Must Love Dogs: Literature Review and Manual on Animal Assisted Therapy in Speech-Language Pathology with Adult Neurological Disorders

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SLP use of AAT for Adult Neurological Disorders

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ABSTRACT

Animal-assisted therapy (AAT) involves introducing a specially trained animal into a clinical setting to augment treatment. AAT has been incorporated into the treatment and management of individuals with a wide range of disabilities with the goals of providing emotional support and improving social functioning. Although there is strong evidence that AAT can be beneficial for many individuals, research evaluating its efficacy with adults with neurological disorders is limited. However, current research does suggest that AAT may have therapeutic value for adults with neurological disorders. According to the World Health Organization, neurological disorders encompass a broad variety of conditions resulting from diseases of the central and peripheral nervous systems. These disorders include, but are not limited to, Alzheimer's disease and other dementias, multiple sclerosis, Parkinson's disease, brain tumours, neurological infections, traumatic disorders of the nervous system such as traumatic brain injury, and cerebrovascular diseases including stroke (World Health Organization, 2006).

Through a review of the literature, we investigated the application and efficacy of AAT in the rehabilitation of adults with neurological disorders. We further investigated the resources and supports available in the community to implement AAT. Based on this information we drafted a manual detailing the steps involved in establishing an animal-assisted program relevant to adults with neurological communication disorders. This manual is intended to assist clinicians to incorporate AAT into their practice. Understanding how to implement an AAT

program and how individuals with neurological communication disorders benefit from this therapy could contribute to improving services for adults with neurological communication disorders.

BACKGROUND OF ANIMAL ASSISTED THERAPY

Animal-assisted therapy (AAT), also known as animal-assisted intervention, is a rehabilitation approach that has garnered attention due to its possible benefits. AAT involves the use of an animal (most often a dog) and a certified therapy team (including a handler) in order to help improve a patient's cognitive, social, emotional or physical well-being (Ernst, 2014). Therapists work within their scope of practice to set treatment goals, measure progress, and conduct an evaluation of the treatment (Chandler, 2005). AAT differs from animal-assisted activities (AAA), which involve the use of animals in activities to enhance quality of life by improving motivation, education, recreation, and encourage social encounters, but do not include goals or an evaluation (Chandler, 2005).

Although using animals in therapy has only been studied academically since the 1960s (Urichuk & Anderson, 2003), animals have played an important role for patients in a therapy setting since the late 1800s, when Florence Nightingale noted the calming effect small pets had on children and adults in psychiatric institutions (Ernst, 2014). The use of animals in therapy initially aimed to reduce the need for harsh sedatives and physical restraints (Urichuk & Anderson, 2003), and has long been aligned with the positive effects of elevating mood, alleviating stress, lowering blood pressure, and calming anxiety and aggression (Berek, 2013).

More recently, scientific interest has focused on the medical value of AAT, prompted by one study that indicated possible life prolonging effects of owning a pet in those who had suffered a heart attack (Fine, 2010). AAT has been used for patients with communicative disorders since the early 1930s when Sigmund Freud observed the response of his patients to his dog Jo-Fi and began to use Jo-Fi specifically to facilitate communication with them (Ernst, 2014). Later, in the early 1960s, child psychologist Boris Levinson observed his nonverbal client begin to talk when seated with Levinson's dog, Jingles. This experience combined with other similar observations prompted Levinson to publish various works on the subject of AAT and he later became known as the "father of AAT" (Ernst, 2014).

Although research exists on the use of AAT with many different groups of individuals, there is scarce research on AAT and its effects when used with adults with neurological communication disorders. Given the increasing prevalence of dementia (World Health Organization, 2012), traumatic brain injury (TBI) (Center for Disease Control and Prevention, 2015), and a projected increase in people experiencing the effects of stroke in Canada (Krugar et al., 2015), studies of treatments to facilitate communication for individuals with neurological disorders are timely and important. The ability to communicate is integral to quality of life. Understanding how AAT might benefit individuals with neurological disorders and developing an implementation plan may contribute to improving services and ultimately, the overall well-being of individuals with neurological communication disorders.

OBJECTIVES

The overarching goals of this project were to determine the usefulness of AAT in the rehabilitation of adults with neurological communication disorders, and to learn about the resources and supports available in the Edmonton community. A detailed implementation plan was developed for AAT in the city of Edmonton.

