



# Animal-Assisted Interventions in the Psychic Expression of Intellectually Disabled Adults (IAA and Intellectually Disabled)

Intervenções Assistidas  
por Animais na expressão psíquica  
de Deficientes Intelectuais Adultos  
(IAA e Deficiência intelectual)

Intervenciones Asistidas  
por Animales en la expresión psíquica  
de Deficientes Intelectuales Adultos  
(IAA e Deficientes Intelectuales)

*Raísa Schenkman Uliana\**

*Maria Claudia Cunha\**

## **Abstract**

**INTRODUCTION:** This research problematizes the interaction between adult subjects with Intellectual Disability and dogs, from the perspective of Animal-Assisted Interventions (IAA). **OBJECTIVE:** To describe the effects of IAA on verbal and nonverbal expression of psychic contents in adults with intellectual disabilities. **METHOD:** Qualitative research. Four female subjects, aged between 39 and 63 years, with intellectual disability participated. Dog co-therapists: Amin, Golden Retriever, 7 years old, selected according to criteria of international protocols, conducted by the researcher. There were 07 IAA sessions, in a group, lasting 35 minutes each, during the course of 03 months. The HTP and Wartegg tests were performed before and after IAA sessions, the results of which were analyzed comparatively. **RESULTS:** In the studied population, all subjects showed personality expansion and

\* Pontifícia Universidade Católica de São Paulo, São Paulo, SP, Brazil.

### **Authors' contributions:**

RSU: study design, methodology, data collection and article outline.

MCC: methodology, critical review and orientation.

**Correspondence e-mail:** Raísa Schenkman - [raisa.uliana@gmail.com](mailto:raisa.uliana@gmail.com)

**Received:** 01/05/2019

**Approved:** 09/03/2020



reduction of anxiety after IAA, in addition to increased verbalization and the dog as a strong motivating instrument.. **CONCLUSION:** The results of this research indicate the occurrence of psychic, verbal and nonverbal expression changes in different degrees in subjects with DI studied.

**Keywords:** Animal Assisted Therapy; Intellectual Disability; Psychological Tests.

### **Resumo**

**INTRODUÇÃO:** Esta pesquisa problematiza a interação entre sujeitos adultos com Deficiência Intelectual e cães, sob a perspectiva das Intervenções Assistidas por Animais (IAA). **OBJETIVO:** Descrever os efeitos da IAA na expressão verbal e não verbal de conteúdos psíquicos em sujeitos adultos com deficiência intelectual. **MÉTODO:** Pesquisa de natureza qualitativa. Participaram 04 sujeitos do sexo feminino, idades entre 39 a 63 anos, com deficiência intelectual. Cão co-terapeuta: Amin, da raça Golden Retriever, 7 anos, selecionado de acordo com critérios de protocolos internacionais, conduzido pela pesquisadora. Foram realizadas 07 sessões de IAA, em grupo, com duração de 35 minutos cada, no decorrer de 03 meses. Foram aplicados os testes HTP e Wartegg realizados pré e pós sessões de IAA, cujos resultados foram analisados comparativamente intra sujeito. **RESULTADOS:** Na população estudada verificou-se em todos os sujeitos a expansão da personalidade e a redução da ansiedade pós IAA, além do aumento de verbalização e o cão como forte instrumento motivador. **CONCLUSÃO:** Os resultados desta pesquisa indicam a ocorrência de modificações psíquicas, verbais e não verbais, em diferentes graus, nos sujeitos com DI estudados.

**Palavras-chave:** Terapia Assistida por Animais; Deficiência Intelectual; Testes Psicológicos.

### **Resumen**

**INTRODUCCIÓN:** Esta investigación problematiza la interacción entre sujetos adultos con discapacidad intelectual y perros, desde la perspectiva de las intervenciones asistidas por animales (IAA). **OBJETIVO:** Describir los efectos de la IAA en la expresión verbal y no verbal de contenidos psíquicos en sujetos adultos con discapacidad intelectual. **MÉTODO:** Investigación de naturaleza cualitativa. Participaron 04 sujetos del sexo femenino, edades entre 39 a 63 años, con discapacidad intelectual. Perro co-terapeutas: Amin, de la raza Golden Retriever, 7 años, seleccionado de acuerdo con criterios de protocolos internacionales, conducido por la investigadora. Se realizaron 7 sesiones de IAA, en grupo, con una duración de 35 minutos cada una, en el transcurso de 03 meses. Se aplicaron las pruebas HTP y Wartegg realizadas pre y post sesiones de IAA, cuyos resultados se analizaron comparativamente. **RESULTADOS:** En la población estudiada se verificó en todos los sujetos la expansión de la personalidad y la reducción de la ansiedad post IAA además de una mayor verbalización y el perro como un fuerte instrumento de motivación.. **CONCLUSIÓN:** Los resultados de esta investigación indican la ocurrencia de modificaciones psíquicas, expresión verbal y no verbal en diferentes grados en los sujetos con DI estudiados.

