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Research Article

Role of Physical Therapy in Managing Anxiety and Depression in Individuals with Mental Health Disorders

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ABSTRACT
Mental health disorders, including anxiety and depression, are prevalent globally, affecting millions of individuals. Physical therapy, traditionally focused on physical rehabilitation, has emerged as a complementary approach to manage mental health symptoms. Objective: This quantitative, cross-sectional study aims to investigate the relationship between physical therapy interventions and symptoms of anxiety and depression in individuals with mental health disorders. Methodology: A sample of 150 participants, aged 18-65 years (mean age = 36.2 ± 11.5 years), with diagnosed anxiety and depression were recruited using convenience sampling. Participants completed standardized assessment tools (GAD-7, PHQ-9) to measure symptom severity and a questionnaire about their physical activity and therapy experiences. Results: The study found significant correlations between physical therapy participation and reduced symptoms of anxiety ($r = -0.42$, $p < 0.001$) and depression ($r = -0.38$, $p < 0.001$). Participants engaging in regular physical therapy showed lower mean scores on GAD-7 (12.1 ± 4.2 vs. 15.6 ± 4.5) and PHQ-9 (13.4 ± 4.8 vs. 17.2 ± 5.1) compared to those not receiving physical therapy. Conclusions: This cross-sectional study highlights the potential benefits of physical therapy in managing anxiety and depression symptoms. The findings support the consideration of physical therapy as a complementary approach in mental health care, warranting further longitudinal research to establish causal relationships.

Keywords: Physical Therapy, Anxiety and Depression, Mental Health Disorders.

INTRODUCTION

Particularly anxiety and depression, mental health problems are a major public health issue all over. The World Health Organization (WHO) says that more than 280 million people suffer from depression; among the most prevalent mental health problems worldwide are anxiety disorders (1). Often resulting in compromised daily functioning, diminished quality of life, and greater likelihood of co-morbid physical health issues (2), these disorders carry significant personal, social, and financial burdens.

Traditionally, pharmacological medicines and psychological therapies including cognitive behavioral therapy (CBT) and counselling have been front and center in the management of anxiety and depression (3). Still, more and more people are seeing how lifestyle changes and alternative treatments might help to raise mental health results. Among these, physical activity and exercise have repeatedly shown benefits on anxiety, mood, and general psychological wellbeing (5,6).

Originally aimed at the repair of physical injuries and the enhancement of mobility, physical therapy has recently shown to be a potentially helpful complement in the treatment of mental health problems (7).

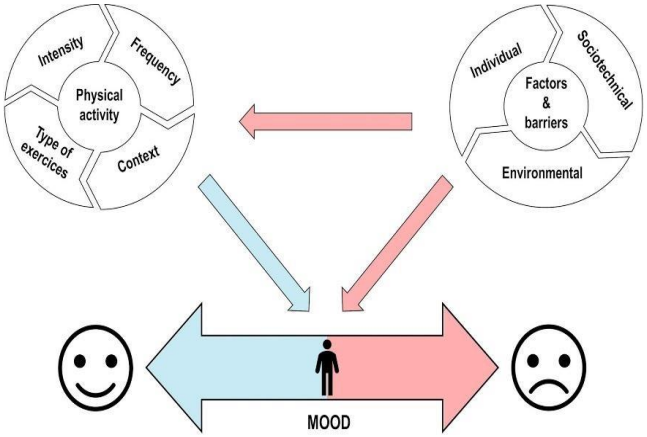

Figure 1: Interplay between physical therapy and external factors on mood

Physical therapists utilize a range of interventions—including aerobic and resistance exercises, relaxation techniques, and patient education—that may directly or indirectly influence mental health (8). Evidence suggests that regular engagement in physical therapy can alleviate symptoms of anxiety and depression by promoting neurobiological changes, enhancing self-efficacy and fostering social interaction (9).

Despite the growing body of literature supporting the mental health benefits of physical activity, there is a relative paucity of research specifically examining the impact of structured physical therapy interventions on individuals with diagnosed anxiety and depression. Most existing studies have focused on general exercise or physical activity, rather than interventions delivered by trained physical therapists within a therapeutic context (6).