METHODS

Search Strategy

Academic Search Complete, SpeechBite, and University of Alberta Library database were searched using the keywords dementia, stroke, traumatic brain injury, long term care, communication disorders, speech therapy, animal therapy, emotions, behaviour, animal-assisted intervention, and animal-assisted therapy. The reference lists from the articles found in these databases were also searched for relevant resources. Additional resources were used such as various websites describing the implementation of AAT, manuals developed for other users of AAT, observations, interviews, and the book *Improving mental health through animal-assisted therapy* (Urichuk & Anderson, 2003) who examined the use of AAT and provided resources specific to the Edmonton area.

Inclusion criteria were articles relating to background information on communication disorders, AAT for other populations, AAT in long term care facilities, and AAT for adults with

neurological disorders. Exclusion criteria included articles involving animal-assisted activities, as they are not considered therapeutic.

RESULTS AND DISCUSSION

Dogs are the most commonly used animals for AAT in institutional settings (Williams & Jenkins, 2008). By redirecting and refocusing attention, AAT may improve social interaction and can be done as a group activity, or individually as a goal-oriented intervention (Richeson, 2003). For instance, AAT is used for adults with dementia in long-term care to reduce the impact of symptoms and increase social interaction and communication with other residents and staff (Nordgren & Engstrom, 2014).

Standards and qualifications for AAT vary within and across countries. Currently, Sweden is the only country with national standards for professional qualifications of therapists and the use of therapy dogs for adults with neurological disorders (Nordgren & Engstrom, 2014). There are organizations in Canada that have standards and procedures for certifying and training animals for therapy with other populations, such as individuals with autism spectrum disorder, post-traumatic stress disorder, and physical limitations (Arkow, 2011). Within Canada, there are differences across provincial regulations for AAT. For example, while Alberta does not have many bylaws or restrictions associated with AAT, Ontario has more stringent requirements that a facility must abide by before implementing AAT.

Benefits

Research has shown simply petting a dog can reduce loneliness, depression and social isolation as dogs are attentive, nonjudgmental, and show genuine attention and affection toward the client (Ernst, 2014). When dogs were introduced to nursing home residents with neurological disorders, the residents experienced positive interactions as the dogs were able to read subtle cues in body language and respond appropriately, initiate interactions with patients, and show genuine pleasure during interactions (Marx et al., 2010). Recent research into the use of AAT has found other benefits for a variety of populations and environments. Aydin et al. (2012) found that participants in their study reported higher scores of life satisfaction, self-esteem, perceived meaning in life, and general feelings of social acceptance in comparison to participants in a dog-absent condition. Reported outcomes of AAT include providing relaxation and pleasure, as well as providing rehabilitation (Marx et al., 2010). Additionally, research has found further benefits such as improving social and communication skills, reducing anxiety, improving mood, facilitating independent living, and improving empathic skills (Ernst, 2014). These benefits are reported to be a result of animal interactions fostering positive emotions, which lead to increased confidence and reduced feelings of loneliness, sadness, anger, and insecurity. AAT can also reduce feelings of aggression and agitation, and can help engage residents with neurological disorders in social activities. These benefits may be of specific interest to those living in nursing homes, where these feelings are a common experience (Ernst, 2014). Additionally, research suggests a link between a

participant's interest in, or previous ownership of an animal, and subsequent positive outcomes of AAT (Marx et al., 2010).

With regard to communication specifically, LaFrance, Garcia, and Labreche (2007) conducted a single participant study that incorporated an A-B-C-A reversal design where condition A involved only the person with aphasia (PWA), condition B involved both the handler (i.e., the SLP) and PWA, and condition C involved the handler, PWA, and therapy dog. LaFrance et al. (2007) found that during an interaction activity, both verbal and nonverbal behaviours increased significantly during the condition where the PWA was accompanied by the dog and its handler. Perry, Rubinstein and Austin (2012) observed that, among patients with a broad range of mental health disorders and physical challenges, levels of openness appeared to increase with the presence of a therapy dog, as did overt changes in both verbal and nonverbal communication. On a verbal level, language had been observed to change from more formal or vague to expressly sharing deeply personal thoughts and feelings as participants with aphasia pet, sit with, or watch the dog. On a nonverbal level, it had been noted that members changed from a stiff and guarded body posture in chairs to an open and relaxed body posture while sitting with the dog on the floor. As well, increased use of spontaneous communication may occur and other aspects of language such as fluency may improve when speaking to a dog (Macauley, 2006).

