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CONTENTS

THERAPEUTIC INTERVENTIONS FOR THE MANAGEMENT OF SOCIAL COMMUNICATION DISORDERS AMONG SCHOOL-AGED CHILDREN

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Abstract

All over the world, social communication and interaction are fundamental aspects of everyday life. From infancy, humans are social beings, gazing at other people and turning towards voices, grasp a finger and even smiles. For social relationship to become possible there is a need to take into consideration the thoughts and feelings of another person. Essentially, it is the understanding that others' thought is different from one's thought that makes social interaction possible. However, some children experience difficulties with successful social communication and this inability or deficit is termed social communication disorder (SCD). This impaired social language use creates communication difficulties, thereby causing significant impact on academic, adaptive and psychoaocial functioning. Additionally, children with SCD has been under identified over time due to it co-occurrence with other conditions which leads to wrong diagnosis, inappropriate therapeutic considerations and non-effective communication as well as poor interpersonal relationship. Thus, this paper, focuses on the causes, incidence, assessment, impact and therapeutic interventions of social communication disorder.

Introduction

Communication is a fundamental aspect of everyday life, and a veritable tool for both human and animals to receive and convey information to one another. From infancy, humans as social beings communicate both verbally and non-verbally, by gazing at people, turning toward voices, grasping a finger, and even smiling (Mbah and Osisanya, 2020). Communication helps in establishing mutual and sustaining interpersonal relationships which are fundamental for life satisfaction and continuity. It forms a basis and building block upon which societal norms and culture are passed from generation to generations. Within this communication, every child born into the society learns the language, norms, values, behavioural conducts, expectations and social skills that are appropriate for social interaction. For a successful social interaction therefore, communication as a core social skill must be developed or properly built and appropriately utilised. Lavi (2019) opined that to be a successful communicator, not only must individuals understand and use words correctly, but must also utilise linguistic context (this means, to infer meaning based off of prior knowledge and experiences) and social context.

Successful communication goes beyond the literal words uttered. It requires drawing from existing knowledge and experiences to construct meaning, as well as the use of language in social context (social communication), in which children are expected to infer meaning or resolve ambiguities by integrating the surrounding language with their prior knowledge and experiences. An adequate and broad interpretation of communication would include a child's understanding of the intention of the speaker as well as the verbal and non-verbal cues that signal intentions, interpretation of the environmental context, societal norms and expectations and how these coalesce with structural aspects of language (e.g vocabulary, syntax and phonology). However, some children experience difficulties with successful social communication. Most children who have difficulties with social communication are vulnerable to social problems (Lawson, 2003) and they may have difficulty following conversation when people are talking or may miss important information that causes them to react in an inappropriate manner.

Social communication is an umbrella term for a number of complex verbal and non-verbal skills needed for real life conversations. These skills range

from responding to utterances in an appropriate way, maintaining the topic of the conversation, initiating new, and relevant topics (Matthews, 2014), to not inappropriately interrupt the other speaker, understanding turn taking (Bonifacio, Girolametto, Bulligan, Callegari, Vignola, and Zocconi, 2007; Longobardi, Lonigro, Laghi, and O'Neill, 2017), and ability to ask for clarification and adapting the language to the needs of the conversational partner (Longobardi et al., 2017). In order to successfully communicate, it is important to be able to consider all or some of the following: the context of an utterance (Loukusa, Leinonen, and Ryder, 2007; Matthews, Biney, and Abbot-Smith, 2018), acoustic cues like intonation and stress (Most, Shina-August, and Meilijson, 2010), and nonverbal cues (Russell and Grizzle, 2008).

Social communication skills develop during childhood (Loukusa et al., 2007; Longobardi et al., 2017) within the first 8 years of life through experience in everyday conversations with a range of partners. Mastering these complex skills takes until adolescence or even early adulthood (Matthews, 2014). In other aspects of language acquisition, the process of acquiring social communication skills is instinctive and apparently effortless (Chomsky, 1975). However, some children have difficulties developing this social skill. Inability or deficit in this core area is termed social communication disorder (SCD). Children with social communication disorder are at increased risk of such inappropriate judged social behaviour due to failure to imitate and understand nuances involved in entering and coordinating joints play activities and difficulties in interpreting social initiations by other children.

