Application of a Combined Approach in Pragmatic Rehabilitation in a Case of Autism Spectrum Disorder

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Abstract

This study focuses on a 12-year-old girl diagnosed with a pragmatic disorder caused by Autism Spectrum Disorder (ASD). Following an initial evaluation, a pragmatic rehabilitation program was implemented using a combined approach in 15 therapeutic sessions over a 4-month period. The program consisted of structured formats organized into modules to train the verbal, paralinguistic, and nonverbal aspects of communication. The results of the re-evaluation demonstrated the program's effectiveness, with improvements in communicative intention, proxemic skills, prosodic variations, physical contact with the interlocutor, and verbal fluency in oral messages. Consequently, the implementation of the intervention program significantly enhanced the patients' pragmatic communication skills in therapeutic, familial, and social contexts.

Keywords: autism spectrum disorder, rehabilitation program, combined approach, pragmatic level, communicative skills.

1. Introduction

The World Health Organization (WHO) characterizes Autism Spectrum Disorder (ASD) as a group of social communication challenges and repetitive behaviors shown in early childhood, as stated in the International Classification of Diseases (ICD) (OMS, 2023). Similarly, the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) classifies children with ASD under a new category named neurodevelopmental disorders. This means that participants diagnosed with Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS) under the DSM-IV, which includes autism, Asperger's syndrome, infantile disintegrative disorder, and PDD-NOS, are now included in a single diagnostic category referred to as ASD. However, Rett syndrome is excluded as it is a genetic disorder, and specifications have been introduced for ASD with or without intellectual disability and/or language disorder associated with other neurodevelopmental, mental, or behavioral disorders, and catatonia. Additionally, the

DSM-5 proposes classifying ASD into three levels: level 1 if "requires support," level 2 if "requires significant support," and level 3 if "requires very significant support" (DSM 5, 2013).

According to a recent update in the epidemiological data from the World Health Organization (WHO), it has been found that one out of every 100 children across the globe has Autism Spectrum Disorder (ASD), with a higher prevalence among males (Morocho et al., 2021). Furthermore, approximately 30% of children who exhibit typical development early in life may experience regression during their first years, resulting in the loss of language, impairment of communicative intentions, and development of stereotyped behaviors (Ruggieri and Arberas, 2018). In Latin American countries, there are between 25 and 30 individuals with ASD per 10,000 inhabitants. The suspicion of the disease usually begins at 18 months of age, and the definitive diagnosis is typically made at the age of four. While there are no official national statistics on the number of people with ASD in the country, it is estimated that there are approximately 115,000 cases (WHO, 2000, as cited in Rojas, 2021).

The etiology of ASD is heterogeneous, with numerous recognized genetic, environmental, and epigenetic mechanisms (Rojas, 2021). Although the exact cause remains unknown, advances in molecular genetics and epidemiological studies of large cohorts have identified specific medical commitments, genetic factors, and environmental factors that are partially or totally linked to its pathogenesis (Arberas and Ruggieri, 2019).

Autism Spectrum Disorder (ASD) is characterized by various deficits, including difficulties in social interactions, lack of interest in environmental knowledge, weak fine motor skills, absence of symbolic play, exceptional memory skills, repetitive movements, language stereotypes, issues in eating and sleeping habits, anxiety, resistance to change, and aggressive behavior (Rojas, 2021; Morocho et al., 2021). Additionally, it is estimated that 90% of the population with ASD experiences sensory integration disorder, marked by hypersensitivity or hyposensitivity (Pizarro et al., 2022). At the linguistic-communicative level, children with ASD face challenges in expressing their needs and wishes, which can negatively impact their quality of life and family environment due to limitations in verbal communication skills (Alcalá and Ochoa, 2022). This can result in difficulties with eye contact, understanding non-verbal cues, using inflection and tone appropriately, sustaining conversations, and adjusting behaviors to suit the situation. These challenges can also be extended to difficulties in initiating and maintaining social interactions, engaging in imaginative play, and demonstrating empathy. Despite the various approaches and models that have been developed to address communication deficits in ASD from psychodynamic, biomedical, and psychoeducational perspectives, there is no clear consensus on the most effective intervention strategies (Mulas et al., 2010). However, speech therapy professionals can identify common elements to develop targeted strategies that promote linguistic development and functional communication in various contexts such as at home, school, and social situations (Pergüeza, 2022).