AAT is well suited for long term care residents as it provides a context for social interaction that is not dependent on a resident's level of cognition (Marx et al., 2010). For

example, a dog will provide companionship regardless of a resident's state of awareness, as dogs are nonjudgmental listeners and would not react negatively to hearing repetitions of the same phrase or story (Marx et al., 2010). Further, AAT is beneficial for elderly individuals as it elevates their emotional state, which increases their desire to initiate social interactions, and alleviates negative emotions (Filan & Llewellyn-Jones, 2006). Additionally, evidence suggests that the presence of animals in a long term care facility encourages speech production by eliciting more verbal responses (Greer, Pustay, Zaun, & Coppens, 2002), as well as enhancing the complexity and variety of content of the verbal response (Marx et al, 2010). Incorporating AAT in a speech, language, and/or communication intervention programs may enhance the program by providing an optimal communication environment for the clients, where they are encouraged to provide responses of increased quality and quantity.

Barriers/Risks

For all vulnerable populations, it is important to ensure the safety of the patient and the animal and to put safeguards in place that take into account various risk factors. To be certified to conduct AAT, most animal therapy organizations require that the therapy animal pass a behaviour and skills evaluation to ensure that the animal does not have undesirable behaviours that may endanger the patient, the therapy team or other members of the facility. No matter how well trained the animal, there is always a chance that the client or the animal could harm one another, which may negatively impact therapy (Chandler, 2005). A client may

unintentionally provoke the therapy animal, and injury could occur from inappropriate handling or lack of supervision. Safety protocols in case of accidents and injuries must be in place.

Infection control regulations should also be used. Most organizations require proof of current vaccinations to prevent zoonoses (i.e., the transmission of infectious diseases from animals to humans). Although zoonoses are relatively uncommon (Urichuk & Anderson, 2003), immunocompromised individuals, pregnant women, elderly adults, and children are at higher risk than healthy adults (DiSalvo et al., 2006).

To reduce risks and maximize benefits, it is important to identify individuals for whom AAT would not suitable (Fine, 2010). Clients may have allergies, phobias, or have had negative experiences with animals in the past. Clinicians should consider the patient's feelings and preferences about animals. For instance, if patients are not interested in AAT or wish not to have any contact with an animal, the patient's rights must be respected (DeCourcey, Russell, & Keister, 2010). The Pet Therapy Society of Northern Alberta (2006) reported additional individuals who may not benefit from animal therapy including clients who may compete for the animal's attention and people with different cultural perspectives of animals. For example, an individual from a farming or rural background may believe that animals should be outdoors, not in healthcare facilities. A possible way to assess client suitability for AAT, and satisfaction with the treatment, is to provide the client and family members with a survey about their likes and dislikes of their treatment (Bunton, Corrice & Mallon, 2010). Consent should be obtained from the client directly, or from a substitute decision maker if necessary (Ottawa Therapy Dogs, 2011).

Finally, a risk associated with AAT is feelings of loss when therapy is discontinued. Nordgren and Engström (2014) reported that some participants experienced a sense of loss or loneliness after AAT came to an end. In an attempt to counteract these negative feelings, researchers continued pet visitations, although no further therapy was conducted.

To minimize the risks that accompany the use of a live animal, a robotic or plush animal may be used, although benefits are not well established and certain individuals may be hesitant to interact with these inanimate objects (Marx et al., 2010). Even if all risks are accounted for, handlers and organizations still need to consider potential liability concerns; organizations must make certain that their insurance policy will cover AAT-related incidents and that all members of the organization are covered (Fine, 2010). Organizations vary on the amount of liability coverage that is provided; for instance, the Pet Therapy Society of Northern Alberta ensures up to two-million dollars.

NEXT STEPS

To date, anecdotal accounts of the benefits of AAT to promote language, communication and overall well-being outweigh academic research on the topic (Cole, 2009). Although there appears to be a growing interest in using AAT with adults with dementia, and consequently more research devoted to this area, there appears to be less research in the areas of brain injury such as stroke and TBI. Macauley (2006) suggested future research to examine the effectiveness of AAT for people with different communication disorders and different types of brain injury.

