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Review Article

The Role of Animal Assisted Therapy in the Rehabilitation of Mental Health Disorders: A Systematic Literature Review

Denis Arsovski*

Higher Medical School Bitola, University St. Kliment Ohridski Bitola, Bitola, North Macedonia

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***Corresponding author:** Denis Arsovski
Higher Medical School Bitola, University St. Kliment Ohridski – Bitola, Partizanska BB, Bitola 7000, North Macedonia
Email: denis.arsovski@uklo.edu.mk

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ABSTRACT

Mental health disorders like depression, anxiety, post-traumatic stress disorder (PTSD), and schizophrenia significantly reduce the daily functioning and quality of life of individuals. Traditional treatments often fall short, thus opening interest in complementary therapies like animal assisted therapy (AAT) which encourages the human-animal bond and gives emotional and psychological support. This review evaluated the efficacy of AAT in treating mental health disorders, and understanding its mechanisms and benefits. A comprehensive literature review was conducted (using databases such as PubMed, Google Scholar, and ResearchGate) focused on peer-reviewed articles, systematic reviews and meta-analyses published in the last 2 decades. Studies indicated that AAT improved mental health outcomes for people with depression, anxiety, PTSD, and schizophrenia. Interaction with therapy animals reduced cortisol levels, increased oxytocin, lowered blood pressure, and increased social engagement and emotional regulation. Benefits included reduced symptoms of depression, anxiety, PTSD, and improved social functioning and quality of life. AAT offered a complementary treatment for mental health disorders, providing emotional comfort, improving mood, and serving as a nonpharmacological option for individuals. However, challenges such as individual preferences, allergies, ethical concerns for therapy animals, and logistical issues must be addressed. Future research should focus on the long-term effects and mechanisms involved to optimize the application of AAT in the clinical setting, and alternatives like robotic companion pets could also be explored.

Keywords: animal assisted therapy, emotional regulation, human–animal bond, rehabilitation centers, therapeutic alliance

Introduction

Mental health disorders affect millions of people worldwide and represent a major public health challenge. Conditions such as depression, anxiety, post-traumatic stress disorder (PTSD), and schizophrenia can severely impair the daily functioning of an individual and their overall quality of life [1]. Traditional treatments including medication and psychotherapy are often effective but this outcome is not universal. Consequently, there is a growing interest in complementary and alternative therapies that can improve mental health outcomes. One such treatment is pet therapy, also known as animal assisted therapy (AAT) [2].

Trained animals, primarily dogs and cats, are used in AAT to provide comfort, companionship, and therapeutic support to people with mental health disorders. The concept is based on the human-animal bond and hypothesizes that interactions with animals can result in positive emotional responses which in turn reduce stress. Animals can play a central role in emotional and psychological healing processes [3].

Understanding the mechanisms by which AAT positively affects mental health rehabilitation is crucial for validating and optimizing its use in the clinical environment. The therapeutic impact of AAT can be attributed to several physiological, psychological, and social mechanisms [4]. Interaction with animals has been shown to reduce levels of cortisol, a primary stress hormone. Cortisol reduction helps in lowering stress and anxiety levels, contributing to an overall sense of calm. Petting and playing with an animal can activate the parasympathetic nervous system, which promotes relaxation and prevents the stress response [5].

In addition, engaging with animals can lead to increased oxytocin levels, a hormone associated with social bonding and emotional regulation. Oxytocin promotes feelings of trust, empathy, and relaxation, which can help reduce symptoms of anxiety and depression [6]. Regular interaction with therapy animals can improve cardiovascular health by lowering blood pressure and heart rate [7]. This physiological calming effect can reduce the physical symptoms of stress

and anxiety, promoting general well-being and successful rehabilitation.

