EFFECTIVENESS OF AUTOGENIC TRAINING ON REDUCING ANXIETY DISORDERS: A COMPREHENSIVE REVIEW AND META-ANALYSIS

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Abstract:

Background: Autogenic training (AT) is a relaxation technique that has garnered attention for its potential to reduce anxiety and improve psychological well-being. **Objectives**: This study aims to synthesize the findings from a diverse range of studies investigating the relationship between autogenic training and anxiety disorder across different populations and settings. **Methods:** A comprehensive review of 162 studies, including randomised controlled trials (RCTs), non-randomized controlled trials (N-RCTs), surveys, and meta-analysis, was conducted out of these 29 studies were selected which is directly related to the objectives of the studies. Participants in the studies had conditions such as cancer patients, bulimia nervosa, stroke survivors, coronary angioplasty, nursing students, healthy volunteers, athletes, and so on. Anxiety levels were measured before and after the AT intervention using a variety of anxiety assessment scales, including the State Trait Anxiety Inventory (STAI) and the Hospital Anxiety and Depression Scale (HADS). The formats, duration, and delivery of the interventions varied, with some studies utilising guided sessions by professionals and other self-administered practises. **Results:** The combined findings of these studies revealed consistent trends in the beneficial effects of autogenic training on anxiety reduction. AT

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was found to be effective in reducing anxiety symptoms across a wide range of populations and settings. Following AT interventions, participants reported reduced anxiety, improved mood states, and improved coping mechanisms. AT was found to be superior to no treatment or a comparable intervention in a number of cases. **Conclusion:** The body of evidence supports autogenic training as a non-pharmacological approach to reducing anxiety and improving psychological well-being. Despite differences in methodology and participant profiles, the studies show that AT has a positive impact on a wide range of populations. The findings merit further investigation and highlight AT's potential contribution to anxiety management strategies.

Keywords: autogenic training, anxiety disorders, meta-analysis, relaxation techniques, therapeutic interventions

1. Introduction

According to World Health Organization, Anxiety disorders affected approximately 301 million people in 2019, including 58 million children and teenagers. Anxiety disorders are common mental health issues that have a negative influence on people's quality of life, productivity, and overall well-being. Anxiety disorders cause people to feel overly scared and worried, which can lead to inappropriate behaviour. The symptoms are severe enough to cause significant problems in their lives. And these disorders are a major global problem causing significant suffering and ranking as the ninth leading cause of health-related disability (Brenda W. J. H. Penninx et al., 2021)**.** There are several types of anxiety disorders: GAD: Excessive worry about a variety of issues. Panic disorder is characterised by sudden bursts of fear known as panic attacks. Fear/worry in social situations is referred to as social anxiety.

With a growing awareness of the global burden of anxiety-related disorders, there is a greater emphasis on discovering effective interventions to alleviate anxiety symptoms and improve psychological resilience (Manzoni et al., 2008). Among the various treatment approaches, autogenic training has emerged as a promising technique for lowering anxiety and boosting emotional well-being (Breznoscakova et al., 2023)

The use of standardised anxiety assessment tools, such as the State Trait Anxiety Inventory (STAI), Hospital Anxiety and Depression Scale (HADS), and Spielberger's state anxiety inventory, is a common denominator across these studies. These tools allow for a consistent assessment of the effects of autogenic training on anxiety levels. Furthermore, session length, frequency, and delivery formats vary across studies, ranging from self-administered interventions to guided sessions under professional supervision.

This study's examination covers a wide range of subjects, from self-reported minor psychological issues to those diagnosed with specific anxiety disorders. The research's geographical scope is equally broad, encompassing countries such as the United Kingdom, Japan, Canada, Germany, Italy, the United States, and Ireland, among others.

This international variety reflects the worldwide interest in researching the potential impact of autogenic training on anxiety management.

Autogenic training was developed around 100 years ago by a German doctor named Johannes Schultz in 1987. It is a self-regulation technique that consists of six standard exercises based on the phrase "I am at peace." The first exercise aims to relax muscles by repeating a verbal formula, "my right arm is heavy," emphasising heaviness. subsequent passive concentration is focused on feeling warm, initiated by the instruction ''my right arm is warm'', followed by cardiac activity using the formula ''my heartbeat is calm and regular''. then follows passive concentration on the respiratory mechanism with the formula ''it breathes me'', then on warmth around the abdominal region with ''my solar plexus is warm'' and finally on coolness in the cranial region with ''my forehead is cool and clear''(Kanji et al., n.d.). Based on the concepts of autogenic relaxation that tries to generate a state of deep relaxation and mental serenity by concentrated attention on body sensations. This method entails a sequence of self-directed visualisations and affirmations that encourage heightened awareness of physical sensations while instilling a sense of serenity and tranquillity. Autogenic training is thought to alleviate the physiological and psychological components of anxiety by engaging the autonomic nervous system and utilising the mind-body link.