**Palabras clave:** Terapia Asistida por Animales; Discapacidad Intelectual; Pruebas Psicológicas.

## Introduction

This study addresses the interaction between adults with Intellectual Disabilities<sup>1</sup> and dogs, from the perspective of Animal-Assisted Interventions (AAI), which will be further characterized below.

The International Association of Human-Animal Interaction Organizations (IAHAIO)<sup>2</sup>, which is one of the most active organizations interested in advancing the understanding and analysis of human-animal interaction, defined the AAI as a goal-oriented intervention that incorporates animals into human services (educational and health) for the purpose of therapeutic benefits. AAIs are subcategorized as follows:

- Animal-Assisted Activity (AAA): Informal interactions with motivational, educational and recreational purposes; conducted by volunteers;
- Animal-Assisted Therapy (AAT): Interactions with therapeutic purposes, conducted by health care professionals; and
- Animal-Assisted Education (AAE): Interactions with educational purposes, conducted by education professionals and related areas.

The emotional bond in the relationship between humans and animals has been historically proven from ancient times to the present day. The use of animals in the treatment of people with disabilities stands out, which highlights the health promotion or improvement related to the beneficial effects of the so-called Animal-Assisted Interventions (AAI)<sup>3</sup>.

Currently, the effectiveness of IAAs is evidenced by the positive effects of this approach, such as decreased anxiety<sup>4</sup>; decreased levels of cortisol and adrenaline, hormones associated with stress, and increased levels of oxytocins, hormones associated with stress reduction; improved communication between the patient and the nursing staff<sup>5</sup>; improvement in fighting the disease<sup>6</sup>; increased well-being and comfort in hospitalized children<sup>7-9</sup>; decrease/overcoming of symptoms expressed in

oral and/or graphic language, in addition to the mobilization of positive affectivity of patients<sup>10</sup>; intensification of children's dialogical activity, gestures and affectivity<sup>11</sup>; promotion of the establishment/strengthening of interpersonal bonds, permeated by dialog<sup>12</sup>; improvement of patients' quality of life and general feeling of well-being<sup>13</sup>.

The theoretical basis of this study includes the approaches of Jungian psychology, neuropsychology, Bowlby's attachment theory and the complementary references of Nise da Silveira<sup>14</sup>, a psychiatrist who was a pioneer in the use of animals in the treatment of schizophrenic patients in Brazil. This researcher understands that it is necessary to pay attention to the animal in the inner world of humans, which is intrinsic to their evolution, both biological and psychological, setting symbols that the unconscious uses to express deep psychic contents.

According to Jung, when referring to animal symbolism, we are faced with countless meanings to the extent that the relationship of humans with the animal world is equivalent to the relationship between consciousness and instinct. In this sense, the animal symbolizes the primitive and instinctive nature of man according to Jung in his book 'Symbols of Transformation'<sup>15</sup>. Also, according to Chevalier and Gheerbrant<sup>16:176</sup>, "The first mythical function of the dog is that of a psychopomp<sup>2</sup>, a guide for the human being into the darkness of death, after having been a faithful fellow during lifetime, their faithful squire that transcendence".

Bowlby<sup>17</sup> identifies an attachment in the relationship between humans and dogs that is similar to the attachment shown by humans during childhood in relation to their caregivers. This behavior is essential to social species, characterizing an affective relationship for a variable time and being expressed by the needs of one in relation to the other.

Thus, the attachment involves recognizing that there is a figure that is available and is apparently better able to deal with the world, which leads to a feeling of safety for the subject by meeting a symbolic need for protection and safety, including in its biological dimension<sup>18,19</sup>.