Therapy animals provide unconditional positive regard, offering a source of comfort and acceptance for the patient without the fear of judgment or rejection. This can be particularly beneficial for people with low self-esteem, social anxiety or those who have experienced trauma [8]. Animals can help people regulate their emotions by providing a consistent and quiet presence. The act of caring for and interacting with a pet can distract from negative thoughts and provide a sense of purpose and routine [9]. Animals also can serve as social synergists, stimulating interactions between people in therapeutic or social environments. This can help reduce feelings of isolation and loneliness, which are dominant in many mental health conditions [10]. The presence of an animal can help strengthen the therapeutic relationship between the patient and the therapist. Animals can create a more relaxed and informal atmosphere, making it easier for patients to open up and engage in the therapeutic process [11].

Many therapy animals, particularly dogs, require regular exercise. This requires people to participate in physical activities such as walking or playing, which can have additional mental health benefits including improved mood, and increased energy levels [12]. Caring for an animal introduces a sense of routine and responsibility, which can be particularly beneficial for people struggling with disorganization and lack of motivation that often accompany mental health disorders [13]. Interaction with animals can serve as a form of behavioral activation, a therapeutic approach used to fight depression by motivating people to take part in meaningful activities. The presence of an animal can provide a natural drive for engagement and activity [14].

The purpose of this research was to evaluate the effects of AAT as a complementary rehabilitation for mental health disorders, specifically focusing on conditions such as depression, anxiety, PTSD, and schizophrenia. This study aimed to understand the mechanisms through which AAT is therapeutic and assess its benefits and limitations in treating these mental health conditions. The review involved a comprehensive analysis of peer-reviewed articles, systematic reviews, and meta-analyses published within the last 2 decades to determine the effectiveness of AAT in improving mental health outcomes.

Materials and Methods

1. Databases, keyword selection and search strategy

A comprehensive literature search was conducted across multiple databases to identify relevant studies for this systematic review. Databases [PubMed, Cochrane Library, Scopus, Web of Science, PsycINFO, CINAHL, Embase, ProQuest Dissertations & Theses, Google Scholar (for grey literature), OpenGrey (for additional grey literature), ResearchGate (to identify potentially relevant studies shared by authors)] were systematically scanned.

Keywords for the literature search were selected based on the primary focus of the review which was to explore the impact of AAT on psychiatric conditions that have been extensively studied and documented in the existing literature. The primary psychiatric diagnoses included in the search were depression, anxiety, PTSD, and schizophrenia. These conditions were chosen due to the substantial body of research supporting the use of AAT in treatment of these conditions, as well as their prevalence in mental health studies. Other psychiatric diagnoses such as addiction and bipolar disorder were not included in the search strategy as the primary focus of this review was on conditions where AAT has shown the most promising results. However, the exclusion of these conditions was not intended to limit the scope but rather to concentrate on the areas where AAT has been most rigorously tested.

The search strategy was designed to include all relevant studies published up to 2024, using a combination of keywords related to AAT, mental health, specific target populations (e.g., adolescents, elderly), and outcomes (e.g., stress reduction, quality of life). Boolean operators, truncation, and wildcards were added to capture variations of search terms, and filters were applied to limit the results to studies published in English. Additionally, manual searches of reference lists from relevant articles and reviews were conducted to ensure the inclusion of all pertinent studies.

2. Screening process

The screening process was conducted in 2 stages to ensure the inclusion of relevant studies for this systematic review. In the first stage, titles, and abstracts of all identified records from the database searches were independently reviewed by 1 author. Studies were included if they appeared to focus on AAT and its impact on the specified psychiatric conditions (e.g., depression, anxiety, PTSD, schizophrenia). Studies that did not meet these criteria were excluded from further review.

In the second stage, full-text articles of the studies that passed the initial screening were retrieved and assessed independently by the same author. The inclusion criteria were based on the study's relevance to the research questions, the use of AAT as a primary intervention, and the presence of quantitative or qualitative data on the specified outcomes.

