Selective Mutism: Unveiling the Masquerade of Its Reasons and Interventions

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- **نبذة عن البحث باللغة العربية:**

الصمت الانتقائي

أسبابه وعلاجه

"الصمت الانتقائي" هو فشل الأطفال الصغار في التواصل الشفهي بشكل فعّال في مواقف اجتماعية محددة، مثل: المدرسة، على الرغم من أنهم يتحدثون بشكل طبيعي عندما يكونون مرتاحين. وأعراض هذا الاضطراب شائعة في المدارس والأماكن التعليمية، حيث قد يخفق الأطفال والصغار في التحدث أو التواصل، ونتيجة لذلك قد يشعرون بالقلق والتوتر.

يبدأ الصمت الانتقائي عادة قبل أن يبلغ الطفل خمس سنوات، لكن المدارس قد لا تدرك ذلك حتى يكبر حيث سيقابل بالتفاعلات الاجتماعية.

يعاني الطلاب من صعوبة التحدث أو القراءة بصوت عالٍ، لذا تبدو المدرسة وكأنها تمرين للبقاء على قيد الحياة.

لذا، يعالج هذا البحث مسألة "الصمت الانتقائي"، فيقدّم تعريفًا بالصمت الانتقائي، وتاريخه ومسبباته وأسبابه وأعراضه وعلاجاته، ويضيء على تأثيراته على المعلمين وأولياء الأمور، ويخلص إلى طرح مجموعة نتائج وتوصيات يمكن الاستفادة منها مستقبلاً.

الكلمات المفاتيح: الصمت الانتقائي؛ تواصل؛ العلاج السلوكي المعرفي؛ اضطراب الكلام

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- **Abstract:**

Selective Mutism (SM) is the failure in young children to effectively communicate in specific social situations such as school even though they speak normally when they are comfortable such as at home. The symptoms of this disorder are common in schools and educational settings where children and youngsters might fail to speak or communicate and might, as a result, feel anxious and nervous. It usually begins before a child is 5 years old, but schools may not recognize so until s/he becomes older where s/he will be met up with social interactions. Students with SM have struggles speaking or reading out loud, so school appears like an exercise in survival any day. This review article addresses the issue of selective mutism and reviews the existing body of research on it. The paper provides extensive definitions of selective mutism and aims to discuss its history, etiology, causes, symptoms, and treatments. It ends with implications for teachers and parents as well as recommendations for future research.

- **Keywords: Selective mutism; Communication; Cognitive behavioral treatment; Speech disorder**

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- Introduction

Parenting is a loaded word that carries underlying terms which are beyond definition, theories, instructions, advice, and speculations. It is a challenging round-the-clock job. The responsibilities of raising a child vary between the psychological, social, educational, and mental well-being of one's son or daughter especially that this list runs on incessantly. This is not to forget that parents of children with special needs have double if not triple the duties of regular parents. Among these children with unmet needs are ones who experience/suffer from selective mutism (SM).

Selective mutism, or the failure to communicate in certain social environments and settings, is a disorder that might affect children and individuals at a young age resulting in varied consequences (Stone et al., 2002). This review article addresses this issue and explores the existing literature on it. It aims at discussing the history, etiology, causes, symptoms, and treatments of SM.

- What is Selective Mutism?

Selective mutism is defined as a relatively uncommon, persistent, impairing anxiety disorder that causes difficulties in young children upon communicating in certain social situations such as school (Kovac & Furr, 2019). As described by Bissoli (2007), SM is an "acquired disorder of interpersonal communication as the child may not produce spontaneous or on-demand verbalization in one or more environments where verbal exchanges are normally performed". Children with SM speak and respond clearly and effectively in more comfortable settings. They communicate well with family members at home (Bissoli, 2007).

Selective mutism starts at early childhood before the age of five (between two- and five-years age). Symptoms usually appear upon school entry and last at least one month excluding the first month at school (APA, 2013; Krynanski, 2010; Kuvac & Furr, 2019; Muris & Ollendick, 2015). Children with SM struggle speaking or reading out loud, so school appears like an exercise in survival any day. Nevertheless, some children are able to communicate normally with their peers, but they refrain from talking when confronted by an adult (Kotrba,

2014; Viana, Beidal, & Rabian, 2009). Aside from verbal communication, many children with SM are reserved and introverted in other ways as well (McHolm, Cunningham, & Vanier, 2005). They often use gestures, nodding, pulling, pushing, or monosyllables (Krysanski, 2010). Avoidance of eye contact, lack of smiling, excessive shyness, fear of social embarrassment, social isolation and withdrawal, clinging, compulsive traits, controlling or oppositional behavior, tantrums, blushing, and fidgeting are common symptoms associated with SM (Kristensen, 2001; Krysanski 2010; Shipon-Blum, 2012). Such lack of communication in educational environment impedes educational functioning making it difficult for educators to evaluate academic skills (APA, 2013).

