



Jurnal Ilmu Keperawatan Jiwa

Volume 4 Nomor 3, Agustus 2021

e-ISSN 2621-2978; p-ISSN 2685-9394

<https://journal.ppnijateng.org/index.php/jikj>

Establishing And Evaluating The Effectiveness Of Aat For Residents In Nursing Home

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ABSTRACT

AAT is one of the complementary therapies in nursing homes. However, nurses lack related evidence – based AAT. The purpose of this project was to translate the best available evidence in order to improve residents' well-being. There were four stages in this project. The first stage conducted a systematic review to identify the best available evidences on AAT. The second stage was discussed step by step according to the protocol for audit. The third stage was to educate multidisciplinary personnel to implement the protocol AAT. Lastly, we implemented the AAT protocol and compared the pre- and post- physiological, psychological and social score of residents to evaluate the effectiveness of AAT protocol. Eight residents completed the pretest and the first, second, and third posttest audits. Result from paired-t tests found significant improvements in residents' physiological, psychological and social score. The project supports that AAT may effectively improve well-being for residents in nursing home.

Keywords: animal-assisted therapy (AAT); physiological; psychological; social interaction; therapeutic

INTRODUCTION

Complementary therapy (CT) is a holistic caring which provides care to each aspect of a patient's life (Cassileth & Deng, 2004). World health organization (WHO) supports efforts to improve the safety and efficacy of non-pharmacology therapy (WHO, 2002). Animal-assisted therapy (AAT) is one of complementary therapies. AAT most commonly involves interaction between a client and a trained animal, facilitated by a human handler, with a therapeutic goal such as improving relaxation, nutrition, social interaction, as well as pleasure, reducing agitation, and offering physical therapy or rehabilitation likes brushing a dog with a stroke-affected limb (Filan & Llewellyn, 2006).

The AAT can be applied to people of all ages from children to elders, in which an animal is part of process of treatment. The interactions between patient and animals can improve therapeutic outcomes (Williams & Jenkins, 2008). Companion animals have positive effects for elderly and caregivers. The recognition of the importance of the human animal bond has led to a proliferation of programs known as animal-assisted interventions (AAI), which are designed to improve the lives of elderly patients (Filan & Llewellyn-Jones, 2006). Notwithstanding such evidence, contradictory data present in the literature show the need for further research in this area to substantiate the potential beneficial effects of dog-mediated intervention programs (Berry et al., 2012).

According to a survey of senior citizens in Taiwan, Most of the hospitalized patients were the elderly population (87.61%). It claimed that they needed care from others, needed someone

to talk. For instance, 77.15% of the participants felt unhappy, and 22.85% were unhappy. In the local nursing homes, 34% of the residents were elderly and more than 70 % of these elders felt lonely (Lin, 2007). Many nursing homes utilize music, animal-assisted, movie, drawing and spiritual therapies. The activities are considered complementary therapies for elders. According to this study, although 10 senior citizens participated in an animal-assisted therapy, just 33.3 % of the participants were interested and stayed in the therapy until it was finished. It is important that healthcare workers had to make these AAT therapeutic activities interesting enough to keep the participants motivated.

While AAT is considered interesting in the nursing home, they need to be periodically reviewed and evaluated. This is to ensure that AAT have protocols and are evaluated with standards. The protocols of AAT are a set of standard activities advocated by sound researches. These activities encourage healthcare workers to perform AAT in their care of patients. With protocols, auditing can be more effective in improving complementary therapy in nursing home. The Delta Society recommends that care providers for institutionalized older adults must provide physical care, but it is even more important for them to offer psychological care that consider each patient to be worth of living, offering necessary comfort and support to instill feelings of happiness into their patients (Macauley, 2006). Ideally, care providers need to work in a pressure free environment to adequately meet the psychological needs of the participants. As their interaction with animals increases, they are more willing to interact with humans (Lefebvre et al., 2008). This project intends to enhance AAT activities in one nursing home in the following three ways: 1)to conduct a systematic review to develop AAT guidelines in nursing home; 2)to educate multidisciplinary personnel to implement AAT protocol; 3)to compare the pre- and post-physiological, psychological and social scores to evaluate the effectiveness of the AAT protocol.

