

Alexithymia and its Link to Autism

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Abstract

Alexithymia is common, rather than universal, with notably high rates of overlap with autism spectrum disorder (ASD). Co-occurring autism and alexithymia represent a specific subgroup in the ASD population who may have specific clinical needs.

There is evidence of its overlap with ASD in terms of prevalence, etiology, and behaviors. Emerging evidence has found that alexithymia may also play a role as both cause and consequence of ASD in a feedforward cycle between alexithymia and ASD symptomatology.

Over the last two decades the association between alexithymia and autism spectrum disorder ASD has attracted significant attention – there has been a surge in the number of studies aimed at investigating the relationship between these conditions, including from a theoretical and etiological point of view, as well as for clinical and therapeutic practices. The ongoing studies and research aiming to understand how autism affects face perception need also to consider the contribution of alexithymia.

Here we review the description of Alexithymia and its relationship to ASD. Our first aim is to provide a brief definition then focus on the relationship between ASD and alexithymia, including clarifying when and how they originate, as well as their overlap in terms of etiology and features, and suggest clinically useful constructs and interventions.

Key words: Autism, ASD, Alexithymia, Emotions

Introduction

Alexithymia

Alexithymia was first described in 1972 by Sifneos and is rooted in the Greek, meaning “no words for emotion” (a = lack, lexis = word, thymos = mood or emotion). It was initially introduced into the vocabulary of psychiatry by Peter E. Sifneos in the early 1970s to characterize a number of patients with psychosomatic complaints (1) (2). There is no definite classification for diagnosis of Alexithymia in the psychiatric nosography. It is not officially recognized by the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) however, the diagnosis of Alexithymia depends on self-report made by a mental health professional (3).

Literally, Alexithymia indicates the lack of terms to express emotions and moods. It refers to difficulties in recognizing and distinguishing between different emotions and bodily sensations, difficulties in expressing emotions, a lack of imagination or fantasy life, and thoughts focused on external rather than internal experience (1). In fact, a common trait in these patients was their inability to verbalize their emotions, either due to their unawareness of the feelings that corresponded to these emotions or due to their confusion of emotional and bodily feelings (1)(2).

At its broadest level, alexithymia denotes both a cognitive and an affective deficit in the way some individuals recognize and communicate emotional states Cognitively, individuals with alexithymia use a concrete, practical style of thinking and affectively, they demonstrate a diminished, undifferentiated emotional awareness. The construct of alexithymia includes the following four main features:

- (1) difficulty identifying and describing subjective feelings.
- (2) trouble differentiating between feelings and the physical sensations of emotional arousal.
- (3) limited imaginative processes.
- (4) an externally oriented cognitive style (3).

Causes of Alexithymia and associated conditions:

Alexithymia causes isn't well understood, and there's a possibility it may be genetic. The condition may also be a result of brain damage to the insula. This part of the brain is known for its role in social skills, empathy, and emotions, with some studies linking insula lesions to apathy and anxiety (4) (5).

Additionally, this condition has been noted in people who have experienced trauma, especially during early childhood. Trauma and neglect at this stage may cause changes in the brain that can make it difficult to feel and identify emotions later in life (4) (5).

Alexithymia is implicated in a wide variety of psychological problems, such as depression (6) as well as schizophrenia (7). Research indicates that between 32 and 51 percent of people with depressive disorders also have alexithymia (4) (5).

Studies also indicate that this condition may be present in certain neurological diseases and injuries. These include:

- Alzheimer's disease
- dystonia
- epilepsy
- Huntington's disease
- multiple sclerosis
- Parkinson's disease
- Stroke
- traumatic brain injury (4)(5)

On the other hand, emotional deficits in autism spectrum disorder may be largely driven by alexithymia (8).

