

A Literature Review on the Effect of Pet-assisted Therapy on the Mental Health of Children

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Abstract: Recently, children are more likely to experience mental health issues because of the increasing stress. Pet-assisted therapy (PAT) can set up a safe relationship between children and therapist and provide emotional support to children through the interaction between children and animals. This literature review is intended to explore the effect of PAT on children and children with diseases. The results display that PAT can promote children's emotional understanding capacity and self-confidence and alleviate the negative impacts of childhood trauma. In addition, it can decrease children's negative emotions resulting from hospitalization and benefit special needs children and their families. However, existing experimental results are inconsistent in the aspect of its effects on physical arousal. Hence, studies focused on physical arousal are needed to further support the effects of PAT on children's mental health. In terms of application, it is expected to improve children's psychological well-being by conducting in healthcare, homes, and school settings.

Keywords: Children, pet-assisted therapy, emotions, mental health, anxiety.

1. Introduction

In today's modern society, children are facing an increasing number of psychological challenges that stem from a variety of factors, such as escalating academic pressures, high family expectations, and broader societal issues. This growing stress has been linked to increased rates of anxiety, depression, and other psychiatric disorders in children.

Studies have shown a significant increase in depression and suicidal thoughts in children [1]. Additionally, stress related to hospitalizations and medical procedures can lead to adverse physical and psychological outcomes. For example, physical outcomes may include weakened immune function, sleep disturbances, gastrointestinal issues (e.g., stomachaches, nausea), and headaches, while psychological outcomes may manifest as anxiety, depression, behavioral regressions (such as bedwetting), and emotional disturbances like mood swings or social withdrawal. This phenomenon is a global concern, especially in areas of high educational stress. In addition, traditional psychological interventions often focus on solving these problems through traditional treatment methods, which cannot meet the needs of all children.

Pet-assisted therapy (PAT) is a type of animal involvement that helps create a safe relationship between the client and the therapist that benefits the client's well-being [2]. Children seem to view

assistance pets as non-judgmental participants. This may provide valuable social and emotional support to children in educational and therapeutic settings [3]. PAT is also known as pet therapy, pet-assisted therapy, and animal-assisted therapy. PAT is used as an umbrella term in this article to avoid confusion.

The main objective of this study is to provide an in-depth analysis of the impact of PAT on the mental health of different groups of children through a systematic review of the existing literature. While there have been some literature reviews on PAT, the number of studies on this therapy has increased significantly in recent years. Recently, more researchers have been studying different types of children. In addition, PAT can also be combined with other activities to help children, such as play therapy, art therapy, physical exercise (like walking or playing with pets), or mindfulness practices, to help children. Most studies have demonstrated the psychological success of PAT, with previous theories suggesting that it can also reduce physical excitation. However, this was not the case in other studies. Therefore, given these complex results, this review aims to shed light on the effects of PAT on two groups of children: ordinary children, children with illness (including those with mental illness and physical illness).

2. Methodology

All published studies reporting quantitative assessments were systematically searched by using academic database Web of Knowledge as well as Google Scholar to comprehensively assess the effects of PAT in the field of child mental health. The following search terms as well as their derivatives were entered: Animal-Assisted Therapy, pet therapy, children, child. and studies were considered eligible for inclusion if they: (i) included empirical data, (ii) have been published after 2000, (iii) samples containing children, (iv) were related to mental health, and (v) were written in English. After the literature screening, we will extract data from the studies, including sample characteristics, research methods, and main findings to provide a comprehensive evaluation of the literature, identifying key research trends, effects, and limitations.

3. Results

3.1. Impact of PAT on Typical Children

Verhoeven et al. conducted a study with elementary school students (ages 8–13) from diverse socioeconomic backgrounds [4]. The intervention involved an eight-week PAT program with trained dogs, led by professionals such as educators and dog handlers. Results, compared with both a control group and pre-intervention assessments, showed that students who participated in the program rated themselves significantly higher in self-confidence and had more positive peer relationships. Teachers also observed improvements in work attitude, pleasant behavior, emotional stability, and social behavior. Although eye contact showed no change, all other verbal and non-verbal behaviors improved.

