

## A REVIEW ON ANIMAL-ASSISTED THERAPY AND ACTIVITIES FOR HEALTHCARE AND TEACHING OF CHILDREN

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### ABSTRACT

*Children are the future leaders of our society, and their health and well-being are extremely important. Apart from the conventional treatment, the effective therapy for children with physical, mental, social, developmental disorders, and chronic diseases are required to be identified. Thus, finding out the alternative therapy and affectionate way of teaching program especially for the children with special needs are necessary. Animals are members of the community and their latest contribution to human beings come through their assistant activities known as Animal-Assisted Activities (AAA). Animals are also used in Animal-Assisted Therapy (AAT) as a part of Occupational Therapy (OT) which is used for physical and mental development of the children. This study is intended to explore AAT/AAA as useful practices in assisting healthcare and teaching program of children. Online and offline articles, books, and other literature sources on benefits and usage of AAT/AAA are reviewed thoroughly. A number of studies pointed out the positive results of incorporating animals into Pediatric Occupational Therapy, and children teaching programme. The benefits of pet therapy in children are discussed under three main topics namely physical and general healthcare which include pain, illness, trauma and cancer, mental and developmental disorders, and social and educational purpose. According to the findings, the use of pets as AAA, and AAT are highly beneficial to mental, physical, social health and well-being of the children. Hence, the application of it on education and healthcare purpose for children with special needs is strongly recommended.*

Key Words: Animal-Assisted Therapy/Activities, healthcare, teaching program, occupational therapy

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### Introduction

Animals have been staying together with people throughout the human generations. They are lovely, mind relaxing in nature, and able to offer peace and happiness to their owners. Some owners love them dearly and treat them as family members, even to the extent of spending plenty of money for their medical expenses, and mourn the death of them by conducting cremation or ritual ceremony. Children used to admire animals as their living toys, and just keeping them as pets, walking and playing with them encourage their body movement and exercise which helps keep children healthy. These basic natural dealings with pets and human make consideration of pet therapy as type of therapy assisting children with health and developmental problems.

Animals are members of the community and humans are being benefitted from them for a variety of reasons such as the source of transportation, food and other products throughout the human history. The latest contribution of animals comes through the form of Animal-Assisted Activities (AAA) and using the animals to assist in human therapy by all forms of their behavior and trained activities - Animal Assisted Therapy (AAT) as part of patients' treatment plan. Among medical professional, the Occupational Therapy (OT) with the use of AAA & AAT has become popular and it can be applied in the treatment and rehabilitation process of the children recovered from illness and injury.

In this paper, in order to highlight the benefits of AAT and AAA for healthcare and teaching program of children, both online and offline resources are reviewed. The findings of scholars' studies indicated that pet facilitated therapy brings numerous mental, physical, and social benefits to children: mental benefits such as providing comfort, entertainment, reducing anxiety; physical benefits such as lower blood pressure, cholesterol, increase body fitness, reduce pain and need of medications; and social benefits such as reduce loneliness, and isolation, provide communications with non-judgmental acceptance, and improve self-esteem in troubled children. In addition to these, many research findings suggested that pet therapy is beneficial in children with autism, epilepsy, cancer, brain aneurysm, disability, and other chronic conditions.

As pet and therapy animals, dogs and cats are most commonly utilized, but many other species also provide positive interaction in children with special needs (Pitts, 2005). Using dogs to assist in human therapy is called (dog) Canine-Assisted Therapy (CAT) while using cats is named (cat) Feline-Assisted therapy (FAT) and also mentioned EAT for (horse) Equine-Assisted therapy and DAT for Dolphin-Assisted Therapy. Three other similar names, Pet-Facilitated Therapy (PFT), Animal-Assisted Intervention (AAI) and Animal-Assisted Literacy (AAL) are also used by some researchers and scholars. Some people with their personal, cultural, or religious belief or preferences might hesitate to accept certain types of animals for their therapy and

activities. For this, they should be advised to make choices of their own out of a variety of pets such as cats, birds, rabbits, guinea pigs, miniature horse, dogs and fish.