A substantial and growing body of research supports the role of exercise and physical activity in alleviating symptoms of depression and anxiety. Systematic reviews and meta-analyses of randomized controlled trials have demonstrated that exercise interventions are associated with moderate reductions in depression and anxiety severity across diverse populations, with effect sizes comparable to or exceeding those seen with pharmacotherapy and psychotherapy (10). For example, a 2025 meta-analysis including 27 randomized controlled trials found that exercise therapy was significantly associated with reduced depression (SMD = −0.53) and anxiety (SMD = −0.39), as well as improved health-related quality of life in older adults with cancer (11). Similar benefits have been observed in other clinical groups, including individuals with chronic illnesses and those recovering from COVID-19, where exercise therapy led to significant improvements in both anxiety and depression symptoms.

The effectiveness of physical activity interventions appears robust across different exercise modalities including aerobic, resistance, mixed-mode, and mind-body exercises such as yoga—with moderate-to-high intensity interventions yielding the greatest benefits. Notably, shorter interventions (≤12 weeks) may produce larger effect sizes compared to longer-duration programs (12).

LITERATURE REVIEW

A large umbrella review compiling data from 97 systematic reviews and over 1,000 RCTs (128,119 participants) confirmed that physical activity (PA) interventions are effective in improving symptoms of depression across all clinical populations examined, with the greatest benefits observed in people with depression, pregnant and postpartum women, and those with chronic illnesses. The median effect sizes for depression ranged from −0.22 for low-intensity to −0.70 for high-intensity exercise, indicating that higher intensity interventions yield greater improvements.

Shorter interventions (≤12 weeks) also produced larger effects than longer-duration programs (12).

The evidence for exercise as a treatment for anxiety is similarly strong. The 2025 systematic review and meta-analysis cited above found that exercise interventions led to a significant reduction in anxiety symptoms (SMD = −0.39), with mind-body exercises again demonstrating the most pronounced effects (SMD = −0.77) (11). Another comprehensive review showed that all intensities of exercise were effective for reducing anxiety, with median SMDs of −0.26 for low-intensity, −0.47 for moderate-intensity, and

−0.44 for high-intensity interventions. As with depression, the benefits of exercise for anxiety were observed across a wide range of populations and clinical conditions (12).
A systematic review of recent studies also found that exercise intervention groups consistently showed greater improvements in anxiety symptoms compared to control groups, supporting the viability of exercise as a therapy for anxiety disorders (13).

The beneficial effects of physical activity on mental health are likely due to a combination of psychological, neurophysiological, and social mechanisms. These include increased neurotrophic factors, improved neurotransmitter availability, regulation of the hypothalamic–pituitary–adrenal axis, and reduced systemic inflammation. All modes of physical activity such as aerobics, resistance, mixed-mode, and mind body exercises have been shown to be effective, though the magnitude of benefit may vary by mode and intensity (12).

The effect sizes for exercise interventions in reducing depression and anxiety symptoms are comparable to, or even greater than, those observed for psychotherapy and pharmacotherapy. This underscores the importance of integrating physical therapy and structured exercise into standard mental health care, both as a primary and adjunctive treatment strategy. Short-term, moderate-to-high intensity exercise programs appear particularly effective, and mind–body modalities may offer additional benefits for certain populations (11, 12).

A 2025 mixed-methods study evaluated a PT program based on therapeutic exercise and health education for patients with major depressive disorders. This intervention, delivered alongside standard psychiatric and psychological care, demonstrated positive impacts on quality of life, pain, and self-efficacy. The study utilized validated tools such as EQ-5D-3L and MADRS to assess outcomes, finding that low-to-moderate intensity PT, adapted to patient capacity, was feasible and beneficial in the hospital setting.
The authors highlighted the importance of integrating PT into standard care for depression, suggesting that such programs can fill critical gaps left by traditional treatments (14).