3. Inclusion criteria

The inclusion criteria for selecting studies were as follows:

(1) only studies published in the last 2 decades (from 2003 to 2023) were included to ensure the relevance and currency of the findings; (2) peer-reviewed articles, systematic reviews, and meta-analyses were included to provide a high level of evidence. Randomized controlled trials, cohort studies, and observational studies were prioritized; (3) studies involving adults and adolescents diagnosed with mental health disorders such as depression, anxiety, PTSD and schizophrenia were included. Both male and female participants were considered; (4) the review included studies where AAT or pet therapy was used as the primary or complementary intervention in treating mental health disorders; (5) studies that reported on mental health outcomes including symptom reduction, emotional regulation, quality of life, and social functioning were included.

4. Exclusion criteria

The following exclusion criteria were applied to ensure the quality and relevance of the review: (1) studies published in languages other than English were excluded due to the unavailability of reliable translation resources; (2) articles not subjected to peer review such as opinion pieces, editorials, and non-academic articles were excluded to maintain the scientific rigor of the review; (3) studies focusing on general populations without diagnosed mental health disorders were excluded; (4) studies where AAT was applied outside of mental health contexts such as in physical rehabilitation or educational settings were excluded unless they directly related to mental health outcomes.

5. Data extraction and synthesis

The data from the included studies were extracted independently and reviewed for accuracy. Key information such as study design, population characteristics, intervention details, and outcomes was recorded. The extracted data were then synthesized to evaluate the general effectiveness of AAT in mental health rehabilitation, with particular focus on common therapeutic outcomes across different studies.

6. Quality assessment

The quality of the included studies was assessed using standardized tools such as the Cochrane Risk of Bias Tool for randomized controlled trials and the Newcastle-Ottawa Scale for observational studies. Studies were graded as high, medium, or low quality based on their design, methodology, and reporting standards.

The PICOS (Population, Intervention, Comparison, Outcomes and Study design) criteria outlines the framework used to define the scope of this systematic review on AAT and its impact on mental health (Table 1). The Population (P) includes individuals from diverse age groups diagnosed with various mental health disorders such as depression, anxiety, PTSD, and schizophrenia. The Intervention (I) focuses on AAT involving a range of animals, with therapy sessions conducted in both individual and group settings over different durations. Comparison (C) groups include participants who received standard care or alternative non-animal-assisted interventions. The Outcomes (O) evaluated primarily focus on mental health improvements including symptom reduction, enhanced quality of life, and better social functioning, with some studies also assessing physiological stress responses. The Study design (S) encompasses a range of methodologies including randomized controlled trials, non-randomized trials, and cohort studies, ensuring a comprehensive analysis of the effectiveness of AAT across different populations and settings.

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram illustrates the study selection process for this systematic review on the effects of AAT on mental health outcomes (Figure 1 [15]). The initial search

Table 1. PICOS Criteria

Criteria	Description
Population (P)	Individuals of various age groups, including adolescents, adults, and the elderly, diagnosed with mental health disorders such as depression, anxiety, PTSD, and schizophrenia. This also includes participants residing in institutional settings such as psychiatric residential care homes, hospitals, and long-term care facilities.
Intervention (I)	Animal-Assisted Therapy (AAT) interventions involving various animals, including dogs, birds, and robotic pets. These interventions were implemented in different formats, including therapy sessions, group activities, and individual interactions, often spanning weeks to several months.
Comparison (C)	Control groups with no intervention or alternative interventions such as standard care, relaxation techniques, or discussion groups without animal involvement.
Outcomes (O)	Primary outcomes measured include reductions in symptoms of mental health disorders (e.g., depression, anxiety, PTSD symptoms), improvements in quality of life, social functioning, emotional regulation, and physiological stress indicators (e.g., cortisol levels, blood pressure).
Study Design (S)	The included studies comprised randomized controlled trials (RCTs), non-randomized controlled trials, cohort studies, and systematic reviews. These studies provided both qualitative and quantitative data on the effectiveness of AAT.

across multiple databases (including PubMed, Scopus, PsycINFO), conceded a total of 1,234 records. After removing 250 duplicate records, 984 unique records were screened based on titles and abstracts. Of these, 784 records were excluded for not meeting the inclusion criteria, leaving 200 full-text articles for detailed assessment. During this full-text review, 160 articles were excluded due to reasons such as non-relevance to the specific mental health conditions studied (e.g., focusing on unrelated disorders), lack of control groups, or insufficient data reporting. Ultimately, 40 studies met the inclusion criteria and were included in the qualitative synthesis. Of these, 25 studies were further included in the quantitative synthesis, where meta-analysis was applicable. The selection process depicted in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram ensures a thorough and rigorous inclusion of studies that are directly relevant to the research questions, providing a robust foundation for the findings presented in this review.