Young children should be trained specific ways of helping and caring for animals. In the first years of life, the children can be taught to understand animal feelings, to cooperate with others, and negotiate conflicts, show willingness to share with peers and adults, and manifest capabilities for giving help. As early as the second year of life, one can begin to teach children the rudiments of a sense of responsibility for other people and animals (Fox & Mickley, 1985). The attitude of kindness to animals trained at home is hoped to spread on earth to other fellow human beings. Public awareness on this matter should also be raised for the better benefits of mankind and society since individual family belongs to the community. In Malaysia, AAT is not widely used and practitioners themselves need to get awareness of it and it is discussed later in this paper.

Library based methodology is used in this study, and the online and offline sources regarding the use of AAT and AAA, their benefits in healthcare and teaching program of children are studied from the literature sources such as Medicine, Community Health Nursing, Public health, Medical Sociology, and Veterinary science. The key words such as animal-assisted therapy, animals assisted activities, pet therapy, pet-facilitated-therapy in children and pediatric children are explored from a wealth of published material. These words are typed in the online search engines such as 'ProQuest Health & Medical Complete', and other databases through Library Research Gateway. As offline library sources, the available articles, books, and journals of the related area are thoroughly reviewed. And the benefits of animal-assisted therapy and activities for healthcare and teaching of children are presented in this paper.

### **Animal-Assisted Activities And Animal-Assisted Therapy**

People keep different types of animals as their pets such as dogs, cats, miniature horses, rabbits, fish, birds, hamsters. Among them, dogs and cats are seen to be closer to humans, and the relationship between dogs and humans dates back at least 14,000 years ago with the domestic dog ancestor-the wolf, but cats were domesticated by man only 6,000 years ago primarily for their role in rodent control. Since then, dogs are used as a hunting partner and companion animals to therapy animals. Also they have been proven to be useful in rescue teams, illegal goods investigations, special guards and security reasons and others. Many cats still fulfill the important role in rodent control however their position as true companion animals and as therapeutic animals has become more popular. Other than small animals such as dogs and cats, sometimes large animals for instances goats, sheep, cows and horses might be useful as therapeutic purpose for children.

In the book *Pediatric Skills for Occupational Therapy Assistants*, Cohn and Mashelle (2016) wrote that animals are utilized for a wide range of activities, for example: the assistant dogs to aid their owners for seeing, hearing, and walking; therapy dogs in therapeutic setting, and service dogs in police, search, and rescue team. Service dogs have specific sense to detect the onset of seizure, and retrieve items inaccessible, thus, they are useful for people with physical and sensory disabilities. From this kind of benefits, medical scientists and occupational therapists are interestingly searched the effective ways of Animal-Assisted Activities (AAA) and Animal-Assisted Therapy (AAT).

AAT is a goal-directed intervention where animals are served as therapeutic purposes by health service professionals who are mastery in this field. It includes the activities incorporating animals in therapy as the motivator or facilitator for the prescribed movement (e.g., brushing a dog). AAA include "meet-and-greet" activities in which pets trained for the purpose of visitation are brought to the children admitted ward for providing them comfort. (Fine, Aubrey H. 2006).

### **Physical And General Healthcare With Aat And Aaa**

Medical studies have verified the benefits of pet therapy and the reasons appear to be physical, emotional and social. The prison Pet Partnership Program, located at the Washington State helps inmates learn how to train, groom, and board dogs within the prison walls. Rehabilitation Centers use pets to help patients improve their strength, coordination, and mobility (Damron, W. Stephan, 2003).