Additionally, Autogenic Training (AT) was discovered to be a promising intervention for reducing significant anxiety in patients undergoing coronary angioplasty, but its effects in comparison to other treatments were unclear. However, 8 weeks of AT practise reduced short-term anxiety and piqued interest in its long-term impact in a study with nursing students (Ernst, Kanji, 2004). According to (Hidderley, 2004) discovered AT's potential for treating anxiety and depression in breast cancer patients. (Manzoni et al., 2008) review supported the anxiety-reduction benefits of relaxation training. Another study discovered that AT reduces anxiety significantly (Yurdakul, 2009**)**. AT was found to be effective in the treatment of anxiety, mild to moderate depression, and functional sleep disorders in one study (Bowden et al., 2012). However, AT was not compared to cognitive or exposure therapy or psychopharmacological treatment. According to (Minowa's, 2013) study, AT may help with post-breast cancer anxiety and pain. Another study discovered that a relaxation techniques course was beneficial in reducing burnout and anxiety levels among medical students, implying that it should be incorporated into medical curricula (Wild, 2014). Furthermore, after three and twelve months, self-help AT reduced anxiety in stroke survivors (Golding et al., 2016; 2015).

Significant improvements in anxiety, depression, and distress were observed in Marafante's (2016) study with cancer outpatients using the Hospital Anxiety and Depression Scale, Distress Thermometer, and Facit Fatigue Scale over 4 courses of 10 weekly sessions lasting 90 minutes, endorsing Autogenic Training (AT) as a valuable, cost-effective method to reduce mood disturbances and distress. And patients with functional somatic symptoms found that AT effectively reduced tension and anxiety while increasing fighting spirit. Implementing AT during nursing simulations was found

to be an effective strategy for reducing anxiety and improving performance, potentially enhancing student learning (Kiba et al., 2017).

(Veskovic's, 2019) study, which included an 8-week combination of Autogenic Training (AAT) and Imagery Movement Imagination (IMI), demonstrated its significance in improving anxiety-related aspects for top athletes across all dimensions of anxiety.

Autogenic Training is effective in reducing stress responses, particularly anxiety and depression, according to (Seo and Kim's, 2019) review of 950 studies and 21 meta-analyses. (Hooi's, 2020) study, which used the Biofeedback 2000 x-pert Schuhfried and the Competitive State Anxiety Inventory-2 over an eight-week period, suggested that Autogenic Training could be useful in managing multidimensional state anxiety in athletes prior to competition, with greater direct effects on anxiety than psychophysiological measures. (Ozamiz-2020 Etxebarria's) study on university students who used autogenic training, abdominal relaxation, and visualisations over four sessions found that these techniques effectively reduced anxiety levels, offering an alternative to medication for anxiety management.

Interestingly, numerous studies indicate that the benefits of autogenic training extend beyond the intervention period, indicating the possibility of long-term effects. Given the context described, the present meta-analysis intends to compile and evaluate the available research regarding the effectiveness of autogenic training as a method to reduce anxiety. By extensively examining the current body of literature, this meta-analysis strives to offer a thorough insight into the possible influence of autogenic training on anxiety-related results. This all-encompassing review aims to elucidate the correlation between autogenic training and anxiety disorders, utilizing outcomes from a diverse range of studies conducted across various populations and environments

2. Methodology

A systematic search of electronic databases, including PsycINFO, PubMed, Scopus, ScienceDirect, Semantic Scholar, SCIHUB, and Google Scholar, was conducted to identify relevant studies. Peer-reviewed articles published between 2000 and 2023 were excluded from the search. The keywords and combinations "autogenic training," "anxiety disorder," "intervention," "effectiveness," "randomised controlled trial," "meta-analysis," and review analysis were used.