Certainly, a review of the literature in the past decade indicates that there is no consensus on the best intervention approach for autism spectrum disorder (ASD) rehabilitation, as it must be tailored to the individual's specific needs. Conversely, research has suggested the effectiveness of combined interventions that integrate knowledge from various behavioral-based methods performed in structured environments to improve conversational skills in individuals with ASD

(Mulas et al., 2010). In healthcare practice, speech therapists have chosen to base their therapeutic approach on a single case study with control and monitoring of the patient's progress based on individual characteristics that inform comprehensive speech therapy (Greneer et al., 2007). According to scientific evidence, research findings suggest that the implementation of programs that combine structured activities once a week for 30 minutes can develop theory of mind skills and improve communication through the execution of exercises that address both verbal and non-verbal language. A procedural evaluation before, during, and after the intervention allows for adaptation and integration of the child with ASD into the family, academic, and social settings (García, 2019). Additionally, long-term continuous individual daily interventions with feedback from parents and necessary adjustments are necessary to achieve optimal results (Bejarano, 2021).

Given the aforementioned circumstances, it is crucial to underscore the significance of devising an intervention strategy that incorporates a case study conducted within the clinical care setting, which facilitates the creation of a comprehensive, holistic, and personalized treatment plan that addresses the pragmatic deficits that significantly impact patients with ASD. Furthermore, this research will be instrumental in establishing the foundations of language rehabilitation processes for young children in the Speech Therapy Program at the University of Sucre and its dissemination to both the academic and scientific communities at the national and international levels. Thus, the research question that arises from the above is: How effective is the application of a combined approach in pragmatic rehabilitation for patients with autism spectrum disorder? To answer this research question, the primary objective was to determine the efficacy of employing a combined approach in pragmatic rehabilitation of a patient with ASD. To achieve this objective, specific goals, such as characterizing the patient's linguistic-communicative profile, implementing the rehabilitation program, and reevaluating the patient's communicative behavior, have been established.

2. Methodology

This study was conducted using a single-case experimental design that incorporated mixed research methods. This design involved thoroughly examining a unit, or patient, in Phase A, where the baseline was established, followed by Phase B, where a treatment was administered, and the patient was re-evaluated to address the problem statement and hypothesis formulated in a specific context (León and Montero, 2003, as cited in Hernández et al., 2010). The objective of this study was to determine the effectiveness of applying a combined approach in pragmatic rehabilitation of patients with autism spectrum disorder.

2.1 Study population

The subject of this discussion is a 12-year-old female who has been diagnosed with autism spectrum disorder, which is characterized by neurodevelopmental regression resulting from a loss of functionality and acquired abilities. This is evidenced by her obsessive, restricted, and repetitive behavior, as well as her manual and verbal stereotypes. Furthermore, she experienced significant limitations in communication and social interaction, as well as behavioral problems such as self-aggression and aggression towards others. Despite receiving interdisciplinary

medical follow-up from neuropediatrics and psychiatry services and pharmacological management with the aripiprazole tab. Fifteen mg daily, she continued to exhibit deficits in compliance with rules and social norms. Her personal and developmental history included being part of a non-integrated nuclear family with separate parents and a younger brother. She was born after an uncomplicated medical process and a stable psychological state, but experienced a post-term dystocic delivery at 42 weeks with acute fetal distress, resulting in a weight of 3500 mg and a height of 50 cm.

The patient was subsequently observed in the neonatal ward. At the neurodevelopmental level, she presented with an adequate basic motor and language pattern, and the maturational guidelines indicated good sleep hygiene and sphincter control before the age of two years. Her school history was marked by significant changes in schools due to difficulties in cognitive and behavioral development, which led to adjustments in school adaptation processes based on her behavioral and cognitive characteristics. Unfortunately, she has experienced school dropout since September 2022 due to difficulties in school control and management, marked disinterest behaviors, aggression towards her peers, and difficulties in following instructions, school rules, and interactions with her teachers and classmates.