It is also possible to mention the playful characteristic of the interaction between humans

1 According to the American Association on Intellectual and Developmental Disabilities (AAIDD, 2016)<sup>1</sup>, intellectual disability is characterized by intellectual functioning below the average as assessed by intellectual coefficient (IQ) assessment tests, along with adaptive limitations in at least two of the following skills: communication, self-care, home life, social adaptation, health and safety, use of community resources, determination, academic roles, leisure and work. These disorders are expected before the age of 18.

2 According to the Michaelis dictionary, *psicopompo* (in Portuguese): *psi.co.pom.po sm* (Gr *psykhopompós*) Mit: 1. A guide of souls; educational psychologist; 2. A magician who evoked the souls of the dead.

and dogs, which, according to Junged<sup>19</sup>, mobilizes symbolic attitudes that connect individuals with their creative energy, favoring the revelation of deep aspects of the psyche through the connection between conscious and unconscious contents.

Specifically in the context of intellectual disability, the beneficial effects of interaction with dogs stand out, as there is a strengthening of individual identities and the emergence of potential and creativity, despite the similarity of the clinical condition<sup>20</sup>.

This study is interested in investigating the AAI as a modality of care for adults with intellectual disabilities, particularly in relation to verbal and non-verbal expression of psychic contents, opening the possibility of a better discursive articulation of these subjects. In this sense, some studies report that, when coming into contact with animals, patients with a number of pathologies and who do not communicate verbally, began to report on their lives and were more motivated to play, pet, comb and feed the animals, intensifying the verbalizations and, thus, suggesting that the presence of the dog is defined as a powerful resource to deal with the conditions of typical language changes in cases of intellectual disability<sup>10,12,21</sup>.

The researcher became interested in investigating this population due to her three years of professional practice working with AAT in a private clinic and in an institution for people with intellectual disabilities, in order to promote the mental health of these individuals, enabling new rehabilitation strategies towards their physical, psychological and social well-being.

It should be noted that this research is included in the interface between the psychology and speech-language pathology, as it investigates the subjectivity of individuals according to the relationships between language, body and psyche.

This study aimed to describe the effects of AAI on verbal and non-verbal expression of psychic contents in adults with intellectual disabilities.

## Method

This is a qualitative study that was conducted through case studies of a group of individuals with intellectual disabilities, following the guidelines and regulatory standards for research involving human beings from the Brazilian National Health Council, Resolution 466 (Ministry of Health, 2012)

and animal welfare. The study was approved by the Research Ethics Committee of the institution (protocol no. 1679523).

### Casuistry:

Study participants: 04 (four) females, aged between 35 and 65 years, diagnosed with Intellectual Disability, who were assisted by the Aging Sector<sup>3</sup> of APAE of São Paulo, physically fit, who were interested and motivated by the contact with the dog and who had the expressive skills (verbal and non-verbal) provided for in the procedure.

A dog called Amin (a Golden Retriever, golden color, six years old) was chosen as a co-therapist due to his experience in this role since 2013. This selection adopted the following criteria related to health, temperament and socialization<sup>22</sup>:

- a. Evaluation of the animal's temperament and behavior: the dog's reactions to strangers, loud sounds and/or new stimuli, aggressive voice or threatening gestures, places crowded, vigorous and awkward strokes, strong hugs, other animals and the ability to obey to the instructor's commands.
- b. Animal health: the dog had been vaccinated against rabies, V8, V10, and kennel cough, as well as deworming medication against giardia. The animal was not allowed to make visits - he should be observed for a week - in case of vomiting or diarrhea, urinary or fecal incontinence, coughing or sneezing of unknown cause, open wound, otitis, skin infection and contact with other sick animals. In addition, the co-therapist was evaluated during the research by a veterinarian for flea and tick control and conducted specific routine tests for parasites.
- c. Report: a veterinary report was required authorizing the contact of the animal with the public during the collection period.

Before each AAI session, the dog was brushed, his nails were trimmed and he was bathed (up to 24 hours in advance).

3 Sector that aims to serve people over 35 years old with Intellectual Disabilities, who have characteristics associated with aging. This sector includes the care of an interdisciplinary team with a focus on Gerontology, and aims to prevent the functional and cognitive decline, preserve acquired skills and improve quality of life.

