiety symptoms, which allows for a more focused evaluation of this particular mental health condition (Oh et al., 2018). It helps in determining the severity of anxiety and identifying specific symptoms that may require attention (Muntingh et al., 2011). Screening using the DASS and pretesting using the BAI can be more effective in evaluating mental health conditions due to their comprehensive assessment, differentiation of symptoms, availability of normative data, focus on specific conditions, and sensitivity to change (Julian, 2011).

#### Intervention Procedure

The intervention occurred during three sessions at the elderly "*Posyandu*" administrator's house. The program was successfully completed in 2021. Screening began on August 10th, and the follow-up took place on September 8th, 2021. Prior to implementing the intervention, a pretest was administered, and after the intervention sessions were concluded, a posttest was conducted. The follow-up assessment occurred two weeks after the posttest.

The first meeting began with sharing the participants' problems and practicing breathing relaxation, psychoeducation regarding anxiety and the therapeutic approach that will be carried out, and giving homework to do breathing relaxation. The participants were taught how to create self-monitoring notes, schedule their activities, and participate in cognitive restructuring at the second meeting. The third meeting featured a problem-solving workshop for the participants. Participants were asked to share experiences and discuss the techniques being taught in each session. The duration of each session is 60 minutes.

An anxiety treatment method that is frequently utilized in CBT is breathing relaxation training (Kaczurkin & Foa, 2015). The primary goal is to teach group members how to control their breathing patterns to promote relaxation and reduce anxiety symptoms. In this intervention, individuals are taught diaphragmatic breathing. By taking a deep breath in through the nose, allowing the abdomen to expand, and then gently releasing through the mouth. The group therapist guides the participants in practicing this technique, helping them become aware of their breathing patterns and gradually regulating their breath to induce a state of relaxation.

Psychoeducation is a fundamental component of Group CBT (Sarkhel et al., 2020). It involves providing information and education about anxiety to group members. The aim is to enhance their understanding of anxiety, its causes, and its impact on thoughts, emotions, and behaviors. During psychoeducation sessions, group members learn about the cognitive model of anxiety, which emphasizes the interplay between thoughts, feelings, and behaviors. Additionally, psychoeducation helps individuals recognize the physiological symptoms of anxiety and understand how they contribute to the anxiety cycle (Kendall et al., 2023).

Assigning homework is a crucial aspect of group CBT (Prasko et al., 2022). The skills taught during therapy sessions are practiced and reinforced by homework assignments given to the group members. In this case, homework involves practicing breathing relaxation techniques regularly to develop mastery and improve their ability to implement relaxation in real-life situations.

Group members are encouraged to monitor their thoughts, emotions, and behaviors related to anxiety. This involves keeping track of anxiety-provoking situations, associated thoughts, physical sensations, and subsequent behaviors (Hayes-Skelton et al., 2013; Otte, 2011). Additionally, activity scheduling helps individuals identify and engage in pleasurable and meaningful activities, promoting a feeling of achievement and improving mood (Gautam et al., 2020).

This intervention focuses on enhancing group members' problem-solving skills to effectively cope with anxiety-inducing situations (Reddy et al., 2020). The therapist guides the group through a structured problem-solving process. Through structured problem-solving techniques, individuals learn to identify problems, generate potential solutions, evaluate their effectiveness, and implement the most

suitable solution. This approach empowers participants to take an active role in addressing their anxiety-related challenges.

Cognitive restructuring aims to challenge and modify maladaptive and distorted thinking patterns that contribute to anxiety (Crum, 2021). The therapist helps group members identify and challenge negative and irrational thoughts, replacing them with more realistic and adaptive thoughts. Cognitive restructuring aims to change unhelpful thinking styles and beliefs that contribute to anxiety, promoting a more balanced and constructive mindset. This process helps in reducing anxiety and promoting adaptive thinking.

Throughout the therapy sessions, group members are encouraged to share their experiences, challenges, and successes related to the intervention techniques (Marmarosh et al., 2022). This sharing fosters a sense of support, camaraderie, and validation among the participants (Wilmots et al., 2020). It also allows individuals to learn from one another, gain different perspectives, and develop a sense of collective growth.