Another study conducted in San Antonio, Texas, explored parent attitudes towards PAT in schools and their role in supporting children's mental health [5]. Researchers used a cross-sectional survey design, collecting data from 187 parents from two school districts. Participants included parents of pre-kindergarten and kindergarten children. The survey assessed parents' perceptions and knowledge of PAT, attitudes toward pets, and views on supporting children's mental health. Findings showed that parents were generally supportive of using PAT as a trauma-informed strategy, though some raised concerns about safety and animal welfare. The study suggests that parents recognize the mental health benefits of PAT, including reductions in aggression and improvements in emotional stability, cooperation, and school engagement.

Dicé et al. focused on a PAT intervention in a primary school setting in Italy, using a model called the Federico II Model [6]. This research involved collaboration between psychologists and animal therapists, targeting the affective, cognitive, and relational skills of children through animal interactions. The intervention was conducted over a set period, allowing children to interact with animals, which acted as emotional catalysts. The study highlighted that the children's emotional intelligence, cooperation in social activities, and mental health development improved significantly. The animals helped children manage their emotions more effectively, supporting both their cognitive and social-emotional growth (MDPI). These additional details help illustrate how both studies used structured approaches to evaluate PAT, providing clear evidence of their benefits in educational settings.

3.2. Impact of PAT on Children with Diseases

3.2.1. Children in Hospital

Studies reveal that PAT can alleviate the negative emotions of children who were hospitalized due to physiological or psychological diseases. PAT can reduce anxiety levels and fear levels [7,8]. Hinic compared the effects of PAT to those of playing puzzles [9]. This is because playing puzzles can be a strategy to cope with stress by distracting attention. Researchers recruited 93 participants and allocated them to the PAT group and playing puzzles group based on the data collection period. The results showed that the reduced anxiety levels of inpatient children who participated in PAT were lower than those who took part in playing puzzles, whether they kept pets in their homes. Also, parents in the PAT group perceived their child's emotional improvement as higher than in the child-living therapy group [10]. This might be related to the result that PAT plays a similar role to child-life therapy in getting children to neglect the disease [9,10].

Besides, PAT can be combined with other interventions to impact inpatient children positively. Kashden et al. demonstrated that the combination of PAT and behavioral therapy may correlated with relieving pediatric patients' symptoms and improving their emotions [11]. Although Tsai et al. found that the fear levels of inpatient children were decreased, children's anxiety levels were not reduced [8]. This might be because those children did not experience stressful events during the study. Consequently, PAT can contribute to the reduction of negative emotions in inpatient children, and it can work in conjunction with other therapies.

Furthermore, researchers investigated that PAT could reduce inpatient children's physical arousal [7,8]. This evidence can be related to anxiety levels, supporting the effect of PAT in alleviating negative emotions. For example, PAT may reduce systolic blood pressure in hospitalized children, and it continued to decrease during the six-minute post-test [8]. However, in both Kaminski et al.'s and Tsai et al.'s study, the heart rates of children in the PAT group were higher than those in the child-life therapy group [8,10]. Other factors, such as the children's excitement at meeting the pet, no stressors presented, and interaction between children and animals, may have contributed to these unexpected results. As a result, further studies related to physical arousal are needed to support the role of PAT in alleviating negative emotions.