## Procedures

The study procedure consisted of six phases, as follows:

- Step 1: Presentation of the project to the Board and submission for the opinion of the Ethics Committee of the educational institution.
- Step 2: Selection of participants according to the criteria established from the indications of the supervisor of the aging sector of APAE.
- Step 3: First contact with the guardians of the selected participants for clarification on the research project and requesting the signature of the parents or guardians in the Free Prior Informed consent (Annex 1) and authorization for video recording and photos, without the dog.
- Step 4: The co-therapist dog was introduced to the environment in order to become familiar with the routine, noise and odors. A 40-minute visit was made to the institution.
- Step 5: Individual application of HTP<sup>4</sup> (House-Tree-Person) and Wartegg<sup>5</sup> tests conducted by the researcher.
- Step 6: Development of AAIs.
- Step 7: Reapplication of the procedure described in item 4 to compare the results obtained before and after the AAT.

The seven sessions were scheduled in advance, were held in groups and lasted 35 minutes each. These sessions were organized weekly for three months and fully recorded by a digital camera for later selection and analysis of the material relevant to the purpose of the project. Relevant scenes from the sessions were also photographed.

The topics addressed in each session are related to the content analyzed in the HTP and Wartegg tests (mobilization/expression of intrapsychic and interpersonal content of the participants) and are described below.

- 1<sup>st</sup> Session – Family: introduction of the families to the dog Amin through photos of the dog's

parents and siblings (biological) and the human family (adoptive) attached to the dog's vest. The subjects were encouraged to talk on this topic.

- 2<sup>nd</sup> Session – Affective bonds (sexuality, sensuality and sensitivity): Drawings of hearts in which different feelings were written in reference to love, companionship, respect, complicity, happiness, etc. were fixed on Amin's vest. Participants were asked to comment on these feelings. Drawings of human eyes were attached to Amin's vest to encourage the exchange of looks between the participants, who were then asked to comment on each other's perceptions.
- 3<sup>rd</sup> Session – Perception of the self (self-other, self-ego, self-esteem): Participants were asked to draw Amin's body. Then, participants were asked to comment on the drawings highlighting the differences, similarities and peculiarities in the perception of themselves and the other.
- 4<sup>th</sup> Session – Affective bonds (sociability, empathy): Photos of Amin interacting with other dogs were shown. Participants were asked to comment on their own friends and daily social activities.
- 5<sup>th</sup> Session - Photos/images of several dogs were attached to Amin's vest. Participants were again asked to talk about the differences, similarities and peculiarities between these photos/images and Amin.
- 6<sup>th</sup> Session – Life Stages: Old photos of Amin, at different stages of life, were shown and participants were asked to comment on their own life stories, wishes and current and future projects.
- 7<sup>th</sup> Session – Closing: reflections on the content addressed in previous sessions and referral of the completion process of group activities.

The dynamics of the sessions were always supported by activities that promoted and stimulated the interaction between the dog, the subjects and the researcher.

As for the projective psychological tests, qualitative analyzes of the data were conducted based on the criteria set in the guides: the HTP included the characteristics, perspective, proportion, details, line quality and color of the drawings; while the Wartegg analyzed the content of the figures resulting from the additions made in the 08 proposed fields:

- 1: the ego and its defenses, the self in the world, individuality and subjectivity; self-esteem;
- 2: fantasies, sensitivity, degree of empathy and relationships with others; affectivity;

4 The HTP psychological test is a projective test based on the design of the person-tree-house in two non-verbal phases (achromatic and chromatic drawing) and two phases of verbal inquiries referring to each drawing. This test aims to obtain information on how a person experiences their individuality in relation to the environment and in relation to others. The drawings provide a frame of the psychic contents of the personality, which is complemented by the further investigation after the drawing.

5 The Wartegg test is a graphic projective psychological test which aims to investigate the personality through drawings obtained in 08 squares from predetermined graphic elements.

- 3: the level of ambition, personal and professional aspirations, perseverance;
- 4: dealing with feelings of anguish, the relationship with unconscious contents, fantasy;
- 5: the will, the strength to overcome obstacles and tolerate frustrations, aggressiveness and impulsivity;
- 6: the creative potential, the sense of improvisation, the appreciation of the intellectual sphere and reasoning;
- 7: the affective, emotional, sensuality and sexuality characteristics; and
- 8: the social behavior, sense of morality and empathy with the social group.

## Results

The presentation of the results adopts this structure: sample characterization, description of each subject of the tests conducted in the baseline, relevant contents of the group meetings and post AAI tests. The subjects are identified as S1, S2, S3, S4 and the researcher as R.

