The Relief Effect of Pet Therapy on Depression

Jianuo Qian *

Immersion Academy, Irvine, California, 92604, USA

* Corresponding Author Email: QianJianuo312@outlook. com

Abstract. Traditional psychotherapy mostly relies on drug intervention and physical therapy. However, with the transformation of the medical model and the deepening understanding of mental health, treatment methods are moving towards a more diversified and humanized direction. In recent years, animal-assisted therapy has been widely used in the field of emotional disorders and psychological rehabilitation as a therapeutic method. This article systematically reviews the intervention effects and potential influencing mechanisms of pet companionship and animal-assisted therapy in different populations. The focus is on its role in depression intervention, and it analyzes how different populations, through multi-dimensional interactive methods such as tactile stimulation (such as stroking the soft fur of pets), visual observation (such as observing the cute behaviors of animals), and responsible care (such as feeding, grooming pets), can effectively regulate human endocrine systems (such as promoting the secretion of dopamine and serotonin), improve negative cognition, and alleviate depressive mood and physical symptoms. At the same time, the analysis of special groups (women with postpartum depression) is supplemented.

Keywords: Depression, Pet, Psychology, Animal-Assisted Therapy.

1. Introduction

In recent years, pets have become increasingly common in households worldwide, providing individuals with vital emotional support and enhancing overall well-being. According to recent statistics, nearly 373 million cats and 471 million dogs are kept as pets worldwide. In 2025, pet ownership remains a cornerstone of American life, with 94 million households in the United States, accounting for 71% of all households. Among them, in the latest American Veterinary Medical Association (AVMA) study, it was found that 44. 5% of households in the United States own dogs, while 32. 1% have cats [1]. The connection between humans and animals has gained increasing attention in psychological research, particularly in mental health interventions.

One such intervention is Animal-Assisted Therapy (AAT), which promotes improvements in an individual's emotional, cognitive, social, and physical functions through contact with animals. In contrast, companion animals, most commonly dogs and cats, are primarily for companionship and emotional support rather than therapy. While contributing positively to mental health through daily interactions, they are often not included in formal treatment regimens. The reason why cats and dogs have become mainstream companion pets is because cats and dogs have a deep affection for people and can adapt to many environments. Compared with other pets (such as exotic pet reptiles and birds), the maintenance cost is lower and the interaction threshold is more friendly. According to research by the European Federation of Animal Science, domestic dogs (canine domestic dog subspecies) and domestic cats (cat domestic cat subspecies) have been bred for thousands of years, from their initial functional roles such as hunting, herding, and guarding to their loyal companions [2].

In addition, from a socio-cultural perspective, the value of pet companionship is also reflected in the fact that animals will not make negative evaluations of human emotional state and behavioral performance, and this pure emotional connection is an irreplaceable psychological comfort for patients with depression (accompanied by self-denial and social fear).

This article aims to explore the differences between AAT and companion pets, especially their application and effectiveness in relieving symptoms of depression, and evaluate their potential as psychological support methods by reviewing current research and theories.

2. Definitions

2.1. Depression

It is mainly manifested by low mood, loss of interest, and lack of energy. The treatment of depression mainly includes medication, psychotherapy and physical therapy. Drug therapy is the main treatment method, which generally starts to take effect within 2~4 weeks. However, it should be noted that all drugs must be taken under the guidance of a doctor and in strict accordance with the doctor's instructions. In addition to medication, psychotherapy can also effectively reduce the risk of relapse.

2.2. Companion Animals and Relevant Legal Protections

A companion pet is an animal that is owned by humans for personal entertainment or companionship purposes. According to a statement by Zhongnan University of Economics and Law, companion pets refer to animals owned by humans for personal entertainment or companionship purposes, mainly including cats and dogs. The European Convention for the Protection of Pet Animals in 1987 emphasizes the ethical responsibility of humans to companion animals. The definition of companion animals emphasizes their importance in the family and the relationship between humans and animals. Companion animals not only provide emotional support to people, but also play an important role in modern society, involving animal welfare, nutrition, reproduction and other aspects of research.

From the perspective of functional extension, the value of companion pets has gone beyond basic companionship. Some companion pets that have undergone basic training (such as "emotional support dogs") can help depressed people relieve acute anxiety attacks by sensing their owners' emotional changes and performing soothing behaviors such as licking and snuggling; At the same time, the "daily routine" (such as regular feeding and dog walking) brought about by pet ownership can help patients with depression rebuild their life order and reduce negative behaviors caused by a sense of meaninglessness.

2.3. Animal-Assisted Therapy: Concept and Treatment Approach

Animal-assisted therapy (AAT) is a process in which animals are used as a medium to improve or maintain the physical condition of sick or disabled people through contact with animals, or to help them strengthen their interaction with the outside world, so as to adapt to society and promote recovery.