2.1 Inclusion and Exclusion Criteria

The data were extracted only from PubMed, ScienceDirect Semantic Scholar, and Scopus only from 2000 to 2023. Data were included which is Published in peer-reviewed English journals. The study which measures the anxiety level before and after the intervention where included. The age range of the participants included in this study was 18 years and above. Whereas study published prior to 2000, study with multiple parameters intervention program, studies that have AT intervention program, and studies which has no participants as cancer patients, bulimia nervosa, stroke survivors, coronary

angioplasty, nursing students, healthy volunteers, athletes has been excluded from the study.

2.2 Study Selection
Through the systematic search, a total of 162 studies were initially identified. The meta-analysis included 29 studies after applying the inclusion and exclusion criteria.

2.3 Participant Characteristics
Patients with specific conditions (e.g., breast cancer, stroke survivor, migraine coronary angioplasty bulimia nervosa), healthy volunteers, nursing students, athletes, and university students are all included in the studies. Sample sizes range from small-scale studies with fewer than 20 participants to large-scale studies with more than 300 participants.

2.4 Design Types
The studies employ various research designs, such as randomised controlled trials RCTs, non-randomized control trials, questionnaire-based surveys, and review analyses.

2.5 Control Groups
Control groups are used in (RCTs) and (N-RCTs) to compare the effects of autogenic training with a baseline or alternative interventions. Some studies compared AT to no treatment, while others used active control groups.

3. Results

3.1 Search Results and Characteristics of Included Studies
A total of 1340 studies were identified in the initial search. Out of these 280 studies were abstracted and titles were reviewed, 1060 studies were removed and 162 full-text articles were assessed for eligibility.

Finally, 29 studies met the inclusion and exclusion criteria of the studies, 26 experimental studies were assessed (N = 1123) and 3 meta-analyses were included (Figure 1).
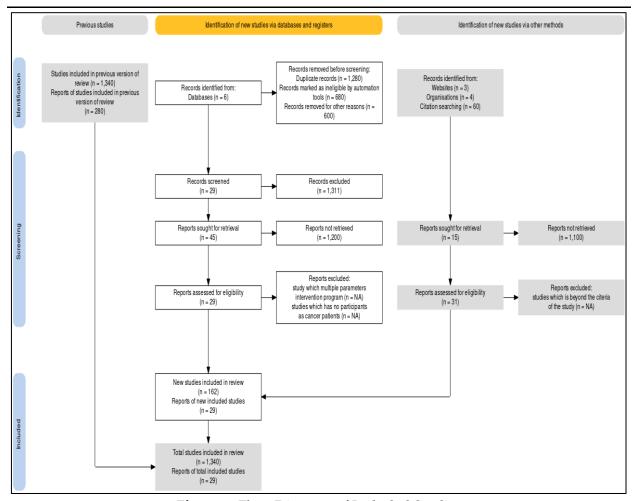
Figure 1: Flow Diagram of Included Studies

Supplemental Table 1 presents the participants' details, the range of participants was 21-61 years. The average duration of the CT was 10 weeks. Additionally, the CT characteristics are shown in Table 1 alongside the specific outcomes of the studies.

Table 1: Characteristics of the Training Intervention of Studies Included in the Meta-Analysis

Authors	N	Types of subjects	Instruments	No. of Session/ duration	Age	Results
Mario A. Farne, (2000)	87	Self-referred minor psychological problems patients (40 men and 37 women)	Total Mood Disturbance (TMD) State Trait Anxiety Inventory (STAI) Personal Control (PC) Scale Minnesota Multiphasic Personality	5-10 2 times – 3 months 8 months of practice at home	20 and 61 years	The findings suggest that there was a reduction, in signs of distress and anxiety alongside a notable increase, in traits that help to lessen the impact of stress.