Components of Social communication

Social communication can be broken into four (4) integral parts that often overlap. These four components are social understanding and interaction, language processing, pragmatics (Adams, Lockton, Gaile, Earl, and Freed, 2012) and social cognition (Olswang and Coggins, 2005) in Longmore (2016). The four components of social communication are explained as thus:

1. **Social understanding and interaction**

This refer to array of behaviours that tap into the understanding of social communication conventions and behaviors, mediated through language (Adams, Lockton, Gaile, and Earl, 2012). The social understanding and interaction include abilities such as processing non-verbal cues, inferencing, regulating and understanding emotion, and perspective-taking (Adams, 2013). Social adaptation, or the ability to modify social behavior to fit various contexts, and understanding the experiences of others also fall within this subcomponent (Anderson and Beauchamp, 2012). These skills are each critical to forming friendships and reciprocal relationships. One example of this type of ability is theory of mind, which is the ability to reflect on the knowledge, thoughts, and beliefs of others in addition to one's own thoughts, beliefs, and intentions (Westby, 2014). Deficits in social understanding and interaction abilities are most often seen in the earliest stages of development and may be foundational to problems in the remaining subcategories of social communication: pragmatics and language processing (Fujiki and Brinton, 2008).

2. **Language processing**

Language processing encompasses the structural aspects of language, such as form and content, which are basic to the production and comprehension of language (Fujiki and Brinton, 2008). Such abilities include active listening for comprehension of language at the discourse level and sequencing discourse during interaction, and involve semantic and grammatical competence (Adams, 2013). Although targeting this area in isolation may increase performance in individual language processing abilities, addressing these behaviors in combination with other components in a larger communicative context is ideal to yield improvement in overall social communication (Adams, 2005; Adams, Lockton, Gaile, and Earl, 2012).

3. **Pragmatics**

Pragmatics refers to conversational behaviors such as turn-taking and topic manipulation, conveying communicative intent, and interactional rules for appropriate social exchanges (Adams, Lockton, Gaile and Earl, 2012; Fujiki and Brinton, 2008). These behaviors include building and implementing

appropriate vocabulary and using language within social interactive contexts (Adams, 2013). Behaviours classified under social understanding and interaction (e.g., theory of mind) often influence pragmatic abilities.

4. **Social Cognition**

The term 'cognition' refers to the many different processes by which creatures understand and make sense of the world. The term does much the same work as was previously done by the term 'information processing' and the processes include: perception, attention, memory and action planning. Therefore, the study of information processing in a social setting is referred to as social cognition. The goal of social cognition is to provide mechanistic, process-oriented explanations of complex social phenomena. Social cognition is the ability to think about oneself and others (Frith 2008). In particular, social cognition allows humans to function in social groups and societies through a shared understanding of social behavior and functioning. Much of what social cognition allows for is unconscious; that is, we automatically process many of the social cues that are presented to us in everyday life. For example, we automatically process facial expressions and the emotions they may portray.

The components described above (social understanding and interaction, language processing, pragmatics and social cognition) must develop and function together for an individual to understand and share meaning with others. As such, they establish the basis for effective communication. As the social contexts expand and become more complex throughout development, deficits in one or more of these areas may contribute to significant impairments in overall communicative and social abilities (Adams, 2005; Adams, Lockton, Gaile, and Earl, 2012) and consequently lead to social communication disorder.

Social Communication Disorder

Social Communication Disorder is defined as a primary deficit in the social use of nonverbal and verbal communication. It is simply a deficit in one or more of the components of social communication, which includes: social understanding and interaction, language processing, pragmatics and social cognition. Social Communication Disorder was recognised as a diagnosis in 2013, when the American Psychiatric Association (APA) added it to the Diagnostic and Statistical Manual of Mental Disorders, fifth-edition (DSM-5) under communication disorder in the neurodevelopmental disorders. Social Communication Disorder (henceforth, SCD) is a persistent difficulty with the social use of verbal and nonverbal communication, manifesting as problems using communication for social purposes, impaired ability to adapt communication to context, difficulty following conversations and narrative conventions and difficulty inferring what is not explicitly stated. For a diagnosis of SCD to be made, symptoms must limit social, academic or occupational functioning; must originate early in development; and cannot be attributable to other difficulties such as autism spectrum disorder (ASD), intellectual disability or clinically impaired word structure and grammar (APA, 2013). Research conducted by Bishop and Adams (1989) as reported by Lavi and Mainess (2019) suggested that children with social communication disorder may be able to use language correctly, however, their impaired social language use may create communication difficulties. For example, a student who has difficulty with social communication may use phrases or sentences that are syntactically correct but are inappropriate to the given context or situation.