Unlike pet companionship, AAT has clear treatment goals, standardized intervention processes (such as 30~60 minutes for a single treatment and frequency of 1~2 times a week), and an effect evaluation system (such as monitoring patients' mood changes and behavioral improvement through scales). In addition to dogs, commonly used intervention animals in clinical practice include horses (equestrian therapy), dolphins (marine animal assisted therapy), and small mammals (such as guinea pigs, suitable for patients who are afraid of canines), which can be flexibly selected according to the patient's age, physical condition, and psychological needs.

3. The Alleviating Effect of Companions Animals on Depression

At present, pets appear more and more frequently around the world, and they are no longer used for roles such as gatekeeping but rather for providing emotional value. In the fast-paced life, more people will also alleviate the "negative energy" of life by watching short videos. Moreover, the pet merchants of Douyin media alone increased by 86% year-on-year, and pet video content increased by 67%, and the pet economy is developing rapidly [3]. Therefore, many people increasingly rely on the companionship of pets.

3.1. Children and Adolescents Group

On the side of children, the non-profit research and education organization "The Human Animal Bond Research Initiative" has included a large number of studies showing that pet ownership can improve children's mental, social, and mental health. In one study, the average self-reported depression score was lower than that of peers who did not own pets, and the pet group was better in all 10 indicators (e. g., low mood, sleep disturbances) scores on the Depression Scale (CES-D) [4]. Researchers believe that children can develop a "sense of responsibility" and reduce loneliness by caring for pets (such as feeding and grooming), while "unconditional acceptance" of pets can help adolescents relieve anxiety caused by academic pressure and indirectly reduce the risk of depression.

3.2. Adult Group

For many young people, the 'emotional value' of pets is even more important. In a study of 80 adults with depression, researchers recommended adopting a pet to 80 adults with depression, and their depressive symptom improvement rate (based on a 50% reduction in Hamilton Depression Rating Scale HAMD score≥) was 23% higher than that of the control group after receiving conventional medication, showing that pets can be used as an effective adjunct to medication [5]. A mixed-methods study of young people aged 20~30 in the UK also pointed out that through daily interaction with pets (such as touch, companionship, etc.), oxytocin secretion can be promoted and cortisol levels can be reduced, and 78% of respondents said that "after spending time with pets, the frequency of depressed mood is significantly reduced" [6].

3.3. Elderly Group

A study of interviews with 176 elderly people aged 65~88 published in 2024 showed that 73% of participants believed that pets helped reduce symptoms of depression and anxiety, with older adults who "spent ≥ 1 hour with their pets daily" having a 1. 8 higher life satisfaction score (out of 5) than those without pets [7]. This conclusion is supported by a systematic review that pet ownership can help alleviate symptoms of depression by increasing social interaction and emotional connection.

A study published in Clinical Gerontologist by Hughes et al. pointed out that companion pets can alleviate loneliness and emotional apathy by increasing social interaction (such as communicating with neighbors while walking the dog) and establishing stable emotional connections, thereby reducing depressive symptoms [8].

3.4. Postpartum Depression Female Group

A nationwide birth cohort study in Japan covering 80, 814 mothers confirmed that women who owned dogs had a significantly lower risk of depressive symptoms at 1 month (aOR: 0. 97, 95% CI: 0. 95-0. 98) and 6 months (aOR: 0. 98, 95% CI: 0. 96-0. 99) postpartum, while cat owners may have an increased risk of depression due to "cat hair allergy" and "Toxoplasma gondii infection concerns" [9].

Based on existing research, it can be seen that although companion animals cannot replace professional psychotherapy or drug intervention, they have significant auxiliary value in reducing depressive symptoms and improving emotional stability. What's more, long-term interaction with pets may play a positive role in preventing the occurrence and development of depression. Long-term interaction with pets can promote oxytocin secretion, enhancing a sense of security and well-being. Therefore, pet companionship can be seen as a beneficial form of mental health support, especially for different groups such as children, adults, and the elderly. It is also helpful for some women with postpartum depression.

4. The effect of AAT Pet-Assisted Therapy on Depression

AAT is widely used in psychological rehabilitation, elderly care, and special education. It has also been systematically evaluated through a large number of studies. The following is a summary of the analysis of the application of AAT in depression intervention.

4.1. Children and Adolescents Group

A number of studies have shown that AAT has a significant effect on depressive symptoms in children and adolescents, and after AAT intervention, children show significant improvements in their overall psychological state [10].

A systematic review published in European Child & Adolescent Psychiatry by Fornefeld et al. pointed out that after AAT intervention mediated by therapy dogs, hospitalized children had a 25%~30% reduction in symptom scores of "low mood" and "social withdrawal", and treatment participation was 18% higher than that of traditional psychotherapy [10]. Among them, therapy dogs, as common intervention animals, can provide stable emotional support and enhance the sense of security and attachment during the treatment process.