2.2 Method

An interview was conducted with the mother of the family and the participant subject to research to explain the characteristics of the study and guarantee her collaboration by obtaining her signature on the informed consent form in accordance with the ethical regulations for human research in Colombia, as determined by resolution 008430 of the Ministry of Health (1993), which establishes scientific, technical, and administrative norms. Additionally, the participants were informed of the objectives, methods, sources of funding, possible conflicts of interest, calculated benefits, foreseeable risks, and discomfort associated with the research process as well as their right to participate or withdraw consent at any time without facing retribution. During the initial evaluation, the language development process was assessed through the application of the anamnesis protocol according to the guidelines of Acosta and Moreno (2001), which allowed for the characterization of the history of gestational development and birth, neonatal adaptation, language development, basic motor patterns, maturational patterns, feeding, sleep hygiene, school, and social history.

Similarly, the Pragmatic Protocol of Prutting and Kirchner (1987) was implemented for the general population, enabling the determination of the level of oral communicative and interactive skill development in spontaneous situations by evaluating communicative acts, such as emission, propositional, illocutive, and perlocutive, and classifying them into verbal aspects, such as speech acts, topics, turn-taking, lexical selection, and stylistic variation. Additionally, the protocol examines paralinguistic information, such as intelligibility and prosody, and nonverbal aspects, such as kinesic and proxemic criteria, as basic units of analysis. These criteria are used to make judgments of appropriate, inappropriate, or not observed, based on the descriptive guidelines specified by the test norms. The overall performance of conversational skills was then qualitatively characterized using the PREP-R (Fernandez et al., 2015). This protocol examines a patient's communicative interaction by analyzing a language sample collected in an ecological environment, focusing on the discursive use of elements with respect to everyday conversational

backgrounds. The status of communicative skills is determined based on the performance of a sender by calculating the general pragmatic index, specific pragmatic skills, grammatically based pragmatic skills, onset turns, and non-inferential communicative efficiency through the numerical index resulting from the items grouped into each category, which is then evaluated according to the criteria for scoring the test.

3. Results

3.1. Initial evaluation of the pragmatic level of language

The patients' language abilities were assessed by examining verbal, paralinguistic, and nonverbal aspects of a spontaneous language sample that covered topics related to the patients' preferences. Table 1 shows the limitations that the patient faced in communication due to difficulties in maintaining an interactive sequence during speech acts, which led to a passive role that restricted the observance of social norms and hindered the creation of collaborative language messages for smooth and harmonious interaction with others.

Table 1. Assessment of verbal aspects of language

Verbal aspects	Communicative Characteristics of the Patient
A. SPEAKING ACTS	
1. Adjacency pairs	- Restricted initiative and/or response to directives, requests and comments. - Reduced verbal acknowledgements of facts.
2. Variety of speech acts	-Limited use of speech acts whose productive repertoire is restricted to objective requests, with no other types of speech acts observed.
B. TOPICS	
1. Selection	-Deficits in selecting the appropriate topic considering the context and participants.
2. Introduction	-Lack of introduction of a new topic in the speech.
3. Maintenance	-Inability to keep a topic in conversation.
4. Change	- Little contribution to the topic in the conversation.
C. TURN TAKING	
1. Initiation	-Few conversational turn initiations.
2. Answer	-Distant responsibility to continue the communicative exchange.
3. Repair/revision	-Inability to repair a conversation when a breakdown occurs and/or question to clarify a misunderstanding or ambiguity.
4. Pause time	-Presence of long pauses that interrupt the relationship time in the conversation.
5. Interruption/Overlap	-Limited communicative exchange.
6. Feedback to the interlocutor	No feedback to the speaker and inability to produce relevant and informative comments.
7. Contiguity	Limited use of utterances that occur immediately after the speaker's utterance.
8. Contingency	Low use of expressions that share the same topic with a previous expression and that add information to the previous communicative act.
9. Quantity and conciseness	Limited informative contribution to the conversation.
D. LEXICAL SELECTION	
1. Specificity/ Accuracy	Non-specific use of referents that cause ambiguity of the message.
2. Cohesion	Inabilities to follow the line of thought expressed by the speaker.
E. STYLISTIC VARIATION	
1. Adaptations of the communicative style	Lack of harmony between style and listener status.