### *S1 – F. 63 years old (7/28/1954), illiterate, 4 years of special education, Moderate Intellectual Disability*

The data refer to the interpretative summaries relating to psychological tests:

- HTP test Pre-AAI – Feelings of inadequacy to the environment and social withdrawal. Rationality, restraint and inhibition of feelings.
- HTP test post-AAI – Expression of feelings, tendency to act, expansion and excitement.
- Comparison – Improved self-esteem. Greater expressiveness and intensity of emotions
- Wartegg Test Pre-AAI – Completes the test by making only straight lines in all fields, ignoring the stimuli, which suggests rationality.
- Wartegg Test Post-AAI – Completes the first two fields including the stimuli and making circular traces, also made straight lines in the other fields.
- Comparison – Improved understanding and symbolization, reduced rationality.

Relevant content of group sessions: S1 was very talkative and redundant with the content. During the sessions, the dog acted as a mediator for the child to pay attention to the other individual

and to endure the anguish of waiting for the other to speak, and waiting for the other to pet the dog.

(R) – Did you notice how much Amin has changed in the photos? Does he look better or worse?

(S2; S4) – Better, much better.

(R) – S2, what has changed since you were a kid?

(S1) – I'm not a kid anymore.

(S2) – Now I have a partner, I'm a woman, and I'm getting married.

(S4) – I used to go to the pool a lot; now, the pool is broken. I used to swim in a swimsuit. My father used to go with me, but he died a long time ago.

### *S2 – F. 39 years old (1/25/1978), no education/degree, severe Intellectual Disability and Convulsive Syndrome*

The data refer to the interpretative summaries relating to psychological tests:

- HTP Test Pre-AAI – Excessive preoccupation with the outer world and evaluation of the other about herself, lack of body proprioception.
- HTP Test Post-IAA – Proprioception body, tendency to act and self-worth.
- Comparison – Improved self-esteem and body proprioception.
- Wartegg Test Pre-AAI – Completes the stimuli with letters, not filling the whole field.
- Wartegg Test Post-AAI – Completes the stimuli with letters, filling the whole field.
- Comparison – Improvement in expansiveness and place in the world.

Relevant content of group sessions: Although she had difficulty verbalizing at the beginning, throughout the sessions she was able to explore aspects related to her life with the researcher and the dog. The most voiced topic during the process was her boyfriend. Only in the sixth session she was able to verbalize more about herself and to put her boyfriend aside. Apparently, the dog played a key role in her looking at herself.

(R) – Look how Amin's paw is different from our arms. And his legs too! What else is Amin different from us?

(S3) – Affection.

(R) – But what is this difference?

(S3) – Love and understanding.

(R) – Which part do you like most about him?

(S2, S3 and S4) – His eye is beautiful, beautiful.

(S4) – We must look when the eyes are beautiful.

*S3 – F. 43 years old (8/13/1973), illiterate, 2 years in regular school, Moderate Intellectual Disability*

The data refer to the interpretative summaries relating to psychological tests:

- HTP Test Pre-AAI – Lack of adequacy and perception of the whole (world and its relations), feelings of instability and conflicts between intra and inter psychic aspects.
- HTP Test Post-IAA – Adequacy and perception of the world and their relationships, feelings of stability and contact with their inner world.
- Comparison – Improvement in the perception of the world and of themselves, greater expression of their internal contents, reduction of conflicts.
- Wartegg Test Pre-AAI – Drew a house, ignoring stimuli.
- Wartegg Test Post-AAI – Drew a sun, included the anguish field in field 4, also included the stimuli and placed herself in the drawings.
- Comparison – Opening of a symbolization, a foreshadow of integration (cognitive and emotional), shows restraint and improved external perception.

Relevant content of group sessions: S3 seems to be retracted; despite seeking contact with the dog, verbalizations are more frequent when requested. There were two absences due to her mother, who fell ill and needed care. She is very attached to her mother, she started a relationship throughout the process and started to relate to other people.

(R) – Look how many different dogs I brought today! They are all different from Amin, what do you think?

(S1) – My brother has a dog called Calvin. He jumps a lot on me, but he is very meek.

(S4) – My dog ran away many times, but my father always found him.

(S2) – My dog is very small, he is always on the lap. He is yellow, just like Amin. He barks a lot, but is very clever.