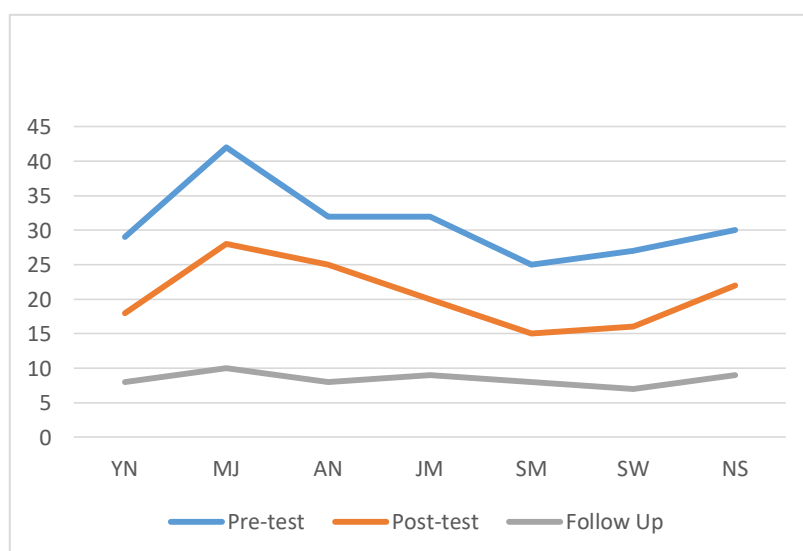
#### Data analysis

Data analysis for hypothesis testing is repeated-measures ANOVA. A repeated-measures ANOVA is a statistical test used to figure out whether there exist any significant differences between the means of three or more variables (also known as levels) that are measured on the same subjects or matched groups (Courtney, 2018). The analysis was carried out with Jamovi (The Jamovi Project, 2022).

## Results and Discussion

### Result

According to the study's findings, there was a change in the BAI scores in the pre-test, post-test, and follow-up of the participants, which can be seen in **Figure 1**.



**Figure 1.** Participant's BAI score

The results of the assumption test with the Sphericity test were obtained from Mauchly's test = .567 with  $p = .242$  ( $p > .05$ ). This result indicates that the variances of the differences between all combinations of related groups were equal. There is a substantial difference between the three BAI scores, as shown in **Table 1**. repeated measures ANOVA test findings.

**Table 2.** Repeated Measures ANOVA Result

	Sum of Squares	df	Mean Square	F	p	$\eta^2$	$\eta^2_p$
RM Factor 1	1786.6	2	893.29	120	< .001	.848	.952
Residual	89.4	12	7.45				

Note. Type 3 Sums of Squares

A follow-up analysis was performed to determine differences between groups. Based on the post hoc comparison analysis in **Table 3.** shows that there were significant differences between the results of the pre-test and post-test ( $t = 11.64$ ,  $p < .001$ ), pre-test and follow-up ( $t = 12.65$ ,  $p < .001$ ), and post-test and follow-up ( $t = 7.84$ ,  $p < .001$ ).

**Table 3.** Post Hoc Comparisons

RM Factor 1	RM Factor 1	Mean Difference	SE	df	t	$p_{\text{tukey}}$
Pre	- Post	10.4	.896	6.00	11.64	< .001
	- Follow Up	22.6	1.784	6.00	12.65	< .001
Post	- Follow Up	12.1	1.550	6.00	7.84	< .001

## Discussion

The study found significant changes in BAI scores over over the course of the study, suggesting that cognitive-behavioral group therapy was effective in alleviating anxiety among the middle-aged women participants. These findings align with the primary objective of the study, which aimed to determine the therapy's effectiveness in addressing anxiety in this specific demographic. The data analysis results revealed significant changes between the pre-test, post-test, and follow-up assessments. This suggests that the cognitive-behavioral group therapy conducted in this study can effectively reduce anxiety among middle-aged women. These findings align with previous research that has shown the effectiveness of group-delivered cognitive-behavioral therapy in reducing anxiety (Rajabi et al., 2016). This consistency with existing literature lends credibility to the current study's findings and reinforces the idea that cognitive-behavioral group therapy is a valid intervention for anxiety reduction.

CBT is a psychotherapy approach that helps individuals in identify and change negative patterns of thought that impact their behavior and feelings (Nakao et al., 2021). In the CBT group conducted in this study, cognitive restructuring was implemented. Cognitive restructuring focuses on investigating, analyzing and replacing unhelpful assumptions, thoughts, and beliefs that contribute to anxiety (Clark, 2014). The adjustment of problematic beliefs through identification and confrontation ia a critical component of cognitive restructuring's processes for reducing anxiety, which may reduce the adverse effects of unhelpful thought patterns on a person's well-being (Clark, 2013).