The key characteristics of selected studies that evaluated the effectiveness of AAT interventions in mental health are presented in Table 2 [2-7]. The studies [2-7] were selected for this review were based on their methodological quality, sample size, and relevance to the primary psychiatric

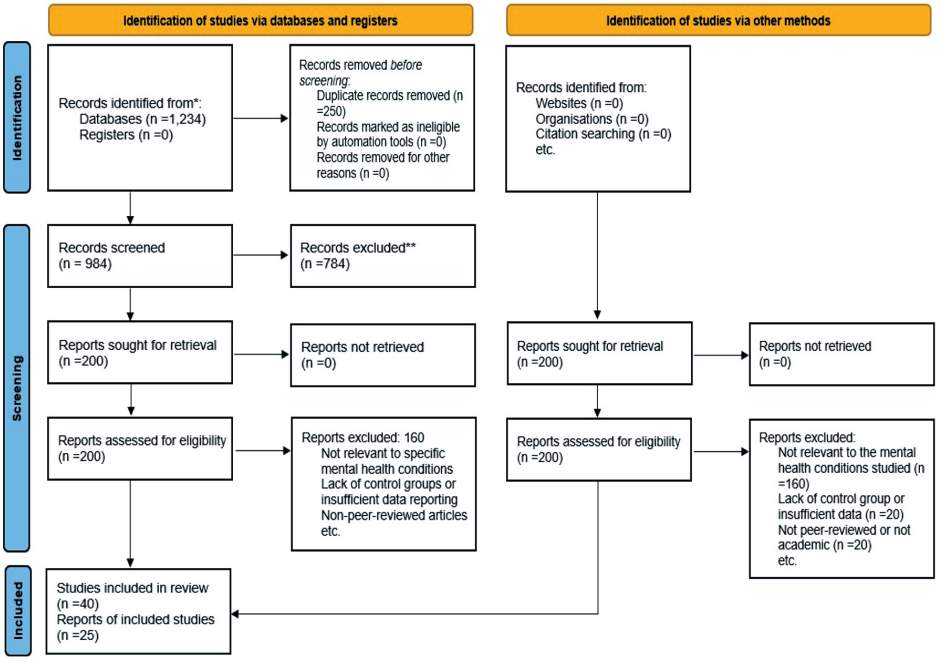

Figure 1. PRISMA Flow Diagram [15].

Table 2. Key Characteristics of Evaluated Studies

Author (y)	Study design	Population	Intervention	Key findings
Jones (2019) [2]	Systematic review	Adolescents with mental health disorders	Canine-assisted psychotherapy (CAP)	Improved engagement, socialization, reduced disruptive behaviors, high acceptability.
Rodrigo-Claverol (2023) [3]	Prospective cohort study	Adolescents in psychiatry units	AAT with therapy dogs	Strong human-animal bond, positive therapy outcomes.
Hunjan (2023) [4]	Quasi-experimental	Individuals with depressive symptoms	AAT with therapy dogs	Improved memory, emotion regulation, reduced depressive symptoms.
Meints (2022) [5]	Randomized controlled trial (RCT)	School children	Dog-assisted interventions	Reduced stress levels in children with special educational needs.
Marshall-Pescini (2019) [6]	Experimental study	Dog-owner pairs	Socio-positive interaction	No significant oxytocin changes; needs further research.
Beetz (2012) [7]	Review article	General population	Human-animal interactions	Oxytocin mediates stress reduction and social bonding benefits.

conditions (depression, anxiety, PTSD, and schizophrenia). Priority was given to systematic reviews, meta-analyses, and randomized controlled trials, guaranteeing a comprehensive representation of evidence. Information about the study design, population characteristics, types of AAT interventions and the key findings reported by each study are shown in Table 2 [2-7] and offer a concise summary of the most significant research in the field.