Signs and symptoms of SCD

SCD as listed in DSM-5 under the rubric of communication disorders is characterised by the presence of chronic problems in social use of verbal and nonverbal communication. The symptoms described in DSM-5 include impairments in social use of communication and/or obeying social rules and conventions of language (i.e. greeting in accordance with context and sharing information), impairments in changing communicative style in accordance with the situation or needs of the listening party, waiting for conversational turns, reformulating communicative intent in case of misunderstandings, knowing how to use verbal and nonverbal iconic gestures in context of speech, and problems in inferring the implied message with

metaphors/ironies/similes/aphorisms.

Additionally, Lauren, Audirey, Gillian, Amy, and Suan (2014) opined that individuals with SCD may also be characterised by difficulty in: using language for social purposes, appropriately matching communication context (e.g back and forth of conversation), understanding non-literal language (e.g jokes, idioms, metaphors) and integrating language with non-verbal communicative behaviours. In addition, individuals with SCD have problems understanding what other people mean in terms of body language, eye contact, facial expressions, tone or voice of communication such as waving, pointing, shrugging. Also, difficulties understanding what other people are thinking or feeling; finding it difficult to see things from someone else's point of view, do things which seem out of place; such as talking in a very loud voice to the person who is standing next to them, talking continually about things that interest them to someone they have never met before, and taking turns can be challenging (National Health Service, 2018). America Psychiatric Association (APA) (2013) and Swineford, Thurm, Baird, Wetherby, Swedo, (2016) DSM-5 reported that SCD symptoms may start in early development, milder forms may not be detected until early adolescence, and impairment may become apparent with demands of social interaction, which increase and become more complicated by adolescence and overcome the already limited capacity of the child (APA, 2013).

Assessment for Social Communication Disorder

Social communication skills are assessed whenever SCD is suspected or as part of a comprehensive speech and language evaluation for any individual with communication concerns. A child could also be presented for assessment if not previously diagnosed with a specific disorder, but demonstrates remarkable difficulties in social interaction, conversation, or interpreting nonliteral language. This includes children with subclinical deficits with structural language or vocabulary (Adams, 2015).

Assessment for SCD includes the use of competency-based tools such as interviews and observations, self-report questionnaires, and norm-referenced report measures completed by parents, teachers, or significant others. When screening results indicate the need for further evaluation, individuals are referred for a comprehensive speech and language assessment or to other professionals as needed. When the individual has a diagnosed co-occurring condition, the Speech and Language Pathologist's role is to be aware of overlapping or similar signs and symptoms and to assess specifically for social communication components. Assessment of social communication should be culturally sensitive; be functional; be formal and informal, and involve the collaborative efforts of families, caregivers, classroom teachers, Speech and Language Pathologists, special educators, psychologists, employers, communication partners, the treatment team, and other professionals as needed (e.g., vocational counselors).

Social norms and constructs vary across environments, individuals, and communities, and there is a wide range of acceptable social norms that exist within each. This variability makes the assessment of SCD challenging. It is critical for an evaluator to demonstrate sensitivity to the wide range of acceptable norms that exist within each setting by increasing their familiarity with the specific social norms defined by each of the individual's social groups. Diagnosis considers an individual's ability to adapt to the social norms of their environment or community. This is consistent with the World Health Organization's International Classification of Functioning, Disability and Health (ICF) framework (ASHA, 2016a; World Health Organization, 2001), comprehensive assessment is conducted to identify and describe: the underlying strengths and weaknesses in communication and communication-related areas; comorbid deficits or health conditions, such as spoken or written language disorders, ADHD, or developmental disabilities; limitations in activity and participation, including functional communication and interpersonal interactions; contextual (environmental and personal) factors that serve as barriers to or facilitators of successful communication and life participation; and the impact of communication impairments on the individual's quality of life.

Finally, the outcome may result in the diagnosis of SCD, description of the characteristics and severity of the disorder, recommendations for intervention and support, and a referral to other professionals as needed.