			Inventory (MMPI-2).			
Ernst (2000), n.d.	8 studies	Healthy volunteers,	Anxiety, Spielberger's state–Trait anxiety inventory	12 sessions duration 30 minutes to 90 minutes	12-85 years	Six studies found AT to be effective in reducing stress and anxiety, and one study found AT to be effective when combined with other techniques, such as visual imagery, In all of the studies where the comparison was made, AT was found to be superior to no treatment.
Wright, (2002), n.d.	18	Patients with Breast Cancer	Hospital Anxiety and Depression Scale (HADS) and Profile of Mood States (POMS)	10 weeks	40-80	The study's findings revealed a statistically significant decrease in participants' anxiety and an increase in their fighting spirit.
Mccomb J. & Clopton J., (2003)	26	Patients affected by bulimia nervosa women	Stai – State anxiety	8 Weeks 8 sessions 1hrs weekly	16-25	According to the findings, the intervention group's anxiety levels may be lower by longer time follow up practices.
Kanji, White & Ernst, (2004)	59	Patients with coronary angioplasty 20 F 39 M	Stai - State anxiety	5 Months 60 minutes	50-79	According to the findings, the AT is a promising adjunct to interventions for people who have a lot of anxiety.
Kanji et al., n.d.	93	Nursing students m &f	State-Trait Anxiety Inventory, the Maslach Burnout Inventory	8 weeks 20 minutes	19–49 years	The study discovered that AT reduced anxiety in the short term.
Margaret Hidderley, (2004)	31	Patient with breast cancer women	Hospital Anxiety and Depression Scale (HADS)	8 weeks	16 and 65	Autogenic training may help women cope with anxiety and depression after breast cancer. study suggests AT as a powerful self-help\therapy.
Manzoni et al., (2008)	27 studies	Patients Male and female	Stai – State anxiety	40 Hours	30-40 y	The findings show that relaxation training has a consistent and

						significant effect on anxiety reduction.
Kang et al., (2009)	17	Female Patients with Migraine	Hamilton Rating Scales for Anxiety (HAM-A) & Spielberger State Anxiety Inventory (STAI-S)	8 sessions 4 weeks 45-50 min	20-40	The findings indicate that biofeedback treatment can be an effective non-pharmacological treatment for migraine patients, as well as an improvement in anxiety states.
Yurdakul et al., (2009)	12	RLHH volunteered Women only	Interviews	8 sessions	Mean age 49 years	The findings of the study indicated that AT was effective in reducing anxiety.
Bowden et al., (2012)	153	Patients 73% sleep-related problem Male and female	'Measure Your Medical Outcome Profile' (MYMOP) and Hospital Anxiety and Depression Scale,	8-weeks sessions	18-79	According to the findings of this study, AT may improve sleep patterns in patients with various health conditions as well as reduce anxiety and depression, both of which can result from and cause insomnia.
Chika Minowa (2013)	60	Patient with breast cancer	State-Trait Anxiety Inventory (STAI) - Japanese version STAI-JYZ (Jit-sumu Kyoiku Press Inc.Tokyo Japan)	20 minutes 3 times a day for 3 days	≥12 years	AT could be a useful non-pharmacological approach for reducing anxiety and pain following breast cancer surgery.
Katharina Wild (2014)	39	Medical Students	(Burnout screening scales; BOSS-II), (State and Trait Anxiety Inventory; STAI-G)	10 sessions 90 min	20-39	The findings of our Adapted Relaxation Techniques (Relacs-AT & PMR) study show that relaxation techniques have a significant effect on reducing burnout-related discomfort and anxiety in participating students, the majority of whom were in the clinical segment of their medical education.

Katherine Golding (2015)	21	Stroke survivor	(Hospital Anxiety and Depression Scale (HADS) (Telephone Interview of Cognitive Status (TICS)	20 minutes 3 months	49-82	Preliminary evidence suggests that autogenic relaxation training delivered on a self-help CD is a feasible and acceptable intervention and that it reduces anxiety in stroke survivors who receive it. But seeks for more 70 participants in follow-up programmed
Golding et al., 2016	21	Stroke survivor	(Hospital Anxiety and Depression Scale (HADS) (Telephone Interview of Cognitive Status (TICS)	12 months follow-up	49-82	Anxiety reductions in stroke survivors who received a self-help autogenic relaxation CD appear to be sustained after a year.
G Marafante, (2016)	25	Cancer outpatient	Hospital Anxiety and Depression Scale (HADS), Distress Thermometer (DT), and Facit Fatigue Scale	90 min 4 courses of 10 weekly sessions	30-74	At the end of the courses, significant improvements in anxiety, depression, and distress were observed, but not in fatigue. The findings suggest that AT, a well-accepted, low-cost, and recognised method, can help psychologists induce introspective work to reduce mood disturbances and distress.
Kiba et al., 2017	24	Patient with FSS 8 Male and 16 female	Japanese edition of profile of Mood States (POMS)	13.71 months	22–78 years	AT helped to reduce tension and anxiety while increasing fighting spirit.
Holland et al., 2017	53	Baccalaureate nursing students	State-Trait Anxiety Scale And Adapted Self-Efficacy Scale	30-minutes	Mean age 22.71	During nursing simulations, the use of AT was an effective technique for reducing anxiety and increasing performance among nursing students. Reducing anxiety during simulations