7. Risk of bias assessment

In this systematic review, the risk of bias was assessed across the included studies using established guidelines. The primary areas of bias considered include selection bias, performance bias, detection bias, attrition bias, and reporting bias. The majority of the included studies were randomized controlled trials; however, not all studies adequately reported the methods used for random sequence generation and allocation concealment. This lack of transparency in the selection process introduces a potential risk of selection bias in several studies. Studies that clearly outlined their randomization processes were deemed to have a low risk of selection bias.

Blinding of participants and personnel was inconsistently reported across the studies. In studies involving AAT, blinding is often challenging due to the nature of the intervention. As a result, there is a moderate to high risk of performance bias, particularly in studies where blinding was either not implemented or not reported. The assessment of outcomes was often based on self-reported measures, which could introduce detection bias. In some studies, outcome assessors were not blinded, further increasing the risk of detection bias. However, studies that used objective measures (e.g., physiological stress indicators like cortisol levels) presented a lower risk of detection bias. Several studies reported high dropout rates, particularly in long-term interventions. In some cases, the reasons for dropout were not fully explained, leading to an unclear or high risk of attrition bias. Studies with low dropout rates and thorough explanations for participant attrition were considered to have a low risk of attrition bias.

The risk of reporting bias was assessed based on whether all prespecified outcomes were reported. Some studies selectively reported outcomes, particularly in cases where results were not significant. This selective reporting introduces a potential risk of reporting bias. Additional sources of bias include the variability in intervention protocols, differences in the duration and frequency of AAT sessions, and the potential for publication bias. The heterogeneity in study designs, populations, and outcome measures also contribute to the general risk of bias. The general risk of bias across the included studies was moderate, with specific concerns related to performance bias, detection bias, and attrition bias. While some studies demonstrated robust methodologies with low risk of bias, others lacked sufficient detail in their reporting, contributing to an increased risk of bias. These limitations should be considered when interpreting the results of this systematic review.

Results

1. The impact of therapy animals on mental health

The research studies included in this review indicated that the presence and interaction with therapy animals can lead to improvements in mental health outcomes for people suffering from conditions such as depression, anxiety, PTSD, and schizophrenia [16]. It was shown that people with depression who participate in pet therapy show significant reductions in depressive symptoms [17]. The study was conducted in a nursing home and reported that residents who interacted with therapy dogs showed lower levels of depression compared with those who did not participate in the therapy [17].

2. Reducing anxiety through interaction with therapy animals

Interaction with therapy animals decreases symptoms of anxiety. For instance, a study involving college students reported that those students who spent time with therapy dogs before exams reported lower levels of anxiety compared with those who did not [18]. Studies have reported that veterans with PTSD who participate in pet therapy report significant reductions in symptoms such as hypervigilance, flashbacks, and nightmares [19]. The calming presence of an animal can help reduce intense PTSD [19]. PTSD often leads to social isolation however, engagement in pet therapy can encourage social interaction and reintegration by providing a nonthreatening way to connect with others [20].

3. Therapeutic support for people with schizophrenia

Schizophrenia is a chronic mental health disorder characterized by hallucinations, delusions, and cognitive impairments. Pet therapy has been used as a treatment for people with schizophrenia [21]. Interaction with therapy animals has been associated with reductions in negative symptoms of schizophrenia such as anhedonia (lack of pleasure) and social withdrawal [21]. Animals provide a source of positive engagement and motivation [22]. Pet therapy can promote the overall quality of life for people with schizophrenia by providing companionship, reducing loneliness, and promoting a sense of purpose [23]. Engagement with therapy animals can stimulate cognitive

functioning and social skills. Activities such as caring for an animal and participating in pet-assisted activities can improve concentration, memory, and social interaction [24].