Causes, Incidence and Prevalence of SCD

SCD as a disorder has no known cause and this affects the precise estimates of its incidence and prevalence. SCD has been difficult to determine because many investigations draw on varied

populations employ inconsistent or ambiguous definitions of the disorder. Using different definitions of SCD, the preliminary estimates of SCD in eighth graders ranged from 7.0% to 11.0% (Ellis Weismer, Tomblin, et al., 2021). A history of developmental language disorder (DLD) was indicated to be a significant risk factor for SCD. The percentage of children with SCD and a history of DLD (30.0%) was 3 times greater than that of children with SCD without a history of DLD (9.0%; Ellis Weismer, Tomblin, et al., 2021). Studies reported results based on gender; however, there were no indications whether the data collected were based on sex assigned at birth, gender identity, or both. A higher proportion of male children were indicated to have SCD. According to Ellis Weismer, Rubenstein, et al. (2021), developmental disability with likely SCD was found to have a male-to-female ratio of 2.5:1. Social communication problems can be associated with several other disorders and populations. For example, out of a clinical sample of 47 individuals with schizophrenia, 77% were found to have pragmatic impairments (Bambini et al., 2016). Additionally, infants born late or moderately preterm (i.e., 32–36 weeks' gestation) were 1.3 times more likely to be identified with delayed social competence compared to peers born at term (Johnson et al., 2015). In summary, 7.5% of children experience difficulties with social communication disorder with higher rates of difficulties in males than females.

Impacts of SCD

According to socio-constructivist approach (Saarni, 2000) emotions play a central role in social interaction and provide positive relationships between the individual and other social agents involved. However, children with SCD are at risk of developing long-term social and emotional difficulties. These adversely affect their participation in childhood activities such as playing, joining in class activities with peers, and engaging in other social activities. This emotional intelligence deficit is as well evident in their inability to correctly interpret emotions conveyed by way of prosody, facial expression and gesture. Children with SCD always find difficulty engaging in many of the academic and social activities encountered in schools. This negatively impacts their academic performance and overall health and well-being (Brinton and Fujiki, 2006; Sarah, Natalie, Reinie, Alycia and Wendy, 2017). This is in line with Elliot, Malecki and Demaray (2001) social skills deficits have a significant impact on academic, adaptive and psychological functioning. It is very problematic in the context of education, and poses a strong barrier to effective learning. It is therefore crucial that social skill deficit or social incompetency are identified early and children with SCD are provided with the necessary tools to assist in their education.

Management and /interventions Considerations

Studies have shown that speech and language therapy is beneficial in managing or rehabilitating persons with social communication disorder (Sarah, Rebecca, Wendy, and Tracy, 2017; Girolametto, 2013; Wang, Gui, and Parrila, 2011, Raulston, Sarah, Rebecca and Wendy, 2013). Essentially, the aim of therapy for persons with SCD is to improve their social competency, which will help in adequate and successful communication. This therefore, requires carefully planned and explicit intervention (White, Koenig and Scahill, 2010). Without targeted interventions on social communication skills, children with SCD are at risk of social interaction due to isolation from peers that set in and this may not obtain optimal benefits from early social communication opportunities (White et al, 2010, Whalon, Conroy, Martinez, and Werch, 2015). Interventions such as peer modelling or peer coaching (Banda, Hart and Liu-Gitz, 2010), Video-feedback, Video Modeling (Dietchman, Reeve, Reeve and Progar, 2010), strip conversation, social stories, Enhanced Milieu Teaching (EMT), Pivotal response Training (PRT) (Kasari, Kaisser, Goods, Nietfield, Mathy and Landa, 2014), Social Communication Intervention Project (Adams, 2012), Communication Partner Training Intervention, and cognitive communication intervention among others have been widely used successfully for social communication skill development that coexist with other conditions such as Autism Spectrum Disorder, Pragmatic Language Impairment, Attention Deficit Hyperactivity Disorder, Traumatic Brain Injury (Sarah, Rebecca, Wendy, Tracy, 2017; Girolametto, 2013; Wang et al 2011, Raulston et al, 2013; White, Albano, Johnson, Kasari, Ollendick, kiln, Oswald and Scahill 2010).