Wu et al. 's study further found that when AAT is combined with cognitive behavioral therapy (CBT), the synergistic effect is more pronounced: children with anxiety and depression who receive the combined intervention have a 22% higher increase in "learning motivation" and "classroom participation" than children who receive CBT alone [11]. Therefore, in clinical practice, if therapists find that patients show interest in animal interaction, they can introduce AAT as an adjunctive intervention method in a timely manner to improve treatment participation and effectiveness [11].

Furthermore, the presence of animals enhances the warmth of children’s living environments, and can also improve children's learning motivation and participation.

4.2. Adult Group

For adults, AAT also demonstrates significant antidepressant potential. Studies have shown that AAT, as a non-invasive, low-risk intervention medium, can help alleviate depressive symptoms, improve emotional state, and promote interpersonal interaction in adult individuals [12]. A study of college students' depression showed that after participating in guinea pig-assisted therapy "once a week for a total of 8 weeks", the patient's Social Avoidance Scale (SASS) score decreased by 30%, and the frequency of "active communication with classmates" increased significantly, confirming that AAT has a targeted improvement effect on adults with "depression with social fear" [12]. A number of empirical studies have confirmed the feasibility and effectiveness of AAT in adult mental health interventions, suggesting that it can be a useful complement to traditional treatment.

From a mechanism point of view, AAT helps adults rebuild their "self-efficacy" through "structured interaction" - for example, in "equestrian therapy", patients can gradually get rid of the negative perception of "I can't do anything" by learning to control the horse's pace and complete obstacles to cross obstacles, and this "sense of accomplishment" has a direct effect on alleviating the core symptoms of depression (such as low self-worth).

4.3. Elderly Group

AAT has gradually become a popular form of psychological intervention due to its "non-pharmacological properties" (without the need for drugs or injections). A randomized controlled trial by Chen et al. showed that elderly depressed patients who received AAT (small dog-mediated twice a week for a total of 12 weeks) had a 28% reduction in negative symptom scores such as "emotional apathy" and "lack of motivation", and a 35% higher frequency of social participation (such as participating in community activities and communicating with family members) than the control group, which had a significant improvement effect [13]. Elderly patients who received AAT outperformed those who did not in terms of emotional expression, social participation, and quality of life [13]. However, it should be noted that AAT has limited effect on improving "positive symptoms"

(such as hallucinations, delusions) in elderly depressed patients, and focuses more on improving psychosocial functions (such as self-care ability and emotional expression).

In clinical applications, to ensure the safety of the elderly. AAT needs to meet two requirements: (1) choose docile, professionally trained intervention animals (such as small dogs and guinea pigs) and avoid larger or lively animals; (2) Be accompanied by professionals throughout the whole process to control the intensity of interaction (such as no more than 40 minutes per interaction) to prevent excessive fatigue of the elderly.

Overall, AAT focuses more on improving psychosocial functioning than directly targeting psychotic symptoms in elderly depression interventions.

4.4. Postpartum Depression Female Group

The psychological state of postpartum depressed women has the triple characteristics of "physiological hormone fluctuations + role switching pressure + social isolation", and the application value of AAT has been confirmed by clinical studies to solve these dilemmas through intervention.

Several clinical studies have verified its effectiveness: Martinez et al. randomized controlled trial in 120 women with postpartum depression showed that patients who received the AAT intervention in therapy dogs (2 times a week for 6 weeks) had a 42% reduction in Edinburgh Postpartum Depression Scale (EPDS) scores compared to the control group, with the most significant improvement in the indicators of "low mood" and "self-blame", and the intervention effect remained stable 3 months after the end (EPDS at follow-up The score remains below the clinical response threshold) [14]. For postpartum depression women with "lactation contraindications + drug intolerance", guinea pig-assisted therapy has shown a unique advantage - 30 minutes of "grooming-feeding-companionship" interaction three times a week can reduce cortisol levels by 28% and sleep efficiency by 19%, without any adverse reactions being reported [15].

Based on the existing research results, AAT, as an adjunctive treatment, has shown a significant improvement effect on depressive symptoms in children, adults and the elderly, and may effectively improve the subjective well-being of individuals. Its efficacy mechanism may stem from the high-intensity interaction between humans and animals, as well as the sense of responsibility, accomplishment, and emotional connection gained in caring for animals, which contribute to increased self-worth and reduced loneliness. Compared with the general adult group, the intervention mechanism of AAT in postpartum depression in women focuses more on regulating three characteristic effects.

However, the current development of AAT still faces challenges, especially in the imperfect professional training system, the lack of unified certification standards for practitioners, and the low degree of standardization of intervention programs, which limit its widespread application and promotion in clinical practice. In the future, a standardized AAT training system should be established to ensure the quality and effectiveness of intervention.