METHODS

The project evaluated how AAT protocol was implemented in nursing home implements AAT. JBI MAStARI was used to appraise the methodological quality of journal articles (JBI, 2008). Our evaluation lasted for five months, from May to September 2014. This project encompassed four stages: The first stage conducted a systematic review to identify the best available evidences on AAT. The second stage was discussed step by step according to the protocol for audit. The third stage was to educate multidisciplinary personnel to implement the protocol AAT. Lastly, we implemented the AAT protocol and compared the pre- and post-physiological, psychological and social score of residents to evaluate the effectiveness of AAT protocol.

Stage 1: conducted a systematic review to identify the best available evidences on AAT (May, 1, 2014 to August, 16, 2014). The first phase entailed identifying a topic, forming a team, specifying team members; roles and responsibilities, deciding on how to conduct a systematic review, selecting audit criteria, developing training slides, and identifying the setting and participants.

Identifying a Topi

The topic of this project was “Establishing and Evaluating the Effectiveness of AAT protocol in Nursing Home Resident.” The project team selected this topic because AAT is an interesting complementary therapy and possession of pets is common in Taiwan.

Forming a Team

There were five members in this project team. Two nurses in a nursing home served as a leader and a co-leader. One nurse acted as a caregiver, one of social worker and students.

These members were selected according to their assigned roles and responsibility in the nursing home.

Roles and Responsibilities

The team discussed the details of the project, such as audit criteria and the concept of AAT. Any misconceptions or doubts were resolved before implementation. The appointed auditor was an AAT advocate from another team. One reason for this arrangement was to minimize observer biases. The team translated protocol from English to Chinese, and as certain that all team members understanding the procedure of the protocol. The team was ensuring that the auditing processes and findings were reliable and consistent. The team members met in person in every phase to ensure the quality of the project.

Systematic Review

We searched the following databases from 1990 up to October 31, 2012: MEDLINE via PubMed, CINAHL, Web of Science, Scopus British Nursing Index and reference, Cochrane and Joanna Briggs Institute (JBI). Only keywords relating to the topic of our project were used for the searches. Titles and abstracts of identified published articles were reviewed in order to determine their relevance to our project. Studies were selected when the design was a randomized control trial (RCT) and one of the interventions was a form of AAT. Studies without satisfactory results were excluded, and we included only full text. Cure and rehabilitation effects were our primary consideration. When studies were excluded, they were provided with reasons for exclusion. After our preliminary searches, 218342 papers were found. Based on our inclusion and exclusion criteria, 67 papers were included. Finally, 10 papers were chosen because they were directly related to RCT. Our review of the ten articles led us to develop a protocol to improve therapeutic activities.

Selecting Audit Criteria

The 12 items based on (Conrad, 2000), 6 items (Johnson, Meadows, Haubner, & Sevedge, 2008), 8 items (Chu, Liu, Sun, & Jung Lin, 2009), and 9 items (A. Berry et al., 2012). There were three aspect of the AAT evaluation scale: physiological, psychological and social. The team selected the criteria based on the JBI recommendation evidence level 1A and 1B. AAT protocol has 17 items extracting from the systematic reviews. The criteria were considered as met if the volunteer was done to perform the following:

Protocol

Table 1.
Contents of AAT Protocol

Contents	Description
Duration	1 week
Time	50 minutes
Activity	Introduction and getting acquainted with the dogs. Handler or nurse tells the purpose of a dog therapy. Walk with the dogs over barriers. Carry the dogs on a cart and touch the dogs. Patients play with the dogs. Patients feed the dogs Patients try to raise the dogs' attention. Group discussion and exchange of ideas and feelings.
Participant	Free of allergies, not afraid and willing to participate.

Contents	Description
Handler	Every handler need to participate in a formal training program and an evaluation of that training.
Health screening of animal	It is required that dogs and cats be vaccinated against rabies as dictated by local laws.
Hand hygiene	It is required that everyone who wishes to touch the animal practice hand hygiene before and after contact.