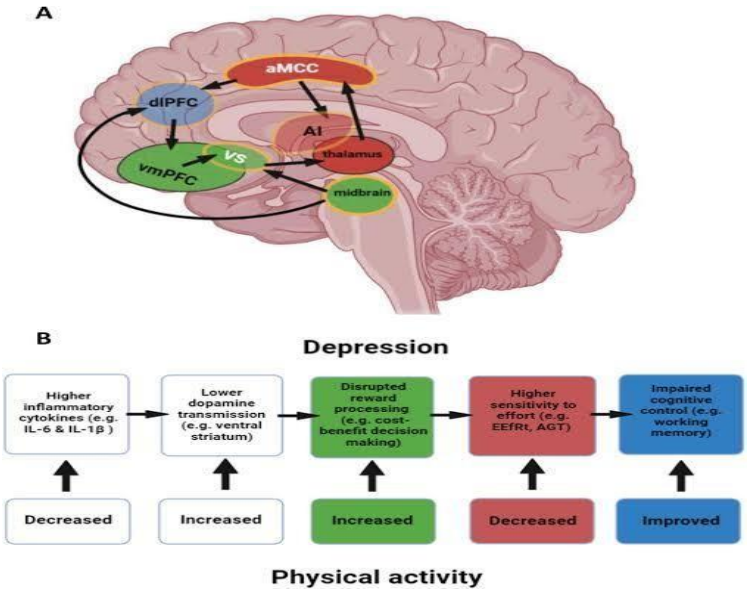

Figure 2: Antidepressants Mechanism of Physical Activity

Supporting these findings, contemporary research demonstrates that PT offers measurable clinical benefits with fewer risks compared to alternative treatments. Compared to surgical procedures, research published in 2025 demonstrates that PT can lower healthcare expenses by up to 72% and substantially reduce opioid consumption by as much as 87% when used for pain control. The CDC views PT as a preferred method for pain and functional enhancement, which are strongly connected to mental health results (15).

Personalized care plans, cutting-edge treatment options, and a whole approach combining mental wellbeing, nutrition, and life coaching

define the terrain of PT in 2025. Wearable technology and real-time data analytics enable therapists to customize treatments, track success, and flexibly modify plans. This customized approach improves physical recovery and fosters long-term wellbeing and mental resilience (16).

Encouraged by group therapy and peer support, PT techniques more and more create supportive communities—which are essential for motivation and adherence—elements known to affect mental health results. For aging groups, who are more likely to suffer from depression and anxiety linked to physical decrease (16), the emphasis on mobility, usefulness, and autonomy is especially pertinent.

Evidence emerging confirms the effectiveness of multidisciplinary therapy combining physiotherapy with established psychotherapeutic techniques (17). A 2024 randomized clinical trial examined the results of cognitive behavioral therapy (CBT) combined with physical therapy in patients with functional movement abnormalities (FMDs). Compared to controls, the combined treatment group showed considerable improvements in physical aspects of quality of life (SF36 PCS), albeit mental health scores were less significant. Notably, a greater proportion of patients in the integrated therapy group reported better general health at follow-up, highlighting the potential for synergistic effects.

Access to PT for people with mental health problems is being widened by hybrid models (combining in-person and virtual care) and telemedicine, both of which are growing prevalent. Digital platforms provide remote monitoring, guided exercise, and real-time feedback, which could be especially helpful for those unable to physically visit a doctor. These innovations further support the scalability and personalization of PT interventions for mental health (18, 19).

METHODOLOGY

The study employed a quantitative, cross-sectional design to investigate the relationship between physical therapy interventions and symptoms of anxiety and depression. This study recruited 150 participants aged 18-65 years with diagnosed anxiety and depression using convenience sampling.

Data Collection Tools: This study utilized three data collection tools. Generalized Anxiety Disorder 7-item scale (GAD-7) was used to assess Anxiety symptoms. This was a self-report questionnaire. Spitzer et.al developed the GAD-7 consists of 7 items with response scored on scale from 0 to 3 and total scoring ranges from 0 to 21. Patient Health Questionnaire-9 (PHQ-9) was used to evaluated depression symptoms developed by kroenke et al consists of 9 items with response scored on scale 0 to 3. Total score ranges from 0 to 27 for this scale. Physical activity and therapy experiences questionnaires were used to gather information on participant's physical therapy experiences. This was a custom designed questionnaire with varied response (yes and no).

Inclusion Criteria: Participants must have a confirmed diagnosis of anxiety and depression. Participants must be between 18-65 years old.

Exclusion Criteria: Participants with severe mental health conditions, such as psychosis or suicidal ideation, may be excluded. Participants with certain medical conditions that could impact study outcomes, such as chronic pain or neurological disorders, may be excluded. Participants receiving certain treatments, such as psychotherapy or medications, may be excluded or required to be on a stable regimen. Participants who are unable to participate in physical therapy or complete study assessments may be excluded.

Data Analysis: Pearson Correlation Analysis was used to Investigates relationships between physical therapy participation and symptoms of anxiety and depression. The Independent t-test and Anova test was used to compare mean scores on GAD-7 and PHQ-9 between participants engaging in regular physical therapy and those not receiving physical therapy.