1. **Peer Mediated Intervention (PMI)**
   PMI is a treatment approach where typically developing peers are systematically taught ways of engaging learners with social communication deficit and increasing their social opportunities within natural

environments, thereby helping the targeted individuals acquire new behavior, communication and social skills (Frostig, 2013). PMI involves the peers of persons with SCD in the instructional process, behavioural interventions and/or social interaction facilitation. It as well involves manipulating environments, prompting peer interactions, training peer tutors, and direct skill training (Bass and Malick, 2007, Chan, Lang, Rispoli, Reilly, Sigafoos and Cole, 2009, and Wang et al, 2011).

Peer-mediated interventions are further described by Utley and Mortweet (1997) as having a variety of components consisting of a) peer modeling (a) typical peer modeling appropriate behavior for a student with a disability to imitate); (b) peer initiation training (a teacher trains typical peers in appropriate social and communication behaviours for a student with a disability); (c) peer monitoring (typical peers act as models and receive training in assisting their 'peer-buddy' in completing tasks or desired behaviours); (d) peer networking (groups of students who desire to understand and want to assist students with disabilities and want to make an impact on their lives); (e) peer tutoring (peers act as one-on-one tutors to provide students with disabilities strategies and practice in various activities across academic, social, adaptive, and other domains) and (f) group oriented contingencies (earning a reinforcer, reward, reinforcement is dependent on part or all of the students). These components of peer mediated instruction have evolved to include more cohesive 'peer-focused interventions', 'peer networks', and 'peer support arrangements'. The use of PMI helps children with social communication deficit learn age related social skill directly from their peer group.

2. Social skill training (SST)

SST is another therapeutic intervention well designed or structured to improve social skills based on the application of behavioural and social learning theory and techniques (Nagle, Hansen, Erdley and Norton, 2010). This intervention approach attempts to teach children with social communication deficit the skills needed to engage in social interaction and communication to create opportunities for social contact, to behave in socially expected ways, to build social relationships, and to increase the likelihood to experience social interaction as both meaningful and enjoyable (Paul 2003).

SST is an established method originally developed by Liberman for schizophrenics to reduce their anxiety and discomfort in social interaction (Liberman and Wallace 1990; Wallace et al 1980). The therapy focuses on verbal and non-verbal behaviours common in social relationships, for example, participants may be encouraged to use eye contact when speaking with other people or maintain a certain amount of personal space with the receiver.

Social Skill Training can be classified into individual (one to one training) and group (one to many) settings. However, it is usually conducted in a group setting with structured lesson format and it is generally designed for individuals who are 6 years old and older. Social Skill Training for the young children focuses on simple acts such as offering a greeting, joining a peer in playing with a toy, or sharing a preferred object. On the other hand, older individuals training commonly involves the acquisition of social rules, social cognition exercises, perspective and turn taking, and the avoidance of and coping with conflicts. Social Skill Training groups range in size to include up to eight participants, with one to three trainers in multiple sessions of training. Each session focusses on the training of one target skill for one or two hours which are modeled in different ways for example, role playing, group discussion (Tatja, Ulf, Linda, Aiko, Elles, Viviann, and Sven, 2015). One advantage of group SST is that it enables participants to observe other participants' behavior and also receive feedback from others. On the other hand, the advantage of individual SST is that the training can be relaxed and comfortable for participants, and that lessons can be tailored to individual needs (Hiroki, Sakriani, Graham and Tomoki, 2015). The basic training model of SST is generally based on the following

steps: defining target skills, modeling, role-play, feedback, reinforcement, and homework (Bellack, 2004). The training affords the participants to learn better social skills in a number of different ways, contributing to the effectiveness of training (Hiroki, Sakriani, Graham and Tomoki, 2015).

3. **Behavioral Interventions and Techniques (BIT)**
BIT is a type of behavior modification therapy that uses reinforcement to intervene in behaviours that could negatively affect a child's life. BIT can be used to modify existing behaviors or teach new behaviors. These approaches are based on principles of learning that include identifying desired behaviors (e.g., social skills), gradually shaping these behaviors through selective reinforcement, and fading reinforcement as behaviors are learned. Behavioral approaches can be used to modify or teach social communication behaviors in one-on-one, discrete trial instruction or in naturalistic settings with peers or other communication partners. The strategy helps to encourage positive social behaviour and builds appropriate communication skills from individuals while simultaneously suppressing negative social communication behavior.