Spending time with animals can elevate mood and increase motivation. Therapy animals often bring joy and laughter, which can be beneficial for individuals with depression or low energy levels [25]. Pet therapy provides a nonpharmacological option for mental health treatment, which can be valuable for people who are resistant to or experience side effects from medications. It can offer an alternative approach that complements traditional pharmacological treatments [26]. Pet therapy can be easily integrated into various therapeutic environments including hospitals, nursing homes, schools, and private practices. This resourcefulness allows universal application and adaptation to different populations and treatment goals [27].

4. Limitations and challenges of pet therapy

While pet therapy offers numerous benefits, it also has several limitations that need to be addressed to ensure its safe and effective implementation. The effectiveness of pet therapy can vary significantly depending on individual preferences and the specific mental health condition being treated. Not everyone may feel comfortable or benefit from interaction with animals. Some individuals may have fears or phobias related to animals which can prevent the therapeutic benefits [28]. Allergies to animal dander are a common concern that can limit the applicability of pet therapy. Ensuring a safe environment for people with allergies requires careful planning and potential exclusion of certain people from therapy sessions [29].

Ensuring the health of therapy animals is important. Animals used in therapy must be well-trained, healthy, and capable of coping with the demands of therapeutic work. Overworking animals or exposing them to stressful environments can lead to ethical concerns and compromise the effectiveness of therapy [30]. Implementing pet therapy requires logistical challenges such as selecting and training suitable animals, ensuring proper hygiene and safety protocols, and managing the interactions between animals and patients. These challenges require resources and expertise [31].

Discussion

1. Comparative perspectives on pet therapy and alternative interventions

The findings from this review are focused on the potential of pet therapy as a complementary treatment for mental health disorders. By analyzing recent studies, this review accents the positive impacts of pet therapy on conditions such as depression, anxiety, PTSD, and schizophrenia. There are numerous recent studies that evaluate the efficacy, benefits, and limitations of pet therapy in treating adult and adolescent mental health disorders.

One systematic review objectifies the efficacy and safety of pet therapy interventions in hospitalized patients [32]. The findings suggest that there are several critical factors which must be considered to ensure the safe and effective implementation of pet therapy. This study determined that many studies included significant reductions in stress, pain, and anxiety with pet therapy [32]. Additionally, this study identified that there were also improvements in vital signs, and nutritional intake indicating that the presence of therapy animals might positively impact physical health alongside mental health [32]. The heterogeneity in patient demographics, health disorders, types of animals used, and the duration of the interaction focuses attention towards the diversity of pet therapy interventions. Most studies involved dogs, cats, rabbits and even farm animals suggesting that various animal species can be beneficial in therapeutic contexts. The review aligns with this current review in the benefits of pet therapy, but several aspects remain unclear, especially regarding the long-term effects of pet therapy and the specific mechanisms through which they succeed to result in benefits to the individual [32].

On the other hand, 1 study explored the impact of robotic companion pets on depression and loneliness in older adults with mild to moderate dementia [33]. This research is relevant given the increased levels of social isolation and mental health challenges experienced by this vulnerable population during the coronavirus disease 2019 (COVID-19) pandemic. The findings suggest that a robotic companion pet can serve as a valuable alternative to live pet therapy [33]. The results demonstrated significant improvements in both depression and loneliness among participants interacting with robotic companion pets [33]. This study is focused on the advantages of robotic companion pets as an alternative to live pet therapy. While live animals offer unique benefits, they also come with challenges such as the need for care, potential risk in causing allergies, and the risk of causing zoonotic diseases. Robotic pets are easier to manage, require no special care and can be used without concerns about health and safety [33].

2. Therapeutic benefits of pet therapy in stress modulation

The therapeutic potential of pet therapy extends across a variety of settings and populations, offering both psychological and physiological benefits. Recent studies have explored the impact of pet therapy on stress modulation, particularly in vulnerable populations such as children with insecure attachment styles and hospitalized mental health patients [34,35]. These studies provide

evidence that pet therapy can significantly improve well-being and reduce stress-related symptoms, supporting its broader application in both therapeutic and educational contexts [34,35].