Cohn and Mashelle (2016) wrote the use of AAA and AAT in occupational therapy in the book, "Pediatric Skills for Occupational Therapy Assistants". It includes the use of pet-assisted therapy by the occupational therapy practitioners for the children and youth since they recognized that pets being able to provide unconditional love, increase motivation, and reducing social stress. Since the American Occupational Therapy (OT) Association considers care of pets as an occupation, many OT practitioners involve animals in their intervention.

Pet therapy is known to reduce blood pressure, and feeling of loneliness in people, which is observed in the article "Animal-assisted therapy - magic or medicine?" by J.S.J, Odendaal (2000). In this study, Six neurochemicals which can reduce blood pressure were measured in both humans (n = 18) and dogs (n=18) before and after their interaction. The results (P <.05) indicated that in both species the neurochemicals involved with attention-seeking behavior have increased. And it is suggested as a rationale for animal-assisted therapy especially in people with physical, mental, social disorders, chronic patients with social deprivation, prisoners, drug addicts, the elderly, and children.

The article written by Parshall (2003), 'Research and Reflection: Animal-Assisted Therapy in Mental Health Settings' mentioned about the qualitative study conducted by Mallon (1994). In this study, the farm animals are used as therapeutic aids in 80 children (7 -16 years age), racially mixed and mostly urban, and were being treated for significant behavioral, emotional, and academic difficulties. The findings indicated that the children tended to use farm animals as a nonjudgmental, confidential

therapist; they would visit the animals and speak freely, and reported to have increased feeling of well-being after the visit, and received physical comfort from hugging the animals. Moreover, the study done by Jackson, Justine (2012), suggested that the proposed AAT program would likely be effective with children with the following reasons: 1) Build trust and rapport between the mental health professional, client, and therapy animal. 2) Improve social skills. 3) Decrease behavioral problems. 4) Increase self-esteem and confidence. 5) Provide a safe environment in which the development of the child will be positively affected.

Another study by Dilek & Sibel (2015), evaluated dog-assisted therapies and activities in the rehabilitation of children with cerebral palsy and physical and mental disabilities, which have difficulties in profiting from well-being and health enhancing services. This informative study was led in disabled children of different ages somewhere around 2008 and 2011 by an accomplished team in a private training and rehabilitation center in Antalya (Turkey). The results of the study uncovered that dog-assisted therapies and activities can be a strong technique for routine treatment methods in the rehabilitation of children with cerebral palsy and physical and mental disabilities.

#### **AAT/AAA For Children With Pain, Illness, Trauma And Cancer**

Animal-Assisted Therapy (AAT) is known to reduce the pain level of children in paediatric setting, which is seen in the article, "Animal-Assisted Therapy as a Pain Relief Intervention for Children". Quasi-experimental intervention design was used to capture the change in pain and vital signs with or without AAT in children ages 3-17 in one acute care pediatric setting. The results showed that AAT intervention group experienced a significant reduction in pain level compared to the control group (Braun et al, 2009).

The term "trauma" includes acute (single-incident) trauma or type I trauma, and chronic (repetitive) trauma or type II trauma which typically resulted from deliberate infliction by a caregiver. Child and adolescent trauma is a huge public health issue that can create deep rooted unfavorable results. Coordinating the different speculations, studies, and interventions proposes that people with a background marked by trauma could possibly profit by animal-assisted therapy. (Harris et al., 2006 as cited in Coletta, Cheryl. N. 2010).

Children with chronic illnesses have faced a variety of challenges that may impede their psychological and emotional health and development, which can in turn have consequences for their physical and medical condition. Animal assisted intervention may provide suitable attention, relaxation, distraction, and enjoyment to chronically ill children who may psychologically, emotionally, and physically benefit from such services.

AAT is one therapy program that has been shown to improve the attitudes of children with cancer, as well as lower their average pain during treatments. There is literature demonstrating the various positive effects of interaction with animals in healthcare settings among children with diverse profiles. The presence of a therapy animal has been demonstrated to reduce stress and facilitate acceptance among hospitalized pediatric cancer patients (Gagnon et al. 2004, as cited in Reiley, 2012).