To effectively build upon scientific evidence to support the effectiveness of AAT, future research should include systematic examination of AAT in controlled studies. Researchers should consider a recommended intensity and duration for AAT, specific characteristics of the animal used (e.g., size, breed, and personal factors) and effects of AAT on clients' speech, language and communication abilities.

Interdisciplinary collaboration in research and intervention planning in AAT should be pursued. An interdisciplinary approach to future research would:

> "cultivate a significant database of information, publications, resources, and ethical guidelines from a variety of professionals. Including a combination of animal professionals, mental health practitioners, animal advocate organizations and researchers, would offer varying perspectives and goals for research. This collaboration could encourage further discussion and potential partnerships and alliances. These could benefit both professionals and clients, and help to grow the field of AAT." (Cole, 2009, p.60)

Another direction for future research is the importance of bringing the same animal to each session and its impact on therapy. It would be important to consider how using the same animal affects rapport between the client and animal, as well as the client and therapist. These are important considerations as the same animal may not be available for all therapy sessions.

AAT's effectiveness in comparison to traditional therapies is still not well understood. In a study examining the effectiveness of AAT for participants with aphasia, both AAT and traditional treatments resulted in patients meeting or exceeding their goals. However,

participants reported that they made more progress in AAT, that it was more enjoyable, and that they felt more motivated to attend therapy sessions (Macauley, 2006). It would be important for future research to identify the benefits of AAT as compared to traditional therapies to weigh whether or not AAT is a feasible addition to communication intervention.

Further controlled studies are necessary to evaluate the efficacy of AAT. A systematic review conducted by Kamioka et al. (2014) found that the majority of randomized controlled trials they examined were of low quality. Building academic support for the efficacy of AAT through detailed randomized control trials and documentation of outcomes will further refine this therapy approach and contribute to its future use in a more meaningful way. For AAT to become a more widely accepted therapy in speech-language pathology, it is essential for the clinician to establish when and how the use of AAT is most beneficial for the client and the treatment of their communication goals (Boyer & Mundschenk, 2014).

MANUAL DEVELOPMENT

We used this review of relevant literature to create a how-to manual for speech language pathologists who wish to implement AAT in their practice. Accompanying this literature review, we also observed animal assisted therapy in action during an AAT session at the Corbett Hall Early Education Program (CHEEP). Through our observation at CHEEP and an informal interview with the animal's trainer, we were able to ask questions about training, insurance, and the benefits of AAT that are relevant to the adult population. Additionally, we observed how AAT can be used to target speech and language goals. The AAT dog, Jasper, was

trained for AAT at the Pet Therapy Society of Northern Alberta. He assists in speech, language and communication therapy in a variety of settings with populations across the lifespan.

During observation we saw Jasper meet with children in small groups of two or three, as well as one-on-one. In these small groups, specific communication goals were targeted. Targets included speech sounds (e.g., jump, sit, shake), sequencing (e.g., first use words, then Jasper does a trick, then Jasper gets a treat), turn taking, *wh*- questions, and using adjectives and verbs. Jasper's trainer also brought in items that were used to elicit conversation about Jasper such as stuffed animals, a toothbrush, and a scrapbook.

Other treatment goals may include promoting positive social behaviours and physical boundaries such as "gentle touch." These goals are important for individuals with TBI in particular as they often exhibit behaviours that are seen as problematic for social interactions and may include verbal aggression, withdrawal, and inappropriate language for context, which may negatively impact their success in the community. These behaviours can be targeted by incorporating social scripts with AAT in treatment (Ylvisaker, Szekeres, Feeney, & Chapey, 2001). When conducting AAT, Jasper's trainer tailored her language to each client and typically used simple sentences. In conversation, the trainer noted that those that came to interact with Jasper have been found to initiate more communicative interactions and increase their verbal communication, both during their interaction with Jasper and following their interaction by sharing their experience.

The trainer informed us that insurance is required for Jasper in case of bites, aggression, or allergies. Jasper's membership with the Pet Therapy Society of Northern Alberta gives him

two-million dollars worth of coverage annually. Additionally, his trainer is responsible for ensuring his well-being and safety during his interactions with the clients. For example, if an individual becomes overly excited or aggressive with Jasper, his trainer would adjust the interaction appropriately. Alternatively, Jasper's trainer would encourage gentle touch through hand over hand interaction. Jasper's trainer pays close attention to his behaviour and watches for signs of fatigue or stress such as panting, shrinking away from the clients, whale eye (i.e., when the white part of the eye is visible at the rim), or tugging on his leash to leave.