Based on research carried out on children with SM for a long time period, the disorder has a mean duration of eight years after which total absence of speech disappears (Remschmidt et al., 2001). However, children might continue to have communication problems, low school/work performance, and higher rates of psychiatric disorders (Remschmidt et al., 2001; Steinhausen et al., 2006).

Given that symptoms manifest in uncomfortable settings such as schools, early childhood educators play a pivotal role in helping to identify SM. They usually bring such non-communicative behavior to parents' attention thus leading to appropriate and early evaluation and treatment (Kovac & Furr, 2019).

Although the prevalence rates vary depending on the age of the child and setting, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) indicates that as many as 1% of children have SM occurring at higher rate among bilingual and immigrant children (APA, 2013; Bergman, Piacentini, & McCracken, 2002; Elizur & Perednik, 2003; Viana, Beidal, & Rabian, 2009). It is also more common in girls than in boys (Krysanski, 2010; Diliberto & Kearney, 2018). However, the disorder should not be misdiagnosed as children fail to speak due to lack of knowledge or comfort with spoken language (Krysanski, 2010). It does not apply to children with communication disorders such as childhood-onset fluency disorder and does not exclusively exist during autism spectrum disorder, schizophrenia, or another psychotic disorder (Kyrsanski, 2010; Muris, Hendriks, & Bot, 2016).

- **History and Etiology**

Selective mutism is a rare disorder lacking a well-defined etiology. Being identified in the 19th century, Kussmaul named the voluntarily refrainment from speaking in certain situations as "*aphasia voluntaria*". It was renamed "*elective mutism*" in 1934 as children having this disorder were electing not to speak. The new term "*selective mutism*" was adopted by DMS-4 describing the condition of failing to speak in certain selected situations thus negating the previous terms used earlier. This has classified SM as an anxiety disorder and a form of social phobia that needs further investigation (Krysanski, 2010; Muris & Ollendick, 2015; Muris, Hendriks, & Bot, 2016). Many etiological explanations exist for SM where cognitive-behavioral approaches are given more emphasis than psychodynamic factors in recent years (Krysanski, 2010; Wong, 2010).

Selective mutism is viewed by psychodynamic theorists as a manifestation of unresolved conflict where children fail to speak in certain situations as a means of coping mechanism for anger and anxiety and of punishment to their parents (Dow et al., 1995; Giddan et al., 1997). Such behavior is a result of underlying persistent oral or anal fixation existing in children (Giddan & Milling, 1999).

Behavioral theorists, on the other hand, perceive SM as a tool for manipulating the environment based on negatively reinforced learning where children's silence is a result of the surrounding social environmental triggers (Porjes, 1992; Leonard & Topol, 1993; Leonard & Dow, 1995; Anstendig, 1998; Krysanski, 2010). Such approach frames SM as a form of social anxiety. Others view it as a form of social phobia where children are reluctant to speak in public as a result of social phobia and anxiety (Black & Uhde, 1995; Melfsen, Walitza, & Warnke, 2006; Krysanski, 2010). This view was supported by several researchers such as Dummit et al. (1997) and Kristensen (2000). Other theorists perceive SM as the result of dissociative identity disorder in children (Jacobsen, 1995), faulty family relationships such as dominance, overprotection, strictness, fear, and distrust (Subak, West, & Carlin, 1982; Meyers, 1984; Anstendig, 1998) or reaction to trauma (Dow et al, 1995).

No matter what etiological explanation exists, understanding SM requires investigating the child's case history and the factors that led him/her to reinforce the mute behavior.

- **Causes of SM**

Selective mutism is shaped by various causes that act as a combination of genetic, temperamental, environmental, and developmental factors.

- **Genetic**

Studies have shown that genetic factors contribute to the mute behavior in children and that SM is reported to run in families with history of social anxiety symptoms in childhood (Chavira et al., 2007; Steinhausen & Adamek, 1997; Oerbeck et al., 2013). A positive history of SM was found in 10 out of 24 families having children with SM, with most families (except one) having at least one parent with the aforementioned symptoms during adolescence (Oerbeck et al., 2013). Another family history study of 38 children with SM reported a clear excess of the personality trait of reticence or silence in 1st–, 2nd–, and 3rd–degree relatives (Steinhausen & Adamek, 1997). This highlights the significance of familial background for outcome studies.