#### **AAA/AAT In Children Of Developmental And Mental Disorders**

Animal-Assisted Activities (AAA) and Animal-Assisted Therapy (AAT) are known to have beneficial for the mental and developmental disorders children. In the late eighteen century, theories concerning the socializing influence of animal companionship started to apply in the treatment of the mentally ill. The earliest well-documented experiment in this area was done by William Tuke in England at The York Retreat. The valuable impacts of animal companionship also seem to have been perceived as serving a therapeutic role in the treatment of physical ailments during this period (Fine, Aubrey H, 2006). History of AAA and AAT is telling that human gained medical benefits from using animals by facilitating in human therapy.

In a research paper written by Marian R. Banks, Lisa M. W. & William A. B., (2008), a study of comparing a living dog and a robotic dog (AIBO), done by Melson et al, (2005) is mentioned and children 7-15 years old in this study were more interactive with the living dogs and attributed more elevated amounts of physical and mental states, friendliness and good remaining to the living dogs. However, AIBO also accomplished on these scores and a study from Hamamatsu University (Kanamori et al, 2002) is supported that AAT with AIBO enhanced loneliness and other wellbeing related personal satisfaction measures. By learning from this study, it can be understood that AAT and also even AIBO as well are remarkable useful for children in developmental process and mental healing.

A fundamental pilot study examined the effect of a walking-with-dog program on a number of grown-up and immature psychiatric inpatients (n = 50, with just five subjects being contemplated in depth) who were thought to be socially pulled back and lethargic to different types of treatment. The quantitative discoveries of this study included reduces in the reaction time to questions postured by the therapist, exponential increments in the quantity of words utilized as a part of reactions, and increments in the rate of inquiries replied. (Corson & colleagues, 1977 as cited in Fine, Aubrey H. 2006)

In the study done by Chia-Chun Tsai (2007), the effects of AAT on physiological blood pressure, heart rate, and salivary cortisol and psychological Child Medical Fear Scale (CMFS) and State Anxiety Scale (SAS) responses in hospitalized children were examined. The finding indicates that AAT can decrease physiological arousal for hospitalized children and suggests that it may be useful in healthcare settings to play a part in decreasing the stress of hospitalized children. This finding is supported by the study of Douglas (2016) in which "there is a strong positive correlation between Animal-Assisted Activity and anxiety levels among children with chronic illness", and by the study of Carew-Lyons, Aimee (2016) which demonstrated that dog visitation help improved mood, and decreased anxiety in hospitalized young patients aged 3-12 years.

One study points out that a farm animal-assisted intervention could have additional benefits in mental health rehabilitation (Ingeborg Pedersen et al, 2012). Another study, "Animal Assisted Activities and Therapy with Bereaved Children" was conducted by Kissten O'Brien, with the purpose of gathering the expert knowledge of 16 practicing therapists who use AAA/AAT with children and families in order to increase the knowledge base of this treatment modality and its usefulness for bereaved children. Qualitative interviews were used to gather data and analyzed to explore participant's experiences. AAA and AAT was shown to provide comfort, decrease anxiety and stress, increase insight into relationships, and aid the therapeutic process by helping establish rapport and increase verbalization. This treatment modality continues to be underutilized for grief and loss works, despite findings that show it is instrumental in accessing feeling of loss and facilitate recovery (Kissten O'Brien, 2007).

Another study by Siewertsen, Emma and Masaru (2015) observe and precise that usefulness of pet therapy for Autism Spectrum Disorder-ASD. Since mainstream research on ASD and pet therapy has inspected children and has primarily utilized dogs and horses for therapy, findings have indicated beneficial outcomes for the therapy, including high fulfillment rates among the participants' families. Brown, Katherine (2014) also found that the scholar, named Chandler (2012) gave two citations in his 'Animal assisted therapy in counseling (2<sup>nd</sup> ed.)' about autism; Redefer and Goodman (1989) reported decreased problematic behaviors and increased pro-social behaviors in 12 children with autism, and Sams, Fortney and Willenbring (2006) found improved language use and social interaction in 22 children with autism.