Following a review of AAT literature and observations, we developed a manual to serve as a concise resource for clinicians who intend to implement AAT in their communication therapy sessions with adults with neurological disorders. The manual outlines important considerations to be made before, during, and after a treatment session in relation to the therapy dog, the dog's handler, and the client. It includes a section for ongoing considerations throughout a treatment period, as well as specific goal areas and corresponding activities for various target areas (e.g., voice; pragmatics; fluency).

CONCLUSION

AAT is becoming more prevalent and is showing great potential as an alternative and supplemental therapy to traditional and medicinal interventions. Research shows that AAT involves both benefits and challenges. In order to expand the body of knowledge and resources for AAT use in speech-language pathology, future research needs to examine the efficacy of AAT in speech-language pathology practice; identify optimal demographics, conduct controlled

studies with diverse populations with various types of brain injury and communication disorders, and examine how AAT compares to traditional interventions in order to help increase our understanding how to best improve interventions.

With more research to support AAT, there may be more interest and motivation to incorporate AAT into therapy and conduct further research to expand this growing field. To conclude, this literature review and manual serves to provide clinicians with a foundation for how to incorporate AAT into their SLP practice and to enhance interventions in the field of communication disorders.

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APPENDIX

MANUAL

INTRODUCTION

Animal-assisted therapy (AAT) involves introducing a specially trained animal into a clinical setting to augment a form of treatment. AAT has been incorporated into the treatment and management of a wide range of communication goals to improve social functioning. The purpose of this manual is to serve as a concise resource for clinicians who intend to implement AAT in their communication therapy sessions with adults with neurological disorders. The manual outlines important considerations to be made before, during, and after a treatment session in relation to the therapy dog, the dog's handler, and the client. It includes a section for ongoing considerations throughout a treatment period, as well as examples of specific goal areas and corresponding activities for various target areas (e.g., voice; pragmatics; fluency etc.). A succinct 'how-to' checklist is included to support the clinicians' implementation of AAT into their speech and language practice.

BEFORE THE AAT SESSION

1. Obtain client's written consent to participate in AAT (from client directly, or from substitute decision maker if necessary; Lefebvre et al., 2008).
    - For individuals with health problems, written consent from the physician must be obtained to ensure that the client, animal, and handler are not at risk for potential health concerns (Di Salvo, 2005).
2. Consider client suitability for AAT Not all clients are suitable for AAT; those who may not benefit from animal therapy are people who may compete with others for the animal's attention and people with different cultural perspectives of animals (The Pet Therapy Society of Northern Alberta, 2006).
    - Consider if patients have any allergies to animals, determine client comfort level with animals, and consider whether or not clients have an interest in animals (Lefebvre et al., 2008).
3. Obtain administrative approval. Organizations interested in implementing AAT should research federal, provincial, and local regulations regarding AAT. Further, any organization with liability concerns should assess their current insurance carrier's policy about animals. If animals are not covered in the current insurance policy, the organization will need to obtain coverage for staff, clients, and visitors (Mallon et al, 2010).
4. Obtain staff approval. A multidisciplinary approach to AAT is recommended when developing the policies for an AAT program; to be successful, it is important to get approval from all staff (Urichuk and Anderson 2003).

5. Consider the following factors (Schreiner, n.d.):
    - Risk management procedures - for animal attacks/unpredictable behaviours
    - Infection control procedures - animal health screening, hygiene procedures
    - Facility's liability policies that relate to the exclusion of animal use
    - Proof of current animal registration with a therapy dog organization
    - Type of training for handlers and volunteers in regards to infection control, confidentiality protocols, orientation to the facility and so on
    - Forms for keeping records on the volunteer and handler
    - Insurance liability coverage - check with a professional association to learn about liability coverage when incorporating an animal; ensure that all staff, volunteers, and clients have liability coverage
6. Select a handler and a dog certified to conduct AAT. Organizations that certify dogs and handlers to conduct AAT include the Pet Therapy Society of Northern Alberta, Chimo Animal Assisted Therapy, the Delta Society, Ottawa Therapy Dogs.
7. Ensure the handler has put in place and followed a "visiting day grooming routine" for the dog (Ottawa Therapy Dogs, 2011)
    - Thoroughly brush and wipe dog down with a damp cloth
    - Wipe dog moving from nose to tail, making sure to wipe the inside of legs, belly, underside of tail, genitalia, and anus
    - Do not allow genital licking after grooming or at any point during sessions
    - Brush dog's teeth
    - Clean dog's eyes and ears
    - Make sure nails are smooth, file them if necessary (acrylic nail files work well)
8. Plan your treatment target (measureable SMART goals) and account for how the therapy dog will be implemented in the treatment session.
9. Consult with handler prior to the session so that they are aware of their responsibilities as well as expectations for the dog during the session.
10. Plan AAT program evaluation - how will success be determined?