(R) – S3, what about you?

(S3) – I don't have one, but I want one like Amin.

*S4 – F. 53 years old (6/9/1963), no education/degree, unspecified Intellectual Disability*

The data refer to the interpretative summaries relating to psychological tests:

- HTP Test Pre-AAI – Aggressiveness, stress, anxiety and insecurity. Great impulsivity.
- HTP Test Post-IAA – Impulsivity, aggressiveness, anxiety and stress.
- Comparison – There was an expansion of personality and a tendency to act in a more compensatory way, reduced impulsivity, anxiety, aggressiveness and stress.
- Wartegg Test Pre-AAI – Refused to do.
- Wartegg Test Post-AAI – Made random scribbles.
- Comparison – Openness to external request, greater willingness to consider the existence of the other, while ignoring the fields.

Relevant content of group sessions: In the beginning, S4 showed a lot of difficulty in verbalizing, supporting all the impulsiveness, anxiety and staying in that room paying attention. The contact with the dog during the process was essential for her to be able to work all this. S4 participates in the drawing session, shows a great affection with the dog and even verbalizes things that are consistent with the proposed theme. She did not want to sit on the floor to draw, but participated by sitting on the chair and paying attention, showing greater verbalization without being asked and a better group interaction. S4 shows affection and a desire to be with the dog when kissing his photos, showing how strong this stimulus was. It provided very strong and deep feelings.

(R) – Do you consider the dog as part of the family? (S1, S2, S3) – Yes.

(S2) – My dog was killed, but he was old, he had 20 years old.

(S4) – My dog died. He was going to be vaccinated and died.

(P) – S4, Amin is vaccinated. He's fine, you don't have to worry about him.

(S3) – Did it hurt?

(P) – No. He is very strong!

(S1) – My boyfriend's dog died. He got upset and now he has only one. The one who died was called Capitu and the other is called Julie. He told me that he was really bad for the dog. Everyone who dies is a dog.

## Discussion

It was found that the subjects had difficulty in performing the projective tests and symbolizing/elaborating the topics planned in the sessions,

corroborating the limitations inherent to ID (Intellectual Disability) in neuropsychological terms<sup>1</sup>. However, the introduction of the dog favored a motivational interaction context for the subjects to express subjective contents<sup>10</sup>.

According to Bowlby<sup>17</sup>, the relationship between the human and the dog shows an attachment behavior that is similar to the behavior shown during childhood with caregivers. This can be illustrated as follows: the dog seems to have represented the primary care when S4 refers to the loss of a beloved dog, S1 refers to the end of relationship and S3 refers to maternal disease. As for S2, the bond with the dog ended an interdependence cycle with the boyfriend. She begins to understand that she can be cared for and loved by others.

The animal is a very powerful and relevant symbol for human beings and their relationship is a reflection of conscience and the instinctual world. The observation of the variety of animal behaviors increases the possibilities of existence in the world<sup>14</sup>. Thus, it was possible to observe in the studied population that the presence of the dog increasingly promoted a space with transformative potential.

In this sense, there was an increase in verbalizations, reduced inhibition and an increase in non-verbal behaviors during the AAIs, which corroborates the results of studies conducted in other contexts<sup>5,10,12,21,23</sup>.

Given the limitations of ID as to the restricted ability to make generalizations and the difficulties regarding abstract thought<sup>1</sup>, the topics were addressed during the sessions in a playful way and with the support of photos, aiming to connect the subject through creativity, so that deeper aspects of their personalities could emerge<sup>20,24,25</sup>.

Despite the aforementioned difficulties, there is relevant symbolic material, namely: There was significant mobilization in the session in which sexuality, sensuality and sensitivity were addressed, which generated unconscious projections revealing desires for autonomy and personal growth (the possibility of establishing romantic relationships, raising a 'new family') towards the expansion of the egoic possibilities.

Three subjects stated that the 'eye' was the part of the dog's body that they preferred in the session that addressed self-esteem. It leads us to the following symbolic perspective reported by Chevalier<sup>16:653</sup>: "The eye is an organ of visual per-

ception, and in a natural and almost universal way, the symbol of intellectual perception (...) it can be considered as a set of external perceptions." Furthermore, this leads us to the symbolic transference in the Jungian theory, which are forms of projections of unconscious archetypal contents that occur in an analyst-patient relationship and arise from the unconscious need to include the other subject in a certain role. Thus, it was possible to notice that transference content may have been mobilized by the presence of the dog, given its "despatologizing" characteristic: the animal welcomes the subjects without criticism and/or judgments<sup>26</sup>.