### **The Use Of AAT/AAA For Social And Educational Purpose**

The thought that sustaining associations with animals could serve a socializing capacity, particularly for children, likewise appeared in 1699 and John Locke at about this time supported giving children "dogs, squirrels, birds or any such things" to take care of as a method for urging them to create delicate emotions and an awareness of responsibility for others. (Locke, 1699:154 as cited in Fine, Aubrey H. 2006)

Animal-Assisted Intervention (AAI) is also important as AAT and AAA. The entirely "adoring" or affectionate nature of most therapy dogs, and their boundless use as "friends" by distressed children and teenagers, loan proofs to their esteem as potential suppliers of social support. Youngsters and youth who have encountered abuse, disregard, and trauma were likewise recommended as possibly profiting by AAIs. For instance, it was noticed that treatment for posttraumatic stress disorder (PTSD) in children and youth is not exceedingly developed, and there is a requirement for new mediations and advancement. AAIs might be especially helpful for youngsters and youths who need to realize what improves or upsets socialization, and who must work toward building self-regard and an inward feeling of self. (Kruger, Symme & James, 2004)

Even though animals are not capable of the highest forms of intellectual interaction with humans, they can be wonderful companions, and humans receive beneficial effects by keeping and dealing with them. Parents often use pets as a tool in rearing their children, allowing them to learn responsibility through taking care of their pets, and as a mechanism for teaching them basic biology as well as the larger lessons about life and death. Moreover, guided dogs can be used as a tool for people with physical disabilities, and seeing-eye dogs and hearing-dogs are useful for people who are blind and deaf (Field & Robert, 2008). Hence, incorporating animals in teaching and socialization process of children such as generating them to have sense of responsibilities, concerns about others, understanding of life and morality would be beneficial.

In the study by Lauren, Galonski (2014), a qualitative design was chosen to explore better understanding of the clinical application of Canine-Assisted Therapy - CAT. The analysis of the interview data was revealed as the main themes with different supporting themes. The most prominent theme, the "human-animal bond" included three supporting themes in the facilitative role of CAT: "unconditional love and acceptance", "affect regulation through touch and distraction", and "facilitating emotional expression". The second theme, "dog as an ally in treatment", is incorporated into three supporting themes: "catalyst for working alliance", "therapist-dog relationship", and "community dog". Since the interaction with animals has such a positive effects on human, the application of pets such as dogs in therapeutic process would be recommended especially for the children with social and behavioral problems.

Animals are useful as the potential providers of social support in troubled children and adolescents, as well as instructional tools for promoting their positive cognitive and behavioral changes such as social skills, sense of personal responsibility, the ability to control disruptive behavior, improved self-esteem and self-efficacy (Kruger, Symme & James, 2004). The mutual giving and receiving of affection is an important component of the human-animal bond. The simple act of giving can make a person feel better and more worthwhile (Urichuk & Anderson, 2003). These benefits are due to the fact that animals provide love and unconditional acceptance to their owners regardless of their conditions.

The popularity of animal-assisted literacy mentoring programs continued to grow across North America and abroad and it have been established in 4 Canadian provinces, 43 U.S. states, and in Australia, the U.K., Italy, and in India (Land of PureGold Foundation, 2011 as cited in Friesen, Lori 2012). A study (Friesen, Lori 2012) examined the literacy learning experiences in grade 2 children who interacted with a therapy dog and an adult mentor in their classroom. They suggested that this study will help how animal-assisted programs are experienced by and may offer unique support for children who are struggling in reading, young boys who consistently underperform in reading, and children who are high achievers in literacy.