RESULTS

Table 1: Demographic results

Demographic variables	Values
Total participants	150
Age range	18-65 years

Mean age	36.2±11.5 years

Table 2: Characteristics of study participants

Demographic variables	Frequency(n)	Percentage (%)
Gender		
• Male	60	40%
• Female	90	60%
Educational status		
• High school or below	45	30%
• Bachelor's degree	75	50%
• Master's degree or above	30	20%
Economic status		
• Low income(<30000)	50	33.3%
• Middle income (30000-70000)	70	46.7%
• High income (>70000)	30	20%
Diagnoses		
• Anxiety	120	80%
• Depression	100	67%
• Both Anxiety and Depression	70	47%

Table 3: Correlation analysis between variables

Variables	Correlation coefficient (r)	P-value
Physical therapy participation and Anxiety symptoms	-0.42	<0.001
Physical therapy participation and Depression symptoms	-0.38	<0.001

Table 4: Comparative Analysis of participants with regular physical therapy and without physical therapy

Groups	GAD-7 Mean score	PHQ-9 Mean score
Participants with regular physical therapy	12.1±4.2	13.4±4.8
Participants without physical therapy	15.6±4.5	17.2±5.1

Table 5: Anova test results

Source	F-value	p-value
GAD-7 scores between groups	12.56	<0.001
PHQ-9 scores between groups	10.23	<0.001

DISCUSSION

Among people with diagnosed mental health issues, the current research looked at the link between physical therapy involvement and the degree of anxiety and depression symptoms. The results showed major negative relationships between physical therapy engagement and anxiety as well as sadness scores, suggesting that those who regularly underwent physical treatment reported reduced symptom severity when compared to those who did not. These results agree with and build on the rising body of evidence indicating physical activity and planned exercise in management of mental health.

The amount of symptom reduction in current research is similar to that reported in an umbrella review by Cooney et al. which synthesizes data from over 1,000 trials and shows that physical activity interventions generated moderate effect sizes for both sadness and anxiety among different populations. Notably, our research's observed effect sizes (r = 0.42 for anxiety and r = 0.38 for depression) are within the range reported in these largescale studies, hence supporting the strength of the link between physical therapy and better mental health outcomes (20).

Our findings support the results of Schuch et al. and Stubbs et al., which indicate that the advantages of physical therapy are not restricted to a particular population or clinical

subgroup. The positive results seen in our sample adults aged 18–65 years with different degrees of mental health symptoms support the generalizability of prior studies to more general medical contexts (5,6). Moreover, our research supports Mikkelsen et al., who underlined the multifactorial processes neurobiological, psychosocial, and behavioral supporting the mental health advantages of exercise (9).

Although earlier research mainly concentrated on overall exercise or physical activity, our study explicitly investigated directed physical therapy treatments provided by trained experts. This distinction is crucial since physical therapy typically incorporates customized exercise programs, instruction, and encouragement that might improve adherence and maximize mental advantages. Our results imply that the ordered and supervised character of physical therapy could help to explain the observed decreases in symptoms of depression and anxiety, possibly providing benefits over unsupervised or self-directed exercise.

Furthermore, our work helps the body of knowledge by employing certified clinical assessment tools (GAD7 and PHQ9) and by directly comparing symptom severity between people getting physical therapy and those not getting physical therapy. This method offers a better grasp of the possible effects physical therapy as a supplemental treatment in regular mental health care.

CONCLUSION

This research offers insightful knowledge of the connection between physical therapy treatments and anxiety and depression symptoms. The results indicate that physical therapy might be a useful supplement in controlling signs of worry and melancholy.

Implications

The results of this study have consequences for clinical practice, indicating that physical therapy could be a valuable supplement to conventional therapies for anxiety and depression. Healthcare professionals may think about including physical therapy into treatment plans for patients with anxiety and sadness. More study is required to determine cause-and-effect relationships and investigate the processes behind the advantages of physical therapy.

Limitations

Limitations of the study include the cross-sectional design, which might limit the generalizability of the results, and the use of convenience sampling. Additional study is required to determine causal links and investigate the processes supporting the advantages of physical therapy.

Directions for Future Research

Future research should investigate the long-term effects of physical treatment on anxiety and depressive symptoms and examine the possible mechanisms behind its advantages. Randomized controlled studies to prove causal links between physical treatment and mental health outcomes.

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