DURING THE AAT SESSION

1. In therapy dogs, watch for:
    - Undesirable behaviours (e.g., a dog that jumps, has anxiety, is aggressive, and excessively licks clients)
    - Stress reactions and discomfort towards specific/all clients
    - Signs that the dog is ready for retirement (e.g., the dog is aging, no longer having fun, no longer wishes to cuddle, becomes disabled, gets sick, loses their appetite) (Ottawa Therapy Dogs, 2011)
    - Accidents

2. Collect session data (e.g., what was effective or ineffective, what needs to be changed for next time) and probe data (e.g., look for generalization, maintenance, and stimulability)
3. Note client reaction to the dog (positive? negative? productive and goal-directed?)
4. Ensure that the handler is ultimately in control of the dog's behavior and is responsible for enabling rewarding behaviors when speech and language expectations have been met

AFTER THE AAT SESSION

1. Evaluate the handler. Handlers must be consistently evaluated. They must be in control of the therapy dog at all times (Ernst, 2014), and must have a good relationship with the therapy dog.
2. Evaluate the therapy dog/animal. A facility should develop ongoing assessment and evaluation forms to ensure a therapy dog is effective for clients, as well as safe and well cared for.
    - Most therapy organizations suggest that a therapy dog's suitability to be a part of an AAT program should be evaluated and reviewed every two years and more often if radical changes occur with the animal such as sudden changes in behaviour, aggression, anxiety and motivation (Cole, 2009).
3. Evaluate the effectiveness of the animal in helping clients progress toward speech, language and communication goals.
4. Collect impact data (e.g., caregiver and client perspectives on the intervention)

ONGOING CONSIDERATIONS

1. **Diet, nutrition:** A healthy diet makes for a healthy and happy dog. Each dog requires their own specific and individualized diet and meal plan so be sure to talk to a vet about this. Depending on the facility, it may be prudent to have an outlined policy regarding scheduling mealtimes, and food type.
2. **Exercise:** Regular (preferably daily) exercise is important for a therapy dog's health and physical and mental wellbeing. A restless dog is not an effective therapy dog. Depending on the facility, it may be useful to have an exercise log or schedule that must be followed by either the handler or by the staff. Talk to a veterinarian about the breed-appropriate exercise schedule that should be followed.
3. **Work life balance for dog**: Anderson (2008) suggested that the therapy dog be granted lengthy downtime to be a dog, i.e., to exercise, play, rest, and smell the roses, and that therapy sessions should last no longer than an hour at a time.
4. **Proper grooming:** Daily grooming, teeth brushing, bathing, nails, eyes and ear checks

TREATMENT GOAL AREAS

1. ***Voice*:** Activities could include increasing a client's volume of voice; for example, using a sound level meter, measure the client's volume of speech and decide on an achievable target dB level. The handler will allow the dog to respond to the client when the client speaks at the target dB level. Another activity to work on loudness would be to have the dog move further and further away so that the client must increase speaking volume for the dog to hear and respond to a command. These activities would be highly motivating and the dog's behaviour would reinforce the accuracy of the client's verbal or vocal output.
2. ***Reading and Writing*:** Activities could include reading to the dog, writing to the dog or about the dog, and later sharing the information, perhaps in a group therapy setting.
3. ***Pragmatics*:** Activities could focus on practicing turn taking skills; for example, taking turns giving the dog instructions to do a trick and giving them a treat, taking turns petting or grooming the dog, or taking turns walking the dog. Activities may also include practicing gentle touch, talking distance, social stories, and helping client to understand theory of mind (understanding what makes the dog happy).
4. ***Receptive Language*:** Activities could include following directions, pointing to or identifying features (e.g., "point to the dog's nose!"), discriminating actions of the therapy animal (e.g., "is the dog sitting?"), categorization of toys/animal accessories, etc.
5. ***Expressive language*:** Activities can include but are not limited to: expressing commands (e.g., sit, stay, lay down) and providing praise for following commands; greeting the animal and bidding them farewell as they leave; describing the physical characteristics or actions of the animal; asking questions about the dog (e.g., age, breed, activities), making requests (e.g., request to pet animal, or give treats); and getting the client to talk about past pets.
6. ***Swallowing*:** Activities could include sharing mealtime routines.
7. ***Speech sounds and Articulation*:** Activities could include working on speech sounds that also correspond with commands (e.g., work on /s/ by practicing "sit and stay" and then having the dog act as reinforcement for accuracy of the command.
8. ***Fluency*:** Activities can include practicing a slower rate of speech, light touch, easy onset, easy breathing, and stretching sounds. Commands can be used in conjunction with these shaping techniques and the client must properly demonstrate these techniques to elicit a response from the therapy dog.