### **Pet-Facilitated Therapy In Malaysia Setting**

In Malaysia, though some research has conducted regarding pet-facilitated therapy, there is no evidence of incorporating it into the clinical and community clients care setting. "Animal-Assisted Therapy for the Disabled and Elderly Association



(Petpositive) is the only one nationally registered organization for empowerment of elderly and disabled people through pet-facilitated therapy. Another organization is the Furry Friends Farm (FFF), and other than that there is lack of online data regarding animal-facilitated therapy in Malaysia. Public as well as nurses, doctors, and health care professions need to raise awareness of it; so that they would co-operate pet-facilitated-therapy in their clients care since it is not against but serve as a complementary to the conventional therapy.

### Limitations

Even though, pet therapy has been known as the source of enormous benefits for the purpose of treatment therapy, and as tools for educating in rearing the children, there are limitations as well. One of the ethical considerations is the safety of the animals that are used in any type of treatment program and the safety of human especially from zoonotic infections which are transmitted from animals to human. It is important that the child is trained in the proper care and treatment of animals and that the majority of the animal-child interactions are supervised by an adult, especially in the beginning of the AAT program. All animals should have regular veterinary visits to ensure that regular contact with a child with an exhausting personality does not prove to be too stressful (Heather, Unger, 2009). The role of parents, caregivers, and therapists are important to make sure the animals used are fully vaccinated and hygienic so that the children and care providers are free from injury, and infection.

Animal-Assisted Intervention - AAI would be less effective, and even potentially harmful, if the therapy dog and therapists lack the appropriate training and responsibility. Moreover, therapy animal handlers must be aware of the reactions and preferences of the patients they are visiting with, in order to make sure they are comfortable in interacting with the animal, and their involvement in therapy (Annika, Krankl, 2014). Furthermore, it is expected that not everybody agrees with any type of animals to keep as pets or used them as part of their therapy based on individual preferences, or cultural and religious value. Thus, they should be given chances to select their preferred animals from out of variety of pets or be respected their decisions for not choosing one as part of their therapy. More studies need to be conducted to explore the benefits of pet-facilitated-therapy in other area of the human medical field such as elderly and disabled population.

### Discussion And Conclusion

In this review paper, a number of selected articles, papers, researches and books, total thirty seven with twenty seven direct scientific findings and ten papers indirect studies are reviewed and put it into analysis. Scholars of direct findings are 1.(Annika, Krankl, 2014) 2.(Banks, 2008) 3.(Braun et al, 2009) 4.(Brown, Katherine. 2014) 5. (Carew-Lyons, Aimee 2016) 6. (Chia-Chun Tsai, 2007) 7.(Cohn & Mashelle, 2016), 8.(Colette Cheryl N. 2010) 9.(Damron, W. Stephan, 2003) 10.(Dilek & Sibel, 2015) 11. (Douglas, 2016), 12.(Field & Robert, 2008) 13.(Fine, Aubrey H. 2006) 14.(Fox & Mickley, 1985) 15.(Friesen, Lori, 2012) 16.(Heather, Unger, 2009) 17. (Ingeborg Pedersen et al, 2012), 18. (J.S.J Odendaal, 2000) 19. (Jackson, Justine 2012), 20. (Kisstin O'Brein, 2007) 21.(Kruger, Symme & James, 2004) 22.( Lauren, Galonski, 2014) 23. (Parshall, 2003) 24.( Pitts, 2005) 25.( Reiley, 2012) 26.( Siewertsen, Emma & Masaru 2015) 27.( Urichuk & Anderson, 2003).

Names of scholars from indirect studies are 1.(Corson & colleagues, 1977) 2.(Harris et al., 2006) 3.(Kanamori et al, 2002) 4.(Locke, 1699) 5.(Chandler, 2012) 6.(Mallon, 1994) 7.(Melson et al.2005) 8.(Redefer and Goodman, 1989) 9. (Sams, Fortney and Willenbring 2006) 10.(Gagnon et al. 2004). According to the recent exploration on this paper, numbers of studies according to published dates are such as 1699, 1969, 1985, 1989, 1997, 2000, 2002, 2010 and 2016 with one study each and, 2004, 2005, 2007, 2008, 2009, 2012, 2015 for two studies each. 1994 and 2003, for three studies each and 2006 for four studies are found respectively.