The subjects' great difficulty in understanding these bonds, such as friendship, stood out in the session on affective bonds. It can be assumed that this limitation may be associated with the characteristics of family dynamics, in which these subjects tend to take a stagnant/chronic place due to the condition<sup>27</sup>. However, as the presence of the dog favored the interaction between the subjects during the AAI, it was possible to notice a greater affective bond established between them.

In general, the topic related to sexuality/romantic relationships was widely discussed during the sessions. These contents refer us to the following association: people with ID have limitations in terms of body schema, which is generally inhibited. As for S1, the termination and resumption of the bond have a cyclical dynamic, suggesting an alternation between dependence and the need to leave; while S2 believes that the relationship is of extremely symbiosis in relation to the partner.

As for the comparative results of the projective tests applied before and after the AAI, the expansion of the personality and the reduced anxiety are emphasized in all subjects, suggesting the development of desirable psychic aspects.

By the way, James Hall<sup>28</sup>, a Jungian psychoanalyst, proposes two dimensions to characterize anxiety: persona and shadow. Although one dimension evokes the other, the first dimension is associated with fear when facing the demands of life, while the second dimension is associated with unconscious contents that are inaccessible to the ego. It was possible to notice a reduction in the persona anxiety in the population studied, since the subjects were gradually more comfortable to express feelings and reveal autobiographical contents (especially fears and losses) in the presence of the dog.



Despite the cognitive difficulties inherent to intellectual disability, it can be said there was an amplification of the proposed subjective contents.

When specifically analyzing the individual results in the pre and post tests of each subject, each with their own limitations, it can be interpreted that:

- S1 moves from the retraction of feelings to expressiveness, in addition to improved understanding, symbolization and decreased rationality;
- S2 was very passive to the world in the pre-test; however, at the beginning and during the sessions, and in the post-test, she showed an internalization of her inner contents, showing improved self-esteem, greater body awareness and more active behaviors;
- S3 had no perception of the outer world, which generated instability and psychic conflicts. She showed improvement in these aspects by expressing inner contents, reducing these conflicts and opening possibilities for symbolization; and
- S4 has changed significantly: despite not being able to draw symbolically, the proportion and perspective of the scribbles showed a reduction in aggressiveness, impulsivity and anxiety. The Wartegg test found a willingness to consider the existence of an external request.

## Final considerations

The results indicate the occurrence of psychic changes in different degrees in the subjects with ID studied. Of course, it is not a question of establishing a strict causal relationship between such changes and the AAI. However, the results allow arguing that the motivating presence of the dog favored a potentially transformative environment.

The peculiarities found in the individual results of the study subjects suggest that future studies on AAI with this population should also be developed in the form of individual care, which may promote the function and the therapeutic management of the procedure.