3.2.2. Special Needs Children

Research suggests that PAT is helpful in the treatment of different types of children with special needs. According to Demiralay et al.'s study, PAT was shown to have a positive effect on reducing stress and social anxiety levels in disabled children [12]. A total of 44 children with physical disabilities were selected as samples to conduct a single-blind randomized controlled experiment, including 23 in the control group and 21 in the intervention group. Studies demonstrated that there was a statistically significant decrease in the score of the Social Anxiety Scale for Children-Revised

Version (SACS-R) of the intervention group compared to the control group. However, the score of the intervention group was elevated in the follow-up evaluation after the course of treatment, and there was no difference in the systolic and diastolic blood pressure in the first and sixth weeks, so further research is needed to accurately define and plan nursing interventions, and to examine how to measure the effects of PAT on children with disabilities.

In the study conducted on the treatment of children with ADHD, Schuck et al. found that the results of the study suggest that PAT offers a new therapeutic strategy to enhance cognitive-behavioral interventions in children [13]. Children treated with PAT experienced greater improvement in inhibitory control and attention, and the effect was evident as early as the fourth week, remaining consistent over the next six weeks of follow-up. The study hypothesized that live animals could serve as a cue to refocus young children's attention on treatment, creating the curative effect of traditional cognitive therapy that can be used to treat children with core symptoms of ADHD.

In the study of autistic children, on the one hand, the studies integrated the views of the families with autistic children. London et al. found that pet dogs have a positive effect on autistic children and their families [14]. Dog features as intuitive, non-verbal, and nonjudgmental, can promote the therapeutic context of engagement, enjoyment, and motivation in the lives of children with PAT, thereby improving their ability to perform daily activities. The study supported the potential of domestic dogs to be included in PAT, indicating that pet dogs have a positive effect on families with autistic children. A strong bond between children and their pet dog can indirectly shape healthy eating and physical activity behaviors for them. However, it can also cause some negative effects, including additional responsibilities, financial issues, and managing the dog and children's relationship [15].

On the other hand, the positive impact of animals on the therapies for children with autism is currently lacking clear scientific evidence but promising [16].

4. Limitation

Nevertheless, recent studies still have their limitations. In most studies, the sample size was small, and subjects lived in English-speaking countries. Additionally, few studies used random assignment. Therefore, there is no guarantee that the results can be generalized to other cultures or groups. The subjects involved in the studies with the children were usually their mothers, lacking the father's perspective. Besides, most results were measured by self-report or observers' reports, leading to validity problems. Hence, the effect of PAT needs further study, especially in the physical arousal aspect.

5. Implications

Generally, PAT can benefit a variety of children's mental health. It can reduce children's anxiety of hospitalization and improve the satisfaction of special needs children and their families. Introducing it to school settings can enhance children's self-confidence, help children understand their and others' emotions, and reduce the effects of childhood trauma, thereby enhancing their psychological well-being.

For the application of PAT, the selection and training of animals can be critical. Related personnel should confirm animals' health, adaptive behaviors, and behavior control ability. In addition, allergies, immune system problems, and cultural and religious factors should be taken into consideration when screening the clients. In the process of treatment, hygiene standards should be strictly adhered to avoid the spread of diseases, and safety hazards, such as bites or scratches, also should be taken into account. Furthermore, PAT should be performed under the supervision of professional therapists, controlling a reasonable time to avoid excessive fatigue in clients and animals. The matching between clients and animals should be individualized to ensure optimal effects. Moreover, ethics and legal

responsibility are also important. Informed consent must be obtained from the patient, and the facility must ensure that it has appropriate insurance and legal protection to address potential risks.

6. Conclusion

Researchers found the positive impacts of PAT on different kinds of children. It has the potential to reduce the negative effects caused by childhood trauma and to contribute to children's emotional comprehension and self-confidence. Besides, it can reduce the negative emotions of inpatient children. It has a positive effect on special needs children and their families, although accompanied by challenges. Moreover, PAT can be combined with other traditional therapies to achieve positive results. For future studies, researchers need to focus more on physical arousal, which is related to emotions, in order to support its effects on mental health improvement objectively. In addition, PAT is also expected to be applied in various settings, such as healthcare centers, homes, and schools, promoting children's mental health.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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