In the psychotherapy process carried out in this study, partivipants received psychoeducatio. Psychoeducation played a crucial role in helping participants better understand their anxiety. It involved providing them with information about what anxiety is, what factors can contribute to it, and



what common symptoms they might experience. Additionally, participants were taught various coping strategies and techniques to manage their anxiety effectively. This educational component of the psychotherapy process is important because it empowers individuals with knowledge about their condition, making them more capable of recognizing and addressing their anxiety-related issues. The effectiveness of psychoeducation in reducing anxiety is supported by previous research conducted by Oliveira et al. (2023). This study likely demonstrated that when individuals have a better understanding of anxiety and the tools to manage it, they can experience a significant decrease in their anxiety levels.

Furthermore, after the psychoeducation session, participants benefited from the sense of camaraderie and mutual support within the group. They realized that they were not alone in their struggles, which often occurs in group therapy settings. This sense of shared experience and empathy can be incredibly comforting and motivating. Social support from peers, as highlighted in the study by Ortega-Donaire et al. (2023), can have a positive impact on reducing anxiety. When participants support each other and exchange insights and coping strategies, it can enhance their overall progress in managing anxiety and contribute to their emotional well-being.

In the course of the intervention process, an interesting component was introduced to the participants: training in breathing relaxation techniques. This addition was made based on the recognition that such techniques have demonstrated a high level of effectiveness in reducing anxiety (Maleki et al., 2022). These relaxation exercises, often centered around controlled and mindful breathing patterns, have been shown to be particularly beneficial in alleviating anxiety symptoms. What's notable is that the results of this study, which reveal a significant reduction in anxiety levels among middle-aged women, align well with earlier research findings. Specifically, the research by Magnon et al. (2021) highlighted the suitability of breathing relaxation techniques for older individuals. This consistency in findings underscores the potential value of incorporating these techniques into interventions targeting middle-aged women's anxiety. It not only reinforces the broader understanding of the efficacy of such practices but also acknowledges the importance of tailoring interventions to the unique needs of specific demographic groups. In essence, this study's results, in conjunction with prior research, emphasize the potential of breathing relaxation techniques as a complementary and holistic approach within cognitive-behavioral group therapy for anxiety reduction among middle-aged women.

One key aspect of these techniques involves altering the ratio of inhaling to exhaling, which has a calming effect on the nervous system and can significantly reduce stress. When individuals engage in diaphragmatic breathing, it induces both physiological and mental relaxation (Hopper et al., 2019). Furthermore, deep breathing practices have been found to slow down the heart rate and breathing rate, lower blood pressure, and induce muscle relaxation, as supported by studies such as Rahman et al. (2021). These findings also underscore the importance of incorporating deep breathing exercises into anxiety-reduction interventions, as they can provide individuals with practical tools to manage and alleviate their anxiety symptoms effectively.

Research participants did homework assignments given to them to practice breathing relaxation at home. Relaxation exercises are a common type of homework assignment in CBT (Bunel et al., 2021). In the task discussion session, the participants shared their experiences with relaxation. Participants felt the benefits of the relaxation provided and felt better able to manage the anxiety they experienced. These results are inline with previous research that used relaxation as a homework assignment to reduce anxiety (Levermore, 2016). Previous research also suggests that better treatment outcomes are highly correlated with increased homework compliance (Prasko et al., 2022).

Participants enthusiastically attended each session and were encouraged to identify anxiety-provoking events through self-monitoring. The ability to self-monitor supported their anxiety management, consistent with earlier studies demonstrating that self-monitoring enhances anxiety management effectiveness (Mahoney, 2013). By tracking and recording thoughts, feelings, and behaviors related to anxiety, individuals become more aware of triggers and patterns, helping them develop effective coping strategies. The design of this study incorporated a follow-up assessment

conducted two weeks after the post-test. This additional step is essential in assessing the long-term impact of the therapy. The persistence of significant differences during the follow-up assessment suggests that the therapy's effects were not short-lived but had a lasting influence on anxiety levels among the participants.

However, it's important to acknowledge some limitations in our study. The absence of a control group limits our ability to ascertain whether the observed changes in anxiety levels were specifically due to the group cognitive-behavioral therapy (CBT) intervention or if they could be attributed to other factors like spontaneous remission, placebo effects, or the passage of time. A control group would provide a benchmark for comparing the treatment group's progress and determining the true effectiveness of the intervention (Kinser & Robins, 2013; Malay & Chung, 2013). Furthermore, our study's narrow focus on middle-aged women may restrict the generalizability of the findings to other demographic groups, such as younger or older individuals or men (Broeke & Tobi, 2021).

## Conclusion

The results indicated that group CBT effectively reduced anxiety in middle-aged women in this research population. Psychologists can use CBT groups to help middle-aged women manage their anxiety. This research is a quasi-experimental study with only one experimental group so it cannot generalize to the population. Therefore, further research can develop research by adding a control group.

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