## References

1. Luckasson R, Ford ME, McMillan ED, Misilo FM Jr, Nygren MA. Intellectual Disability Policy as Developed, Expressed, and Evaluated in AAIDD/The Arc Joint Statements: The Role of Organization Position Statements. *Intellect Dev Disabil.* 2017; 55(4): 269-75.
2. IAHA: International Association Human-Animal Interaction. White Paper. The IAHAIO definitions for Animal Assisted Intervention and guidelines for wellness of animals involved. [cited 2016 Apr 6]. Available from: <http://www.iahaio.org/>.
3. Morrison ML. Health benefits of Animal-Assisted Interventions. *Complement Health Pract Rev.* 2007;12(1): 51-62.
4. Barker SB, Dawson KS. The effects of Animal-Assisted Therapy on anxiety ratings for hospitalized psychiatric patients. *Psychiatric Services.* 1998; 49(6): 797-801.
5. Odendall JS. Animal-assisted therapy: Magic or medicine?. *J Psychosom Res.* 2000; 49: 275-80.
6. Bussoti EA, Leão ER, Chimentão DMN, Silva CPR. Assistência Individualizada: “posso trazer meu cachorro?”. *Rev Esc Enferm USP.* 2005; 39(2): 195-201.
7. Caprilli S, Messeri A. Animal-Assisted Activity at A. Meyer Children’s Hospital: a Pilot Study. *J Evid Based Complementary Altern Med.* 2006; 3(3): 379-83.
8. Vagnoli L, Caprilli S, Vernucci C, Zagni S, Mugnai F, Messeri A. Can presence of a dog reduce pain and distress in children during venipuncture? *Pain Manag Nurs.* 2015; 16(2): 89-95.
9. Ichitani T, Cunha MC. Effects of animal-assisted activity on self-reported feelings of pain in hospitalized children and adolescents. *Psicol Reflex e Critica.* 2016; 29: 43.
10. Domingues, Cunha CM. O animal como objeto transicional na terapia fonoaudiológica: uma reflexão a partir da Terapia Assistida por Animais (TAA). *Disturb. Comun.* 2007; 19(2): 263-6.
11. Ichitani T, Cunha MC. Animal-assisted activity and pain sensation in hospitalized children and adolescents. *Rev Dor.* 2016; 17(4): 270-3.
12. Oliveira GR, Cunha MC. Efeitos da Atividade Assistida por Animais nas condutas comunicativas de idosos: abordagem fonoaudiológica. *Disturb. Comun.* 2017; 29(4): 644-53.
13. Reed R, Ferres L, Villegas N. Curadores naturais: uma revisão da terapia e atividades assistidas por animais como tratamento complementar de doenças crônicas. *Rev Lat Am Enfermagem.* 2012; 20(3): 1-7.
14. Silveira N. O mundo das imagens. São Paulo: Ática; 1992.
15. Jung CG. Símbolos da transformação: análise dos prelúdios de uma esquizofrenia. Petrópolis: Editora Vozes; 1986.
16. Chevalier JE, Gheerbrant A. Dicionário de símbolos, mitos, sonhos, costumes, gestos, formas, figuras, cores e números. Rio de Janeiro: José Olympio. (Original publicado em 1906); 1982.
17. Bowlby J. Apego e Perda: Apego. São Paulo: Martins Fontes; 2002.
18. Cassidy J. The nature of child’s ties. In: Cassidy J, Shaver P. *Handbook of attachment: Theory, research and clinical applications.* New York: The Guilford Press; 1999. p. 93-133.
19. Junged WSA. Atitude simbólica na obra de Carl Gustav Jung. [cited 2016 Mar 9]. Available from: <http://www.symbolon.com.br/artigos/atitude.htm>.
20. Underwood SC, Guerschberg K, Chiesa N, Puente J. The contribution of dogs and other animals to social inclusion programmes. *Rev Sci Tech.* 2018;37(1):231-7.



21. Calcaterra V, Veggiotti P, Palestrini C, De Giorgis V, Raschetti R, Tumminelli M, et al. Post-operative benefits of animal-assisted therapy in pediatric surgery: a randomized study. *PLoS One*. 2015;10(6):e0125813.
22. Lefebvre SL, Golab GC, Christensen E, Castrodale L, Aureden K, Bjalachowski A, Gumley N, Robinson J, Peregrine A, Benoit M, Card ML, Horne LV, Weese JS. Guidelines for animal-assisted interventions in health care facilities. *Am J Infect Control*. 2008; 36(2): 78-85.
23. Oliveira GR, Ichitani T, Cunha MC. Atividade Assistida por Animais: efeitos na comunicação e interação social em ambiente escolar. *Disturb Comun*. 2016; 28(4): 759-63.
24. Costa TS, Morais AC. A hospitalização infantil: vivência de crianças a partir de representações gráficas. *Rev enferm UFPE*. 2017; 11: (Supl. 1): 358-67.
25. Mitre R, Gomes R. A promoção do brincar no contexto da hospitalização infantil como ação de saúde. *Cien Saúde Colet*. 2004; 9(1): 147-54.
26. Lourenço LCD. Transferência e Complexo de Édipo, na Obra de Freud: Notas sobre os Destinos da Transferência. *Psicol Reflex Crític*. 2005; 18(1): 143-9.
27. McCarron M, Swinburne J, Burke E, McGlinchey E, Carroll R, McCallion P. Patterns of multimorbidity in an older population of persons with an intellectual disability: results from the intellectual disability supplement to the Irish longitudinal study on ageing (IDS-ILDA). *Res Dev Disabil*. 2013; 34: 521-7.
28. Hall JA. Jung e a interpretação dos sonhos: manual de teoria e prática. São Paulo: Cultrix; 1989.