As a summarization, the researchers find out that Cohn & Mashelle (2016) and Fine, Aubrey H. (2006) provide the usage and explanation of AAT/A. For the general and physical healthcare to children, six studies by Damron, W. Stephan (2003), Cohn & Mashelle (2016), J.S.J Odendaal (2000), Parshall (2003), Jackson, Justine (2012), and Dilek & Sibel (2015) prove the evidence on the effectiveness of AAT and AAA. Similarly, three findings done by Braun et al. (2009), Colette Cheryl N. (2010) and Gagnon et al. (2004) show the usefulness for pain, illness, trauma and cancer.

Furthermore, a number of scholars in fifteen studies such as Fine, Aubrey H. (2006), Banks. (2008), Melson et al. (2005), Kanamori et al. (2002), Corson & colleagues, (1977), Chia-Chun Tsai, (2007), Douglas (2016), Carew-Lyons, Aimee (2016), Ingeborg Pedersen et al, (2012), Kisstin O'Brein, (2007), Siewertsen, Emma & Masaru, (2015), Brown, Katherine. (2014), Chandler, (2012), Redefer and Goodman, (1989) and Sams, Fortney and Willenbring (2006) identify the benefits of AAA/T in developmental and mental healthcare for children of special needs. Also, five studies by Kruger, Symme & James, (2004), Field & Robert, (2008), Lauren, Galonski, (2014), Urichuk & Anderson, (2003) and Land of PureGold Foundation, 2011 as cited in Friesen, Lori (2012) support that AAA will be very beneficial for the matter of social and educational purpose. However, there are certain limitations of pet therapy since it includes use of animals, and which had been discussed with the views of Heather, Unger, (2009) and Annika, Krankl, (2014).

In addition to all the discussions findings above, some suggestions would like to add on in this paper. Firstly, it is needed to observe the awareness of the medical practitioners about the AAT, and according to the study conducted by Matas (2012) among the psychologists, only 11.5% of participants familiar with AAT, 47.5% somewhat familiar, and 13.1% are not family at all. The role of psychologist and medical practitioners are important, the more they realize the benefits of AAT, the more they perceive the efficacy of the therapy, and the more likely they will use it.

In some countries, such as International Society for Animal-Assisted-Therapy (ISAAT), Animal Assisted Intervention International (AAIL), and Animal-Assisted Therapy Programs of American Kennel Club (AKC) and American Society for the Prevention of Cruelty to Animals (ASPCA) as well as other volunteer organizations are founded. Nonetheless, Ministry of Health authority should encourage the development of these non-governmental organizations by producing license to therapists and animals which are eligible to use in pet-facilitated therapy to avoid the undesirable effects of the weaknesses in practice of the individual organizations. Moreover, animal-assisted therapy courses should be offered in Nursing, Medical, and Veterinary Institutes by providing certificate upon successfully completion of it. Though this paper focuses on the pediatric children, it could be applied in adults and senior citizens with certain conditions such as stroke, disability, and hearing and eyesight loss. Furthermore, animals are being used for detecting illegal drugs; it will be helpful for the society on prevention of these harmful drugs, and then reduce number of drug addicts, and their related problems.

From all the discussions presented above, it is clear that Animal-Assisted Therapy (AAT) and Animal-Assisted Activities (AAA) provide positive effects for healthcare, benefit as part of occupational therapy, teaching of the children especially with special needs for social and educational purpose. It is not against but complement to the conventional medicine for the holistic care of individuals. Thus, the use of AAT and AAA is strongly recommended because it will be value added to medicine, nursing, and care of the clients and individual in the community.

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