Autism Spectrum Disorder

Throughout history, the typical characteristics of Autism disease were identified by Eugen Bleuler as early symptoms of schizophrenia, or by Melanie Klein as psychosis (9)(10). Since the early 1980s – and especially after the publication of the DSM-III (American Psychiatric Association [APA], 1980) – it has been recognized as an autonomous pathological condition definitively differentiated from schizophrenia. Eventually, descriptions of the condition were slightly modified and accurate criteria for its assessment were provided in 1987 by the DSM-III-R (American Psychiatric Association [APA], 1987). (11)(12).

The publication of the DSM-IV (American Psychiatric Association [APA], 1994) placed autism in the wider category of pervasive developmental disorders, a complex of syndromes that affect social interaction, communication and the capacity to develop varied interests. In this new conceptualization, a milder form of autism, Asperger's syndrome, was distinguished, in which mental retardation and linguistic impairment are less severe.

In this view, the condition is characterized by the co-occurrence of various psychological disorders due to underlying neuropsychological and functional impairments (14)(16).

So what is the definition of Autism Spectrum Disorder?

According to the DSM-V (American Psychiatric Association [APA], 2013), Autism spectrum disorder (ASD) is a complex neurodevelopmental condition involving persistent challenges with social communication, restricted interests, and repetitive behavior. While autism is considered a lifelong disorder, the degree of impairment in functioning because of these challenges varies between individuals with autism (13)(14). ASD disorder can be noticed by parents/caregivers or pediatricians before a child reaches one year of age though, symptoms typically become more consistently observable by the time a child is 2 or 3 years old. In some cases, the functional impairment related to autism may be mild and not apparent until the child starts school, after which their deficits may be pronounced when amongst their peers (14)(16).

Social communication deficits may include: (15)

- o Decreased sharing of interests with others
- o Difficulty appreciating their own and others' emotions
- o Aversion to maintaining eye contact
- o Lack of proficiency with use of non-verbal gestures
- o Stilted or scripted speech
- o Interpreting abstract ideas literally
- o Difficulty making friends or keeping them

Restricted interests and repetitive behaviors may include (15)

- o Inflexibility of behavior, extreme difficulty coping with change
- o Being overly focused on niche subjects to the exclusion of others
- o Expecting others to be equally interested in those subjects
- o Difficulty tolerating changes in routine and new experiences
- o Sensory hypersensitivity, e.g., aversion to loud noises
- o Stereotypical movements such as hand flapping, rocking, spinning
- o Arranging things, often toys, in a very particular manner

ASD has also been associated with difficulties in emotion processing, in particular problems with recognizing emotions in others (17)(18).

Diagnosis of Alexithymia and Links to autism

Alexithymia is diagnosed in the range of neuropsychiatric disorders. There's no one single test for alexithymia, much like neurological disorders and mental illnesses in general. It can take time to receive the right diagnosis. Alexithymia is analyzed by a mental health professional who will likely ask questions and provide a diagnosis based on the answers. The measurement of alexithymia relies almost exclusively on self-report questionnaires that require participants to reflect on the difficulties they have in reflecting on their own emotions (19).

Another possible test is an MRI performed by a neurologist. This will provide images of the insula in the brain. A meta-analysis of neuroimaging studies suggests that alexithymia may be associated with reduced activation in a number of brain areas associated with emotion processing, specifically the amygdala, mirror neuron system related brain regions, the dorsomedial prefrontal cortex, and the right insula and precuneus (20).

On the other hand, the symptoms of autism spectrum disorder are wide-ranging, but there are still some stereotypes associated with Alexithymia. One major stereotype is a lack of empathy, something that has largely been shown up. Trait alexithymia is a subclinical phenomenon characterized by difficulties in recognizing, describing, and distinguishing feelings from the bodily sensations of emotional arousal (22). Many individuals show severe degrees of alexithymia without demonstrating autistic symptoms (40)(41). Although the incidence of alexithymia in the general population is thought to be only 10% (21) (23), studies suggest severe degrees of

alexithymia in at least 50% of individuals with autism (24). Recent findings suggest that several other emotional deficits attributed to autism may instead be due to co-occurring alexithymia, including socio-emotional deficits in empathy (25) and attention to facial emotion (26)(42). There is good reason to speculate that co-occurring alexithymia may play an important role in understanding face perception deficits in individuals with ASD. Research suggests that alexithymia (independent of autism) is associated with impaired recognition of emotional expressions (27)(28)(42). For example, alexithymia has been shown to account for the difficulties many individuals with ASD experience in fixating the eye-region of faces and in recognizing facial, vocal and musical expressions of emotions (8) (25).