One study by Beetz et al [34] in 2012 explored the effects of social support from a dog on stress modulation in male children with insecure-avoidant or disorganized attachment. The study suggested that therapy dogs may offer benefits in easing stress responses in these children [34]. The research revealed that the presence of a therapy dog significantly reduced physiological stress responses, as measured by salivary cortisol levels. The correlation between cortisol levels and physical contact with the therapy dog draws attention to the importance of tactile interaction in stress modulation. These findings have significant implications for the practice of pet therapy. Given that stress can interfere with learning and performance, incorporating therapy dogs into educational environments, especially in special education settings, could provide a valuable tool for increasing students well-being and academic outcomes. Moreover, this study supported the broader application of therapy dogs beyond traditional therapeutic contexts, suggesting their potential role in everyday education environments [34]. The study findings suggested that therapy dogs could be beneficial in creating more inclusive and supportive settings for children with special educational needs [34].

A study by Nepps et al [35] in 2014 evaluated the effects of the therapy program on psychological and physiological variables in patients hospitalized on a mental health unit of a community hospital. The findings indicated that participation in pet therapy program can result in a significant decrease in depression, anxiety, pain, and pulse rate among patients. Specifically, the decrease in depression ($p < 0.0001$), anxiety ($p < 0.0001$) and pain ($p < 0.0001$) were significantly substantial, as was the reduction in pulse rate ($p < 0.04$). These results suggested that a pet therapy program can effectively reduce psychological stress indicators in hospitalized mental health patients, offering benefits comparable to those achieved through traditional stress management programs [35].

3. Pet therapy in PTSD and care home settings

Pet therapy has gained considerable attention for its potential to ease symptoms of various mental health conditions, particularly PTSD. Researchers have explored not only the therapeutic benefits of human-animal interactions but also the reciprocal effects on the animals involved. The effectiveness of pet therapy extends beyond the clinical setting, as evidenced by studies in residential care homes, where therapy animals have been shown to improve the emotional and psychological well-being of residents [36,37].

There are many studies reporting the effects of the pet therapy in PTSD. One study investigated the impact of a 1-year program on PTSD symptomatology in adolescents with PTSD and to evaluate the reciprocal effects on the dog's behavior [36]. The findings provided evidence for the effectiveness of dog training as a nonpharmacological intervention for PTSD, with focus on improvements in emotional and attentional regulation. In addition, the results demonstrated a significant reduction in PTSD symptoms and severity of depression in the dog-training group, in contrast to an insignificant recovery in the control group [36]. An interesting aspect of this study was the examination of the dog's behavior which revealed increased anxiety and decreased selective attention performance in the dogs involved in the training program. This finding underlined the reciprocal nature of the human-animal interaction, indicating that while dogs provided therapeutic benefits to the adolescents, the experience was also stressful for the dogs. The inverse correlation between the dogs increased anxiety and the beneficial effects observed in the adolescents suggests that careful consideration must be given to the well-being of therapy animals [36].

A systematic review by Orr et al [37] in 2023 provided a comprehensive synthesis of qualitative and quantitative evidence on the effects of animals on the health and well-being of the residents in care homes. The findings were focused on the benefits of pet therapy interventions, despite some methodological limitations in this research. The review included 34 studies published in 40 articles. The qualitative synthesis suggested that animals can significantly increase the psychological and emotional well-being of care home residents. Animals provided companionship, reduced feeling of loneliness, and promoted emotional connections. Staff perceptions of pet therapy were generally positive, and the benefits for resident's mental health and well-being were recognized [37].