Evaluation of AAT Protocol for Elders

Table 2.
 The Evaluation of AAT Protocol

Assessment	Score	
	1	0
Physiological		
Accompanying with a dog during physical therapy.		
Feeding a dog.		
Brushing a dog.		
Talking with a dog.		
Playing with a dog.		
Grooming a dog.		
The elder stayed during the pet therapy period until it was finished.		
The elder could remember the name of a handler or a dog.		
Participants gave positive responses to AAT activities.		
Psychological		
Awareness		
Vigor		
Good Mood		
Positive feeling		
Social interaction		
The elder raised questions after the animal therapy were done.		
The elder initiated social interactions with another person (Nurse, handler, or another elderly).		
The elder spontaneously invited other residents to play and talk with a dog.		
The elder spontaneously initiated social interaction with a dog.		

Developing training slides

Training slides were made based on the review of AAT protocols

Identifying the Setting and Sample Size

The setting of this study is one nursing home in Taiwan. The participants were 8 residents.

Stage 2: was discussed step by step according to the protocol for audit (17 August to 26 August 2014). All of health care workers in the nursing home were involved in a baseline audit to determine the extent of AAT protocol. The protocol was identified from systematic review and the team did assessment and applied the protocol based on the context of nursing home. They discussed step by step according to the protocol for audit. After audit the team did translate the protocol to Chinese language. The protocol has English and Chinese version.

Next, the team conducted situational analysis, action plan with the aim of implementing AAT protocol. The potential barriers were assessed in the situational analysis. A plan of action was then developed for solving the barriers before initiating a post implementation audit.

Stage 3: was to educate multidisciplinary personnel to implement the protocol AAT (27 August 2014 to 10 September 2014)

Four barriers were identified during baseline audit. The team had four barriers:

1. There was no AAT evaluation form in Nursing homes
2. Most of the AAT activities was less attractive. It could not attract the elderly to join the activity. Based on the pilot survey, 2 of 10 the elderly did activity continuously.
3. Nurses lack the related knowledge and skill of the evidence – based AAT.
4. There was no comfortable place to hold the AAT protocol in this nursing home.

Strategies for barriers:

1. The team did promotion about AAT activities to patient, nurse, family, and social worker.
2. The team provided continuous education about the AAT activities. As such, handler could and conducted AAT protocol step by step.
3. The team made evaluation to decide whether the activity effective or not for residents.
4. The team did assessment of the handler's implementation AAT protocol.
5. The team designed and made the place of AAT more comfortable.
6. The team did open communication among nurse, handler, and social worker to overcome adherence barriers.

Stage 4: implemented the AAT protocol and compared the pre- and post- physiological, psychological and social score of residents to evaluate the effectiveness of AAT protocol (11 September 2014 to 27 September 2014)

The team has meeting and discussion about the result of applying and implementation of AAT protocol. The sample size was 8 residents. Direct observatory audits were carried out during implementation period.

Ethical consideration

Formal ethical approval was not required for patient safety. The residents involved in the audit were assured that their confidentiality and privacy would be maintained.

Results

Eight participants have completed the AAT course. Paired-t test was used to compare the mean of pretest and posttest 1, 2, and 3. The criteria for evaluation were: Ineffective (< 6), Uncertain (7-11) and Effective (> 12). The mean of pretest was 6.12 (<6). The means of posttest audits were increased gradually.