						can enhance student learning.
Veskovic A., (2019)	24	Karate player 15 men, 9 women	The Movement Imagery Questionnaire-3 (MIQ-3) and Competitive State Anxiety Inventory-2 (CSAI-2)	8 weeks	(Age 22.83 ± 3.51 years, experience 14.58 ± 3.90 years,	A combination of AAT and IMI plays an important role in improving the intensity levels of top karate athletes. All three anxiety dimensions.
Seo & Kim, (2019)	950 studies		State-Trait Anxiety Inventory			According to the findings of the review, autogenic training is effective in reducing stress responses, particularly anxiety and depression.
Hooi, 2020	30	Elite backup bowlers m and f 15	Biofeedback 2000 x-pert Schuhfried Competitive State Anxiety Inventory-2	8 weeks 30 minutes/session	17-20	As a result, this model can be proposed for use in managing athletes' multidimensional state anxiety prior to competition. When compared to psychophysiological measures, Autogenic Training resulted in greater direct changes to multidimensional state anxiety.
Ozamiz-Etxebarria, N., (2020)	44	University students	Generalized Anxiety Disorder – 7 (GAD-7)	4 sessions	19–21 years.	The findings indicate that techniques such, autogenic training, abdominal relaxations and visualizations have been found to be effective in reducing anxiety levels among university students as an alternative, to using medication.
Naiara Ozamiz-Etxebarria, (2020)	48	university students	Generalized Anxiety Disorder – 7 (GAD-7) scale And google form questionnaire	4 sessions	19–21 years	The current study found that relaxation techniques can help students reduce their anxiety when confronted with COVID-19.
Vasu et al.,	70	post-stroke patients	Hospital anxiety &	20 min ART +40 min usual	40-75 years	The study anticipates that stroke survivors

2021			depression scale, Modified Barthel Index and Europol's 5 dimensions 5 levels	physiotherapy sessions 3 times per week 12 weeks		who receive ART in addition to standard physiotherapy will report less anxiety and improved functional ability.
De Rivera et al., 2021	75	Health professional male 34 & Female 41	ad-hoc questionnaire	4/20 min	22–71	The findings indicate that autogenic training is beneficial to both physical and psychological health, as well as better understanding of others. As a result, autogenic training is recommended for people who experience anxiety, are afraid of illness, or believe they need to improve the quality of their relationships with others.
Jermaina N., (2022)	18	Athletes 16 males and 2 females	questionnaire Zung Self-Rating Anxiety Scale	30-60 minutes	18 years	Using the PMR or AGR method to reduce anxiety is one option. This method has been shown to be effective in reducing anxiety.

3.2 Instruments

Various standardised anxiety assessment scales, such as the State Trait Anxiety Inventory STAI, the Hospital and Depression Scale HADS, Spielberger's state-trait anxiety inventory, and other anxiety assessment scales specific to the target population, are used to assess anxiety levels.

3.3 Intervention

Autogenic training is delivered in a variety of formats, including professional-led sessions, self-administered practises, and interventions delivered via CDs or other electronic means. The length of the intervention session ranges from a few minutes to hours, weeks to years.

3.4 Outcome Measures

Reductions in anxiety symptoms, changes in mood states, and improvements in quality of life were frequently used as primary outcome measures. Secondary outcomes such as depression, distress, fatigue, and other psychological factors are also investigated in some studies.

3.5 Duration and Follow-up

The duration of the intervention varies, with some studies involving short-term interventions lasting a few weeks and others lasting several months. A subset of studies included follow-up assessments to assess the long-term viability of the intervention's effects.

3.6 Data Collection and Analysis

Questionnaires, interviews, and standardised scales administered before and after the intervention are examples of data collection methods. To assess the significance of observed changes, quantitative data analysis techniques such as the t-test, ANOVA, chi-square tests, and regression analysis are commonly used.

3.7 Geographical Diversity

The studies are carried out in a number of countries, including the United States, Canada, Germany, Italy, Japan, Ireland, Malaysia, and Spain, among others. This geographical diversity contributes to the findings' generalizability.