4. Pet therapy for improving social interaction and quality of life in psychiatric patients

Pet therapy appears to be a valuable intervention for improving social interactions and quality of life in people with chronic psychiatric conditions. The unique challenges posed during the COVID-19 pandemic increased social isolation and brought attention to the importance of innovative therapeutic approaches which can support mental health and well-being. A study by Shih et al [38] in 2023 evaluated the effectiveness of pet therapy in improving social interactions and quality of life in patients with chronic schizophrenia during the COVID-19 pandemic. The findings indicated that pet therapy can play a significant role in promoting social functioning and quality of life for these patients. This experimental study was conducted across 6 psychiatric rehabilitation institutions in Taiwan and demonstrated that patients in the pet therapy group

exhibited higher social functioning immediately after the intervention compared with the control group. The results suggested that pet therapy can increase the social interaction capabilities of patients with schizophrenia. This was particularly crucial during periods of heightened social isolation as observed during the COVID-19 pandemic. Additionally, the pet therapy group showed a significant improvement in quality of life. This indicated that the benefits of pet therapy on quality of life persisted for at least 3 months postintervention. This prolonged effect focuses on the potential of pet therapy as a sustainable therapeutic intervention that can improve the well-being of people with chronic schizophrenia [38].

A randomized controlled study conducted by Sahebalzamani et al [39] in 2020 evaluated the effects of pet therapy on happiness and quality of life in chronic psychiatric patients living in residential care homes in Tehran, Iran. The results provided evidence for the benefits of the pet therapy in this population, and focused on the potential of pet therapy as an intervention for increasing mental health and overall well-being. The study enrolled 70 male patients with chronic psychiatric disorders, and assigned patients into an intervention group that received pet therapy with a bird and a control group that received no intervention. The intervention lasted eight weeks, and significant improvements were observed in the intervention group. The results demonstrated a significant increase in happiness in the intervention group ($p < 0.0001$). Additionally, quality of life (psychological well-being, social relationships, environment, and autonomy) showed significant improvement in the 4 subdomains. These findings suggested that pet therapy positively impacted both emotional and practical aspects of life for chronic psychiatric patients [39].

While research supporting the benefits of pet therapy is growing, more rigorous studies are needed to establish its efficacy across different populations and mental health conditions. The current evidence base requires further validation through larger, well-controlled studies [40]. The costs associated with training and maintaining therapy animals, as well as providing pet therapy services can be restrictive for some institutions and individuals. Ensuring accessibility to pet therapy for different populations including those with limited financial resources is an important consideration [41].

Conclusion

This review focused on the benefits of pet therapy in improving mental health outcomes for adults and adolescents suffering from various conditions such as depression, anxiety, PTSD, and schizophrenia, and the therapeutic impact of human-animal interactions which can lead to reductions in stress, anxiety, depression, and improvements in social engagement.

The efficacy of pet therapy is accredited to several physiological, psychological, and social mechanisms including reduction in cortisol levels, increased levels of oxytocin, and improvement in cardiovascular health. These pet therapy interactions provide emotional comfort, improve mood, and offer nonpharmacological treatment options that complement traditional therapies.

There is a need to address several limitations and challenges to ensure the safe and effective implementation of pet therapy. These include individual preferences, potential allergies, ethical concerns regarding the well-being of therapy animals, and logistical challenges in selecting and training suitable animals. Alternative forms of therapy such as robotic companion pets that can provide similar benefits without some of the challenges associated with live animals.

These findings recommend a balanced and ethical approach to pet therapy, ensuring mutual benefits for both humans and therapy animals, and recommends future research to understand the long-term effects and mechanisms of pet therapy interventions.

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Author Contribution

Denis Arsovski conceptualized and designed the study, performed the literature review, and was responsible for data analysis and interpretation.

Conflicts of Interest

The author declares no conflict of interest.

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Ethical Statement

As this study was a systematic literature review, no primary data collection involving human participants were conducted. Therefore, ethical approval was not required. All analyzed studies were previously published, and ethical considerations were managed by the original authors.

Data Availability

The data supporting the findings of this study are derived from previously published works, all of which are cited in the manuscript. These references include peer-reviewed articles, systematic reviews, and meta-analyses that are publicly available through academic databases such as PubMed, Google Scholar, and ResearchGate. No new data were generated or analyzed in this study. The full list of references can be found in the References section of this manuscript.

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