Empathic brain responses to the pain of others is predicted by alexithymia rather than ASD symptoms (25). Studies have shown, the degree of alexithymia, but not autism severity, predicted both anterior insula activity when individuals with autism empathize with the pain of other people and fixations to the eye and mouth area. In general population samples, alexithymia mediates the relationship between sub-clinical autistic traits and certain social reward and empathic processes (30). Consequently, it has been proposed that both autism and alexithymia may both be associated with a genetic vulnerability to atypical brain connectivity that can manifest as either "pure" autism, "pure" alexithymia, or co-occurring autism and alexithymia, depending on the exact networks affected (8).

Treatments

- To date, there isn't a single individual treatment for alexithymia. The exact treatment approach depends on overall health needs. For example, if a person has depression or anxiety, taking certain medications for these conditions could also help mental health symptoms (31)(32).
- While there is no "cure" for autism, there are several effective interventions that can improve a child's functioning. Therapies may be helpful for this condition which allow patients to participate in exercises to help improve mental health (31)(32).

Possible therapy options include:

Cognitive Behavioral Therapy (CBT) Applied behavioral analysis:

It involves systematic study of the child's functional challenges, which is used to create a structured behavioral plan for improving their adaptive skills and decreasing inappropriate behavior:

- o **Social skills training:** this intervention helps children with autism improve their ability to navigate social situations
- o **Speech & language therapy:** It can improve the child's speech patterns and understanding of language to help them to express their feelings.
- o **Special education services:** Under an Individual Education Plan provided by their school.
- o **Parent management training:** Parents learn effective ways of responding to problematic behavior and

encouraging appropriate behavior in their child. Parent support groups help parents cope with the stressors of raising a child with autism.

o Treating co-occurring conditions: Children with autism experience insomnia, anxiety, and depression more often than peers without autism. They also more often have ADHD (16)(32)(33)(34).

Psychotherapy (also known as “talk therapy”) (31)(32) and Medication:

A child psychiatrist can evaluate for co-morbid depression, anxiety, and impulsivity and if appropriate medications can be helpful. For example, autism-related irritability can be reduced by medications such as aripiprazole and risperidone (the two medications approved by the Food and Drug Administration for irritability associated with autism), prescribed judiciously by a knowledgeable clinician in collaboration with the child’s parents (16)(32)(33)(34).

Alternative interventions and several complementary interventions involving special diets and supplements have been tried over the years by parents/caregivers seeking ways to help their child with autism function better. Yet, convincing evidence has not been found to clearly acclaim any specific intervention, . Research into these types of interventions continues (15).

Conclusion

Alexithymia is highly prevalent and plays an important and complex role in ASD, with approximately half of individuals with ASD estimated as having alexithymia, but the nature of its role remains elusive.

Despite their association, alexithymia and autism are fundamentally independent constructs. Alexithymia is neither necessary nor sufficient for an autism diagnosis, nor is it universal among autistic individuals. Alexithymia appears to be heightened although not universal, in the ASD population. This provides support for the alexithymia subgroup hypothesis of ASD, indicating that emotional processing difficulties traditionally associated with ASD are in fact rooted in co-occurring alexithymia, rather than representing a core feature of ASD itself

While not inherently dangerous, this condition may inadvertently lead to interpersonal and relationship issues. The good news is that there are therapies available that can help to improve mental health skills. Not only will this help with relationships with others, but more importantly, a patient may feel better, too. It’s also important to keep in mind that negative emotions are just as important as positive ones. Learning how to identify these emotions and work with them (not against them) can help to lead a more fulfilling life.

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