Overall, the methodologies used in these studies represent a thorough investigation of the relationship between autogenic training and anxiety disorder, encompassing a diverse range of demographic groups, conditions, and intervention strategies

4. Discussion

The systematic review with meta-analysis aims to assess the effect of AT on the reduction of anxiety disorder. Autogenic training (AT) holds potential as a promising therapy for enhancing the psychological well-being and overall quality of life in individuals coping with chronic physical health conditions. In a scenario where an increasing number of people are living with one or more chronic health issues, incorporating a relaxation method such as AT could positively impact their comprehensive health journey. Nevertheless, there is currently a lack of recent assessments that have consolidated the existing evidence within this particular population (Ramirez-Garcia et al., 2020). Stetter and Kupper's meta-analysis revealed that Autogenic Training (AT) had an average effect size of d=0.59 on the psychological index. In a separate meta-analysis conducted by Linden, the effect size was d=0.43 The participants in the meta-analyses suffered from conditions like tension headache, migraine, hypertension, coronary artery disease, bronchial asthma, and Raynaud's disease, where symptoms were exacerbated by anxiety and tension.

From a holistic health perspective, it is believed that the human body and mind are interconnected. Both the body and mind regularly encounter negative influences that the body tries to suppress or counteract. As time passes, the body's ability to self-regulate becomes depleted, resulting in disruptions in its normal functioning. The progression of disorders typically follows a similar pattern, including increased muscle tension, loss of

the ability to relax, development of joint stiffness, compromised blood circulation, sensations of coldness, tingling, breathlessness, increased fatigue, and mental sluggishness. In some cases, this can even lead to the emergence of psychosomatic illnesses. To maintain good health, it is crucial to restore both static and dynamic balance and incorporate relaxation into daily psychosomatic renewal practices (Wilczyńska, D et al. 2019).

Furthermore, the study in question demonstrated the effectiveness of reducing anxiety levels through soft tissue manipulation and Jacobson's progressive relaxation in a single treatment session. This suggests that both methods are efficient in mitigating the adverse effects of lifestyle changes.

One significant challenge when conducting trials involving relaxation techniques is the difficulty in finding a suitable control intervention that is indistinguishable from the actual relaxation method but remains inactive in terms of its therapeutic effects. It is essential for an inactive control to mimic the characteristics of daily practice, allocate the same amount of time, and provide the same level of attention from the therapist as the relaxation method being studied (A. Huntley, 2001). It is plausible that achieving a completely inactive (placebo) control for relaxation may be impossible. This could partially explain why, in some trials where the control intervention might have had some active elements, such as massage, a new bronchodilator, or supportive psychotherapy, authors only reported improvements from baseline rather than making comparisons with control groups.

Even when the control intervention is only partially effective, large sample sizes become necessary to accurately assess the effectiveness of the therapy. Directly comparing relaxation therapies to standard pharmaceutical asthma care is likely to yield inconclusive results since the effectiveness of relaxation therapies is unlikely to be on the same scale. Nevertheless, even relaxation therapies with small effect sizes, if consistently demonstrated, could be cost-effective as a complementary approach alongside conventional pharmaceutical treatments (Manzoni et al., 2008)

All the examined relaxation techniques exhibit promising potential in reducing anxiety. Both applied relaxation and meditation demonstrate notably high effect scores in both within-group and between-group analyses. However, it's important to note that applied relaxation was only utilized in a single study in the latter analysis, which raises questions about the validity of this result. Progressive relaxation, on the other hand, yields substantial effect sizes, with a within-group reduction surpassing that of other techniques. Autogenic training, while slightly less effective in reducing anxiety in the between-group comparison, still shows positive results, and its within-group effect size aligns with the overall average.

Surprisingly, employing a multi-technique approach does not significantly enhance the effectiveness of relaxation training in reducing anxiety. This approach exhibits relatively low effect sizes in both types of analysis.

5. Conclusion

Autogenic training (AT) is a relaxation technique that aims to reduce anxiety and stress by promoting a state of deep relaxation through a series of self-suggestions and focusing exercises. AT teaches individuals how to achieve a state of deep relaxation. This can help reduce the body's stress response, including the release of stress hormones like cortisol, which can contribute to anxiety. It emphasizes the connection between the mind and body. By promoting relaxation and reducing muscle tension, it can help individuals become more aware of physical sensations and the impact of stress on their bodies. Many people with anxiety disorders struggle with sleep disturbances. AT can aid in relaxation, making it easier for individuals to fall asleep and experience better sleep quality. Learning and practicing AT can empower individuals to manage their anxiety independently. This sense of self-efficacy can boost confidence and reduce anxiety related to a lack of control. AT provides individuals with a valuable tool to manage anxiety in real time. By using AT techniques when anxiety arises, individuals can effectively calm themselves down and reduce anxiety symptoms.