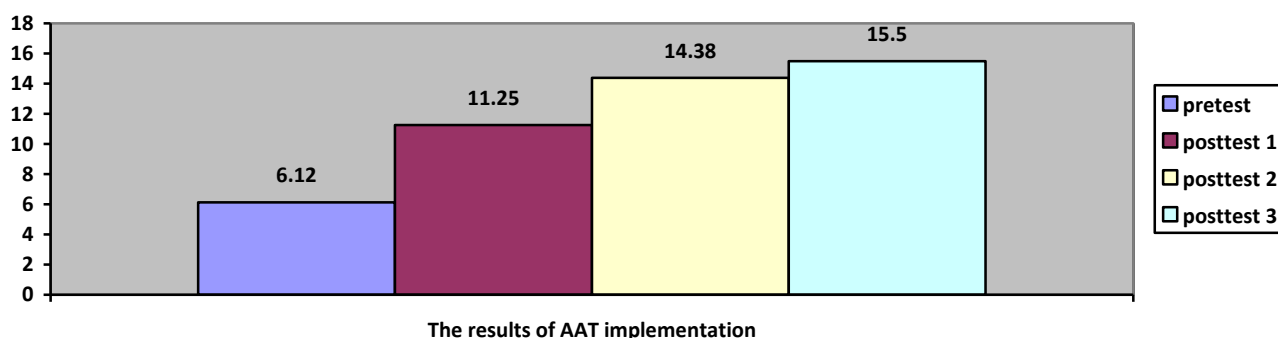


Figure 1. The post evaluation of AAT protocol

There were 11.25 in posttest 1, 14.38 in posttest 2, and 15.50 in posttest 3 respectively.

Table 4.
 The comparison of pretest and posttest data

Time	Mean	SD	p/Sig. (2-tailed)
Pretest – posttest 1	6.12 11.25	3.399	.004
Pretest – posttest 2	6.12 14.38	1.669	.001
Pretest – posttest 3	6.12 15.50	1.598	.001

DISCUSSION

AAT is one of the non-pharmacological activities that have no immediate side effects for the patients. Nurses will consider all forms of activity for their patients. This project found that the AAT activity had positive effects for the behavior of the elderly. The positive effects included increasing client's interaction with people or animals in treatment, reducing agitation, and improving physical activity. AAT also directly affects the elderly interaction with animals. One of the benefits of interacting with animals was to stimulate sensory nerves to make relaxing (Richeson, 2003).

The protocol was originated from the systematic review. Application of AAT that has been done does not have a standard formality and intervention. There was no standard operation procedure of AAT in nursing home before conducting this project. This case spurred the team to make the application of AAT as a reference that systematically based on recent evidence. The majority of studies provided pictures related to AAT, such as activity sessions, qualifying handler or the person who directs therapy, veterinary criteria, time events and activities that should be done. All evidences obtained were needed for research. Richeson (2003), described a structured interventions of AAT leading individual sessions, detailed information about who attended the session, the purpose of the session, and how sessions are structured, the opportunity to apply the protocol etc. (Richeson, 2003).

AAT can be done by health professionals, handler or family. The therapies can provide better support for interaction with animals or other people and improve the physical activity of residents. Application of AAT in the nursing home can improve the quality of life of the

elderly. Nurses can improve the quality of information and activities so that AAT can always provide positive effects for the elderly. The health professionals can develop or explore the theoretically AAT and practices in the future.

Sustainment

There are some strategies for maintaining and improving AAT in nursing home. Time, activity and participants are indicators to maintain AAT activity.

Limitation

The limitations of the project were the small sample size and the fact that the study involved only one nursing home. It was difficult to conclude that results were representative of a large population.

CONCLUSION

The results of this project showed that there are significant effects of AAT protocol on physiological, psychological and social aspects for residents in nursing home. On the basis of these observations we believe that AAT programs are desirable components of multidisciplinary treatment for residents in nursing home and AAT is essential to increase socialization, activity and sense of mastery.

ACKNOWLEDGEMENTS

The project team would like to acknowledge the following: Mr. Meng – Chih Li is the president of Taichung Hospital. Mrs. Ya-Ling Lin is the leader of nursing home in Taichung Hospital. Mrs. Hsiao-Wen Liao is co- leader of nursing home in Taichung Hospital. Hui – Mei Chua is the Leader of Dementia Ward in Taichung Hospital. Yi – Ching Wang and Chueh –Yu Liu is the Nurse of Dementia Ward in Taichung Hospital, Wen –Chiang Chiu is the leader of Social Worker in Taichung hospital, Hui – Wen Yang is the leader of Caregivers in Dementia ward in Taichung Hospital.

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