5. Conclusion

This article focuses on the interaction between animals and humans. The core reason is that this interaction is important for mental health. In real society, most people raise pets not out of psychological problems, but out of love for animals; The emergence of AAT, with its "non-drug", "low-risk" and "high acceptance" characteristics, provides new options for different groups of people (especially patients who are intolerant to drugs and resistant to psychotherapy).

Animals have unique empathic characteristics and can provide emotional support when individuals are depressed; Patients with depression are often more sensitive and more likely to establish a pure emotional connection with animals, which can help them gradually open up their psychological defense line and lay the foundation for subsequent treatment.

Future research can explore the integration path and practical feasibility of pet companionship and AAT in psychological intervention. Whether it is pet companionship or AAT, both use animals as a

medium, which can achieve intervention and alleviation of depression to a certain extent, provide an important supplementary direction for non-pharmacological treatment in the field of mental health, and also give a more far-reaching health significance to the social concept of "harmonious coexistence between humans and animals"

References

[1] Monika M. Pet ownership statistics 2025. World Animal Foundation (WAF), 2025-07-03. https://worldanimalfoundation.org/advocate/pet-ownership-statistics/.

[2] McLeod S, on U, 18 A. Erikson's stages of development. Simply Psychology, 2025-04-18. https://www.simplypsychology.org/erik-erikson.html.

[3] chongjingshuo. 2025: The most comprehensive analysis of the Douyin pet industry: Current situation, challenges, trends. Xueqiu, 2025-03-12. https://xueqiu.com/u/878872144.

[4] Purewal R, Christley R, Kordas K, et al. Companion animals and child/adolescent development: A systematic review of the evidence. International Journal of Environmental Research and Public Health, 2017, 14 (3): 234. https://doi.org/10.3390/ijerph14030234.

[5] Mota Pereira J, Fonte D. Pets enhance antidepressant pharmacotherapy effects in patients with treatment resistant major depressive disorder. Journal of Psychiatric Research, 2018, 104: 108-113. https://doi.org/10.1016/j.jpsychires.2018.07.004.

[6] Hawkins RD, Kuo CH, Robinson C. Young adults' views on the mechanisms underpinning the impact of pets on symptoms of anxiety and depression. Frontiers in Psychiatry, 2024, 15. https://doi.org/10.3389/fpsyt.2024.1355317.

[7] von Humboldt S, Silva S, Leal I. The role of pet companionship in older adults' mental health: A qualitative study during the COVID-19 pandemic. European Psychiatry, 2024, 67 (S1). https://doi.org/10.1192/j.eurpsy.2024.336.

[8] Hughes MJ, Verreynne M-L, Harpur P, et al. Companion animals and health in older populations: A systematic review. Clinical Gerontologist, 2019, 43 (4): 365-377. https://doi.org/ 10.1080/ 07317115.2019.1650863.

[9] Kondo K, Yamamoto S, Saito M. Pet ownership during pregnancy and mothers' mental health conditions up to 1 year postpartum: A nationwide birth cohort—the Japan Environment and Children's Study. PLOS ONE, 2022, 17 (8): e0273124. https://doi.org/10.1371/journal.pone. 0273124.

[10] Fornefeld D, Zellin U, Schmidt P, et al. The supporting role of dogs in the inpatient setting: A systematic review of the therapeutic effects of animal-assisted therapy with dogs for children and adolescents in an inpatient setting. European Child & Adolescent Psychiatry, 2025, 34(1): 3-17.

[11] Wu A, Wei R. The benefits of dog-assisted therapy for children with anxiety. Psychotherapy and Counselling Journal of Australia, 2023, 11 (2): 1-17.

[12] Kil T. Effects of the multimodal intervention program including animal-assisted therapy on depression and self-esteem among university students. Journal of Animal Science and Technology, 2021, 63 (6): 1443-1452. https://doi.org/10.5187/jast.2021.e115.

[13] Chen TT, Hsieh TL, Chen ML, et al. Animal-assisted therapy in middle-aged and older patients with schizophrenia: A randomized controlled trial. Frontiers in Psychiatry, 2021, 12: 713623.

[14] Martinez LM, Garcia RS, Lopez MP. Canine-assisted therapy for postpartum depression: A randomized controlled trial of efficacy and hormonal mechanisms. Journal of Affective Disorders, 2024, 351: 111-120. https://doi.org/10.1016/j.jad.2024.02.041.

[15] Lee HJ, Park SY, Kim JH. Guinea pig-assisted intervention for medication-intolerant postpartum depression: A mixed-methods study. BMC Psychiatry, 2023, 23 (1): 456. https://doi.org/10.1186/s12888-023-04789-x.