However, it's important to note that the effectiveness of AT can depend on various factors, including an individual's willingness to practice regularly and their specific anxiety triggers. Additionally, AT might not be a standalone solution for severe anxiety disorders and may be more effective when used in conjunction with other therapeutic approaches, such as cognitive-behavioural therapy (CBT) or medication, when necessary. Overall, Autogenic training can be a valuable addition to a holistic approach to managing anxiety, but its effectiveness may vary from person to person. It's essential for individuals to work with a qualified therapist or practitioner who can tailor the approach to their specific needs and provide guidance on its proper implementation.

Conflict of Interest Statement
The authors declare no conflict of interest.

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References

1. Aivazyan, T. A., & Zaitsev, V. P. (2018). The effectiveness of autogenic training in the psycho-corrective treatment of patients presenting with chronic somatic diseases. Voprosy Kurortologii, Fizioterapii, i Lechebnoi Fizicheskoi Kultury, 95(3), 11-15.
2. Bowden, A., Lorenc, A., & Robinson, N. (2012). Autogenic Training as a behavioural approach to insomnia: a prospective cohort study. Primary health care research & development, 13(2), 175-185.
3. Breznoscakova, D., Kovanicova, M., Sedlakova, E., & Pallayova, M. (2023). Autogenic Training in Mental Disorders: What Can We Expect?. International Journal of Environmental Research and Public Health, 20(5), 4344.
4. De Rivera, L., Ozamiz-Etxebarria, N., Dosil-Santamaría, M., & de Rivera-Monterrey, L. (2021). Autogenic training improves the subjective perception of physical and psychological health and of interpersonal relational abilities: an electronic field survey during the COVID-19 crisis in Spain. Frontiers in Psychology, 3156.
5. Ernst, E., & Kanji, N. (2000). Autogenic training for stress and anxiety: a systematic review. Complementary therapies in Medicine, 8(2), 106-110.
6. Farnè, M. A., & Jimenez-Muñoz, N. (2000). Personality changes induced by autogenic training practice. Stress medicine, 16(4), 263-268.
7. Garvin, A. W., Trine, M. R., & Morgan, W. P. (2001). Affective and metabolic responses to hypnosis, autogenic relaxation, and quiet rest in the supine and seated positions. International journal of clinical and experimental hypnosis, 49(1), 5-18.

8. Golding, K., Kneebone, I. A. N., & Fife-Schaw, C. H. R. I. S. (2016). Self-help relaxation for post-stroke anxiety: A randomised, controlled pilot study. Clinical Rehabilitation, 30(2), 174-180.

9. Golding, K., Fife-Schaw, C., & Kneebone, I. (2017). Twelve-month follow-up on a randomised controlled trial of relaxation training for post-stroke anxiety. Clinical Rehabilitation, 31(9), 1164-1167.

10. Hooi, L. B., Wah, T. E., Van Bac, N., Khoa, P. T. A., Siswantoyo, R. K., & Na, P. D. (2020). A New Structural Equation Modeling of Psychophysiological Measures and Multidimensional State Anxiety Induced by Autogenic Training. International Journal of Psychosocial Rehabilitation, 24(05).

11. Hidderley, M., & Holt, M. (2004). A pilot randomized trial assessing the effects of autogenic training in early-stage cancer patients in relation to psychological status and immune system responses. European Journal of Oncology Nursing, 8(1), 61-65.

12. Holland, B., Gosselin, K., & Mulcahy, A. (2017). The effect of autogenic training on self-efficacy, anxiety, and performance on nursing student simulation. Nursing Education Perspectives, 38(2), 87-89.

13. Jermaina, N., Kusmaedi, N., Ma'mun, A., Gaffar, V., Purnomo, E., & Marheni, E. (2022). Effects of Relaxation Exercises to Reduce Anxiety in Beginner Athletes. Sciences, 10(6), 1275-1283.

14. Kang, E. H., Park, J. E., Chung, C. S., & Yu, B. H. (2009). Effect of biofeedback-assisted autogenic training on headache activity and mood states in Korean female migraine patients. Journal of Korean Medical Science, 24(5), 936-940.

15. Kanji, N., White, A. R., & Ernst, E. (2004). Autogenic training reduces anxiety after coronary angioplasty: a randomized clinical trial. American Heart Journal, 147(3), 508.

16. Kanji, N., White, A., & Ernst, E. (2006). Autogenic training to reduce anxiety in nursing students: randomized controlled trial. Journal of Advanced Nursing, 53(6), 729-735.