4. **Comic Strip Conversations**:
Comic Strip Conversations are a visual social narrative that depicts or enhances a conversation or social situation between two individuals by specifying the underlying thought processes and/or communicative exchanges using drawings incorporating thought bubbles, speaker bubbles, facial expression and other symbols. Comic Strip Conversations systematically identify what people say and do, and emphasize what people may be thinking (Gray, 1994). The process of creating the comic strip slows the conversation down, allowing more time for an individual to understand the information being exchanged. Comic strip conversations can be effectively used by incorporating a child's favourite cartoon character into the illustration to convey important information, problem-solving and conflict resolution, learn social skills, follow simple classroom rules and to communicate perspectives, feelings and ideas. In addition, the drawings show how to behave in a socially acceptable manner and conform to social standards. The strategy was developed by Carol Grey in 1991 and since then, it is being use in enhancing social understanding.

5. **The SCORE Skills Strategy:**
This SCORE Skills Strategy can also be referred to as Social Skills for Cooperative Groups and it is a programme designed to teaching inclusive classes of students the social skills needed for social relationship. The skills can be used to establish and maintain good relationships with others in most everyday situations and it focuses on five social skills: (S) share ideas, (C) compliment others, (O) offer help or encouragement, (R) recommend changes nicely, and (E) exercise self-control (Vernon et al., 1996; Webb et al., 2004). Each lesson focuses on one skill where the students learn about the skill, watch a demonstration of the skill, and practice using the skill. The SCORE skill strategy is a pre-requisite to the other cooperative thinking strategies (BUILD, LEARN, THINK, and Teamwork). SCORE skills strategy is very good at managing persons with social communication disorder, if managed well. This intervention helps persons with social communication disorder learn skills for working in group, and develop higher-order cognitive processing tasks.

6. **Social Scripts**: This is a social narrative/prompting strategy that provides direct instruction of social situations to persons with social communication disorder. It explains common social situations in a suitable way that sets clear rules and expectations. It also introduces new activities, change in routine, locations, wide variety of impending behaviours and changes in daily life. Social scripts involve the use of scripted prompts (visual and/or verbal) which are gradually faded as children use them more spontaneously (K.

Nelson, 1978). Additionally, it teaches social skills, behavioural skills, as well as problem solving skills in a story format. It is one of the most effective and simple ways to provide support to persons with social communication deficit because they provide structure and routine to situations that may seem scary and overwhelming.

7. **Social Stories:** This is a highly structured intervention that uses stories to explain social situations to children and help them learn socially appropriate behaviors and responses. Initially developed for use with children with autism, it has been shown to benefit children with other disorders (Gray et al., 2002; Schneider & Goldstein, 2009). The story is accompanied with pictures, made to illustrate certain situations, problems, challenges and how to deal with them. It helps them to learn self-care, social skills, understand their behviour as well as others' behavior, reduces anxiety, and understand emotions.

Recommendations

Research evidence has continuously shown that adoption of evidence-based practices is usually a better and a quicker means towards managing social skill deficits. It is important that experts and professionals such as speech and language pathologists, special educators, occupational therapists, and psychologists continuously adopt global best practices in rehabilitating social skill deficits among children. In addition, comprehensive language testing should be included in the diagnostic and assessment profiles of SCD to characterize not only the pragmatic aspects of communication, but also grammatical and semantic aspects. Given that the DSM-5 SCD criteria has expanded pragmatic language impairment to include non-verbal communication, further study of the validity of this expansion or diagnosis needed. Also, to understand the causes and nature of the disorder, research samples will need to be followed longitudinally. Longitudinal samples will allow for factor analytic examination of the diagnostic criteria while controlling for age and other factors such as developmental level. Put differently, children with social communication disorder should be properly diagnosed and managed using combined therapeutic strategies towards having effective social communication, academic, adaptive and psychosocial rehabilitation.

Conclusion

SCD can bear negative consequences for the individual, and the community at large. Therefore, the need for early therapeutic intervention cannot be over-emphasised. More importantly, the psychological, physical and cognitive impacts which adversely affects the social relationship and competence of children with social communication disorder thereby making them live below their potentials will as well be identified and well managed. In addition, it is important that speech and language therapist and other experts adopt these interventions as tools for the management of children with social communication disorder.

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