Table 2 describes the deficits in the paralinguistic behavior of the user's language to support oral discourse determined by the use of a mixed tone, suggesting firmness and irony with a high intensity that reflects a certain degree of authority in the few expressions emitted with limited verbal fluency due to the presence of silences with audible sighs that express a degree of fatigue or desire in the communicative exchange.

Table 2. Evaluation of the paralinguistic aspects of the language

Paralinguistic aspects	Communicative Characteristics of the Patient
F. INTELLIGIBILITY /PROSODY	
1. Intelligibility	-Intelligible oral speech with presence of verbal stereotypies.
2. Vocal intensity	-High intensity to convey the message.
3. Voice quality	-Aggravated vocal tone for their age and sex.
4. Prosody	-Lack of prosodic variations that support the emotionality and linguistic aspect of the message.
5. Fluency	-Lack of smoothness, consistency and proportion of the message.

The table provided in Appendix 3 highlights the unique nonverbal communication skills that the user demonstrates in their interactions through minimal utilization of kinematic and proxemic resources. Despite the limitations of the level of intimacy she shares with her conversational partner, she adopts a distant demeanor and relies on minimal nonverbal cues to emphasize her verbal language, express emotions, convey substitute messages, guide the interpretation of her verbal communication, and potentially contradict her nonverbal language. This demonstrates her ability to effectively regulate her verbal communication within the constraints of nonverbal communication.

Table 3. Assessment of non-verbal aspects of language

Non-verbal aspects	Communicative Characteristics of the Patient
G. KINESIC/PROXEMIC	
1. Physical proximity	-Conditioned approach to your interlocutor.
2. Physical contacts	-Scarce manual contact to reflect interest in communication.
3. Body posture	-Restricted use of body postures and gestures accompanying verbal communication.
4. Hand, arm, leg and foot movements	-Stereotyped flapping-type hand movements.
5. Gestures	- Neutral facial expression. -Limitation of the use of the social smile.
6. Facial expression	-Reduced use of facial expressions to convey information and emotional reactions.
7. Gaze direction	-Limited eye contact to reflect interest in communication.

Table 4 demonstrates the trade-offs in communication by assuming a passive role that restricts flexibility in taking turns and participating in conversations as well as a suboptimal use of vocabulary and grammatical structures, all of which negatively affect the message's quality in terms of intended actions and inferred meanings.

Table 4. Qualitative description of communicative competence according to PREP-R

Communicative Competence	Sub-Levels	Communicative Characteristics of the Patient
Enunciative Pragmatics	Production and intentionality of speech acts	-Articulation and use of correct grammar for oral delivery. However, enunciative and propositional acts are limited. -Oral utterances demonstrate language comprehension, but poor speech act intentionality.

		-Long intra-speech pauses and silences that restrict communicative interaction.
	Editing tasks	-Poor compensatory behavior and gestures in speech acts. -Deficient display of rectifications and metapragmatic awareness.
	Inferences	-Scarce use of the cooperation principle.
Textual Pragmatics	Coherency	-Reduced capacity for narrative construction and argumentation for the description of facts. -Acts passively in the thematization of the communicative exchange.
	Cohesion	-Evidence of an adequate lexicon, organization and morphosyntactic structuring. However, his utterances are not conventional.
Interactive Pragmatics	Turn agility	Passivity in taking turns.
	Shift Taking Fluency	-Notable delays in the fluidity of shift taking.
	Conversational participation rate	-Low level of participation in the conversation.
	Predictive shifts	-Inadequate predictive as well as reactive shift taking.
	Conversational priority	-Inability in the conversational turn attending to the principle of opportunity.
	Natural gestures	-His natural gestures do not complement or qualify his language.
	Communicative use of the gaze	-Limited communicative use of gaze to confirm, understand, yield or ask for a turn.