CONCLUSION

AAT is becoming more prevalent and has potential as an alternative or supplemental therapy to traditional rehabilitation interventions. Research shows that AAT involves many benefits as well as challenges that must be considered when used as a method of therapy for speech, language, and communication.

SLP use of AAT for Adult Neurological Disorders

This manual has been developed from a review of previous research and observation of AAT in a speech therapy session. The manual also includes references and additional websites that provide current information available on implementing AAT. After reviewing this manual, readers should be better equipped to determine if AAT is appropriate for their practice and to implement AAT in speech-language therapy sessions. This manual serves to increase understanding and potential of involving AAT in therapy and enhance interventions in the field of communication disorders.

Checklist:

Before the AAT Session

❑ Obtain consent (from client)
❑ Consider: is the client a suitable candidate for AAT?
❑ Obtain administrative approval
❑ Obtain approval from all staff members
❑ Consider: does the facility have the appropriate policies in place?
  ❑ Risk management procedures
  ❑ Infection control procedures
  ❑ Facility's liability policies
  ❑ Proof of current animal registration with a therapy dog organization
  ❑ Type of training for handlers and volunteers
  ❑ Forms for keeping records on the volunteer and handler
  ❑ Insurance liability coverage
❑ Select an appropriate and compatible handler and dog
❑ Ensure that a "visiting day grooming routine" has been followed by the handler
❑ Plan client-specific treatment target
❑ Plan the evaluation of the AAT program - how will success be determined?
❑ Ensure handlers are aware of their responsibilities and the expectations placed on them (and their therapy animal)

During the AAT Session

❑ Collect data
❑ Consider dog behaviour
  ❑ Undesirable behaviours
  ❑ Stress reactions and discomfort towards specific/all clients
  ❑ Signs that the dog is ready for retirement
  ❑ Accidents
  ❑ Licking behaviour
❑ Note client reaction to the dog
  ❑ Positive and negative
  ❑ Productive toward goal achievement
❑ Evaluate handler's control of the therapy dog

After the AAT Session
❑ Handler evaluation ❑ Therapy dog evaluation   ❑ Behaviour

- ❑ Contributions to client goal progress
- ❑ Client goal progress evaluation

For more resources to assist you in implementing AAT into your practice:

- Ottawa Therapy Dogs (2011). *Ottawa Therapy Dogs: Good Dogs Doing Great Work.* Retrieved June 27, 2015 from http://ottawatherapydogs.ca
- Cole, M.L. (2009). *Literature Review and Manual: Animal-Assisted Therapy.* Lethbridge: Alberta.
- Fine, A. (2010). Handbook on animal Assisted therapy: Theoretical foundations and guidelines for practice (3rd ed). San Diego, CA: Academic Press.
- Urichuk, L., & Anderson, D. (2003). *Improving mental health through animal-assisted therapy*. Edmonton, Alberta: Chimo Project
- McCarthy, L. (2011, November 30). Animal-Assisted Therapy: Assimilation within a structured speech and language pathology framework. Retrieved November 26, 2015 from: http://speech-language-pathology-audiology.advanceweb.com/Features/Articles/Animal-Assisted-Therapy-2.aspx
- Schreiner, P. (n.d.). *Animal Assisted Activities Policies and Procedures.* Retrieved July 5, 2015 from http://www.censhare.umn.edu/