17. Kiba, T., Abe, T., Kanbara, K., Kato, F., Kawashima, S., Saka, Y., ... & Fukunaga, M. (2017). The relationship between salivary amylase and the physical and psychological changes elicited by continuation of autogenic training in patients with functional somatic syndrome. BioPsychoSocial medicine, 11(1), 1-11.

18. Luthe, D. W., & JH, S. (2000). Autogenic Methods. London. The British Autogenic Society.

19. McComb, J. J. R., & Clopton, J. R. (2003). The effects of movement, relaxation, and education on the stress levels of women with subclinical levels of bulimia. Eating Behaviors, 4(1), 79-88.

20. Marafante, G., Bidin, L., Seghini, P., & Cavanna, L. (2016). Mood and distress in cancer patients after Autogenic Training (AT): a pilot study in an Italian Oncologic Unit. Annals of Oncology, 27, iv93.

21. Manzoni, G. M., Pagnini, F., Castelnuovo, G., & Molinari, E. (2008). Relaxation training for anxiety: a ten-years systematic review with meta-analysis. BMC psychiatry, 8(1), 1-12.

22. Minowa, C., & Koitabashi, K. (2013). Effects of autogenic training on perioperative anxiety and pain in breast cancer patients: a randomized controlled trial. The Kitakanto Medical Journal, 63(1), 1-11.

23. Ozamiz-Etxebarria, N., Santamaría, M. D., Munitis, A. E., & Gorrotxategi, M. P. (2020). Reduction of COVID-19 anxiety levels through relaxation techniques: A study carried out in Northern Spain on a sample of young university students. Frontiers in Psychology, 11, 2038.

24. Prato, C. A., & Yucha, C. B. (2013). Biofeedback-assisted relaxation training to decrease test anxiety in nursing students. Nursing education perspectives, 34(2), 76-81.

25. Sakakibara, M., Hayano, J., Oikawa, L. O., Katsamanis, M., & Lehrer, P. (2013). Heart rate variability biofeedback improves cardiorespiratory resting function during sleep. Applied Psychophysiology and Biofeedback, 38, 265-271.

26. Singh, A., Singh, T., & Singh, H. (2018). Autogenic training and progressive muscle relaxation interventions: effects on mental skills of females. European Journal of physical education and sport science.

27. Seo, E., & Kim, S. (2019). Effect of autogenic training for stress response: a systematic review and meta-analysis. Journal of Korean Academy of Nursing, 49(4), 361-374.

28. Tomioka, M., & Kubo, C. (2006, April). Group autogenic training in psychosomatic medicine: A pretreatment interview reduces the dropout rate. In International Congress Series (Vol. 1287, pp. 235-239). Elsevier.

29. Vasu, D. T., Nordin, N. A. M., & Ghazali, S. E. (2021). Effectiveness of autogenic relaxation training in addition to usual physiotherapy on emotional state and functional independence of stroke survivors. Medicine, 100(33).

30. Vesković, A., Koropanovski, N., Dopsaj, M., & Jovanović, S. (2019). Effects of a psychological skill training program on anxiety levels in top karate athletes. Revista brasileira de medicina do esporte, 25, 418-422.

31. Wright, S., Courtney, U., & Crowther, D. (2002). A quantitative and qualitative pilot study of the perceived benefits of autogenic training for a group of people with cancer. European Journal of Cancer Care, 11(2), 122-130.

32. Wild, K., Scholz, M., Ropohl, A., Bräuer, L., Paulsen, F., & Burger, P. H. (2014). Strategies against burnout and anxiety in medical education–implementation and evaluation of a new course on relaxation techniques (Relacs) for medical students. PloS one, 9(12), e114967.

33. Wilczyńska, D., Łysak-Radomska, A., Podczarska-Głowacka, M., Zajt, J., Dornowski, M., & Skonieczny, P. (2019). Evaluation of the effectiveness of relaxation in lowering the level of anxiety in young adults–a pilot study. International journal of occupational medicine and environmental health, 32(6), 817-824.Luthe, W. (1963). Autogenic training: Method, research, and application in medicine. American Journal of Psychotherapy, 17(2), 174-195.

34. Yurdakul, L., Holttum, S., & Bowden, A. (2009). Perceived changes associated with autogenic training for anxiety: A grounded theory study. Psychology and Psychotherapy: Theory, Research and Practice, 82(4), 403-419.