3.2. Communication Diagnosis

After conducting an initial assessment of the patients' communicative abilities, it is evident that they have a pragmatic disorder, which is marked by constraints in conversational and discursive skills. This is reflected in their limited use of verbal, paralinguistic, and nonverbal resources, which ultimately results in deficits in enunciation, textual communication, and interactive communicative competence.

3.3 Pragmatic Rehabilitation Program

3.3.1 Contextualization

The development of the practical rehabilitation program was based on a thorough evaluation of a comprehensive approach that merges traditional face-to-face therapies with scientific evidence, striving to blend treatments that encompass psychoeducation, cognitive-behavioral strategies, and case-study-derived testimonials, all of which assist rehabilitation professionals in their interventions. This combination is heavily influenced by the patient's unique context and specific characteristics (Schuster et al., 2017).

3.3.2 Content

The content of the pragmatic rehabilitation plan is based on the combined approach of organizing strategies to develop verbal, nonverbal, and paralinguistic skills that support oral discourse through the application of strategies in structured environments in individual therapeutic sessions to improve enunciative, textual, and interactive communicative competence. The verbal aspect module is based on the dual nature, which contains information about the internal temporal constitution of a situation and the subjective perspective of the sender about what was stated. In addition, the invariant semantic aspects consisting of situating the predicative in reference to the

enunciative act were considered (Comrie, 1976; Havu, 1998; Hewson & Bubenik,1997, and Guillaume, 1933, as cited in Lopez, 2018).

The module on paralinguistic aspects covered a range of non-linguistic vocal elements that were generated with the same organs as human speech but were not considered part of the verbal system. These elements are often combined with kinematic or other nonverbal elements to convey or modify the meaning of verbal statements (Poyatos, 1994). The module for nonverbal communication focuses on natural sign language, which is conveyed through attitudes, gestures, expressions, movements, and glances. This form of communication is symbolic in nature, establishes meanings, and generates responses through concepts. In this type of communication, the meaning of any speech, movement, body change, or behavior in space is explicit or implicit and can be inferred (Asensio, 2008; Niño, 2008; Valea, 2013).

Table 5. Intervention modules and therapeutic strategies of the pragmatic rehabilitation program

Intervention Modules	Therapeutic Approaches
Verbal Aspects	-Exercises of communicative intentionality and the variety of communicative acts. -Exercises of selection, introduction, maintenance and change of conversational topics. -Exercises of conversational turn taking. -Exercises of lexical selection and use according to the context. -Exercises of stylistic variations in the communicative act.
Paralinguistic Aspects	-Exercises of phonatory qualities to support the communicative/linguistic intention. -Exercises of prosodic variations in the linguistic message. -Exercises of tone inflections to express feelings. -Exercises of gestural and manual support in conversation. -Comprehension exercises with gestural support and head movements.
Nonverbal Aspects	-Exercises of proximity and physical contact in the communicative act. -Exercises of gestures and facial expression. -Exercises of imitation of facial movements of the therapist and by means of cards. Exercises of maintenance and follow-up of eye contact.

3.3.3 Program objectives

The main objective of the intervention program was to promote conversational and discursive abilities by implementing intervention strategies based on a combined approach, with the ultimate goal of enhancing patient communication. To achieve this aim, specific objectives were established that focused on improving verbal aspects, such as communicative intentionality, expanding topics and conversational turn-taking, developing lexical skills based on context, and acquiring stylistic variations in communicative acts. Additionally, at the paralinguistic level, the objective was to compensate for phonatory qualities to support communicative intention and increase prosodic variations and verbal fluency in linguistic messages. Furthermore, in the nonverbal aspect, the program aimed to develop proxemic skills and physical contact with the interlocutor, improve eye contact, and increase gestures and facial expressions in the communicative act.

3.3.4 Program Methodology

The pragmatic skills rehabilitation program was designed based on the results of the initial user evaluation. This program considers the user's particularities, interests, tastes, and restrictions,

which require the adaptation of time, materials, and exercises to their characteristics and communicative needs. The methodological action scheme of the program is individualized with the aim of improving conversational and oral discursive skills through play, exploration, and experimentation as motivation strategies. The program also integrates content to enhance communication.

To develop the program, recommendations have been established to start with a dynamic and/or game to favor basic learning devices; use fundamental facilitation systems for adaptation; respect the user's initiative to make an effort to speak face-to-face; take care of and exaggerate intonation; repeat, use expanders, extensions, and additions; use modeling, parallel talk, and requests to ask for clarifications and confirmations; and ask good questions. Additionally, the program suggests adapting the context with comfortable lighting and furniture, using language appropriate to the user's sociocultural context, having the necessary materials for the development of each activity, using positive reinforcements to stimulate confidence and interest in the activities, promoting respect among peers, and involving parents in strengthening activities at home. (Acosta & Moreno, 2001).

The program was developed over a period of four months, comprising a total of 15 therapeutic interventions that allowed for the structuring of the interventions under an intensive modality of twice a week with a duration of 30 minutes, requiring planning for each session in three stages. The first stage, which lasted five minutes, was for welcome greetings and familiarization with the materials used in the program. The second stage, which lasted approximately 20 min, was used to execute the exercises programmed according to the proposed objectives. The third stage, which lasted for five minutes, was for activities to reinforce the lessons learned, collect materials, and report daily progress in the observation and follow-up matrix.

Similarly, the materials were highlighted as crucial elements for the development of the intervention program, as they provided the basic tools for learning and sensory support to execute the activities through visual aids such as makeup kits, nail art sets, cooking sets, hairstyling sets, emotion cubes, manicure sets, jewelry sets, tea sets, and audiovisual materials such as song and emotion videos, descriptive images, and pictograms. Additionally, the activities executed in the practical intervention program were organized into blocks of work, considering the aspects of verbal, paraverbal, and nonverbal communication.

3.3.5 Program control and monitoring

An observation matrix was developed and implemented daily, which recorded the progress of the users, including their significant achievements and/or challenges during the therapeutic process. This information was used to provide relevant recommendations for subsequent intervention sessions.

3.3.6 Program evaluation

To measure the effectiveness of the pragmatic rehabilitation program at an estimated time of four months, the user was reassessed with the same initial evaluation tests, the Pragmatic Protocol of Prutting and Kirchner (1987), and the Revised Rapid Pragmatic Evaluation Protocol-PREP-R of Fernández et al. (2015), with the purpose of carrying out a comparative analysis between the

results of the pre- and post-intervention evaluation, taking into account the criterion of effectiveness in the implementation when determining differences between the measures of the performance of communicative competence. Likewise, a satisfaction survey was applied to the users' parents to identify the strengths and weaknesses of the intervention program to establish methodological recommendations in the intervention.

3.3.7 Revaluation and Evolution of the Therapeutic Process

Table 6 show a detailed comparison of the pre-post test performance of the language assessment conducted using the Prutting and Kirchner Pragmatic Protocol (1987) and the Revised Rapid Pragmatic Assessment Protocol-PREP-R (Fernández et al., 2015) after implementing the intervention program based on the combined model. The results showed a notable improvement in communicative competence, particularly in general pragmatic ability, which increased by 33%. This improvement is characterized by a linguistic profile that primarily exhibits a receptive role, indicating a low communicative capacity in interactions. Additionally, there was a 15% improvement in specific pragmatic capacity, where the participant assumed a passive role as an issuer, with limited use of yes/no or dichotomous responses. The participants also relied on non-verbal aspects as compensatory or substitute elements of verbal production, which did not allow for adjustments in intentional speech acts. These findings suggest a deficit in metapragmatic awareness and poor monitoring of the conversational frames and rules. Furthermore, the index of grammatically based pragmatic ability demonstrated a performance of 43% in the structures of oral discourse, with restrictions in the use of proportional dimensions of speech acts and basic morpho-syntactic mechanisms for adequate performance of communicative acts.

Table 6. Performance of communicative competence according to PREP-R

Measures of Communicative Competence	Resulting Numeric Index Initial Assessment	Resulting Numeric Index Final assessment
General pragmatic index	1/18= 6%	3/18= 33%
Specific pragmatic ability	1/13= 7%	2/13= 15%
Grammarly-based pragmatic ability	1/7=14%	3/7= 43%

4. Discussion

The primary objective of speech therapy is to improve pragmatic language skills by addressing verbal, paralinguistic, and nonverbal aspects through a combination of rehabilitation strategies. The intervention program was designed to enhance communication competence through enunciation, textual communication, and interactive communication. This is achieved by identifying deficits in conversational skills and establishing a therapeutic plan that includes procedural evaluation. The program is implemented through individual therapeutic sessions that utilize structured formats, organized therapeutic spaces, and work materials that motivate the patient to control their motivation, ensuring the effectiveness and efficiency of the therapeutic process. The use of combined rehabilitation, based on scientific evidence, is crucial in clinical practice to measure the results objectively and to put into practice the experiences of recent studies. (García, 2019; Morón and Aguayo, 2018, cited in Juárez, 2021; Santos, 2022).

The role of speech therapists in the rehabilitation of pragmatic disorders associated with ASD is crucial because they possess the necessary theoretical knowledge and clinical training to enhance a patient's communicative functions, choose appropriate interventions, and determine the most effective approach for implementing therapeutic strategies related to conversation initiation, turn-taking, and requesting clarification (Moreno and Acosta, 2001). Additionally, they must possess the ability to modify and compensate for variables such as complexity, situations, and facilitation systems in their therapeutic approach, considering the unique characteristics of each patient (as cited in Moreno and Acosta, 2001, based on Juárez and Monfort, 1998).

The differences between the pre- and post-test evaluations of the patient's pragmatic language level were apparent, as improvements were observed in communicative intentionality, turn-taking, prosodic variations, verbal fluency, physical contact, and visual tracking with the interlocutor after the intervention, based on the combined approach that addressed verbal, paralinguistic, and nonverbal aspects. This contributed to more functional communication, as the patient transitioned from selective mutism to having certain communicative exchanges, expressing her wishes, and spontaneously hugging her interlocutor, which marked a significant advance in her development in therapeutic, family, and social contexts. Therefore, individualized therapeutic programs with a combined basis have shown the ability to modify the evolution of patients with ASD and are currently the most recommended approach to improve communicative skills in the pragmatic rehabilitation of language, according to professionals in Speech Therapy (Mulas et al., 2010). Intensively conducted programs (Cerreta, 2018) have changed the generally poor prognosis of children with ASD (Millá and Mulas, 2009; Sandall et al., 2005). Additionally, programs based on different models have reported their effectiveness in improving social communication skills, contributing to the quality of life of patients and their families (Moreno, 2021). However, limitations in therapy may arise due to the lack of training of therapists in structured cognitive-behavioral formats based on the behavioral problems associated with ASD, which can hinder the achievement of the objectives of the communicative component (Juárez, 2021).

It is essential to disseminate the findings of this case study to the scientific community, faculty of undergraduate speech therapy programs, and professionals. This emphasizes the practical utility and advantages of employing an intervention program based on the combined approach for the rehabilitation of pragmatic language disorders. By doing so, care guides for people with ASD can be developed and integrated into communicative healthcare pathways.

5. Conclusion

Language rehabilitation that utilizes a combined approach, as determined by the initial assessment process, allows for the establishment of an intervention program aimed at promoting communicative competence through the support of verbal, paralinguistic, and nonverbal resources. Furthermore, the re-evaluation process assesses the effectiveness of the implementation by measuring significant changes in communicative intention in speech acts, resulting in progress in communicative skills in the therapeutic, familial, and social contexts of the patient.

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