In a study published on a common genetic variation that is correlated with SM, it was found that the rs2710102 polymorphism of the contactin–associated protein–like 2 gene was associated with a higher risk of SM in children and higher symptoms of social anxiety in young adults (Stein et al., 2011). Further research on additional genes implicated with symptoms of social anxiety such as beta1–adrenergic receptor and catechol–O–methyltransferase genes, may lead to new associations with SM (Steim, Schork, & Gelernter, 2004; Stein et al., 2005).

- **Temperamental**

Behavioral inhibition is a temperament trait characterizing individuals with a tendency to show fearfulness and avoidance in unfamiliar situations. Although previous studies have indicated associations between SM and behavioral inhibition (Ford et al., 1998; Muris & Ollendick, 2015), this linkage needs to be further explored.

- **Environmental**

It has been consistently shown in the literature that higher rates of SM exist in bilingual children from immigrant families (Steinhausen &

Juzi, 1996; Elizur & Perednik, 2003; Toppelberg et al., 2005). SM; however, should not be misdiagnosed with the normal silent period seen in children with two languages (Toppelberg et al., 2005). Associated symptoms for proper diagnosis include prolonged or disproportionate mutism and presence of anxiety or inhibited behavior (Hua & Major, 2016).

- **Developmental**

Developmental delay, language difficulties, speech deficits, elimination and anxiety disorders, and motor delays are among the developmental factors contributing to the etiology of SM (Cleave, 2009; Hua & Major, 2016). Other neurodevelopmental factors such as aberrant auditory processing function also plays a role (Muchnik et al., 2013).

A case-control study carried out on 54 selectively mute children in Norway indicated that 68.5% of them met the criteria of developmental delay, 74.1% for any anxiety disorder, and 31.5% for an elimination disorder (Kristensen, 2000).

Language disorders or delays were also detected in selectively mute populations as noted by Kolvin and Fundudis (1981) and Manassis et al. (2007) whereas minor motor problems were reported by Kurth and Schweigert (1972) and Rosier (1981). Kristensen and Torgersen (2001) have indicated that selectively mute children without communication difficulties were more plausibly to have social anxiety as a family trait.

In a study conducted by Muchnik et al. (2013), 71% of children with SM had abnormalities in efferent auditory pathways compared to 16% of controls thus influencing how children perceive their own voices. Some children with SM also have sensory processing disorder making it difficult for them to process some sensory information and thus be sensitive to light, touch, smell, and taste (Muchnik et al., 2013). Such difficulties might lead to anxiety, frustration, and consequently withdrawal from such situations (Cheriyedath, 2018).

Studies show that children with SM have a low threshold or verge of excitability in a section of their brain called the amygdala. This clearly explains most of the behavioral issues these children reveal. The amygdala senses apparent uncertainty or insecurity by handling signals from the sympathetic nervous system. These students, while in gatherings such as parties and birthdays, feel horrified when the amygdala senses danger, risk, or threat (Cheriyedath, 2018).

- **Characteristics of Students with SM**

Children with SM experience remarkably higher levels of internalizing problems (e.g., shyness, inhibition) and symptoms of anxiety, social anxiety disorder, and other anxiety disorders when compared to controls (Alyanaka et al., 2013; Vecchio & Kearney, 2005).

However, concerning externalizing behaviors, the results are not consistent. Some studies pointed out that parent-reported aggressive and externalizing behavior problems were higher among children with SM than among the control children (Alyanaka et al., 2013; Kristensen, 2001), but other studies found that children with SM did not show higher rates of oppositional behavior (e.g., hyperactivity, negativism, defiance, and opposition) in either home or school setting compared to the controls (Cunningham, McHolm, & Boyle, 2006; Cunningham et al., 2004; Vecchio & Kearney, 2005). In other studies, teachers rated children with SM remarkably lower on subscales of attention-deficit hyperactivity disorder and oppositional defiant disorder compared to the controls (Cunningham et al., 2004).

Other studies focused on the social relationships of students with SM (Cunningham, McHolm, & Boyle, 2006; Diliberto & Kearney, 2016; Sharkey & McNicholas, 2008). Some of these studies pointed out that children with SM may show less social competence in both nonverbal and verbal social situations because of their withdrawal from social interactions (Carbone et al., 2010), may have difficulty making friends (Diliberto & Kearney, 2016; Sharkey & McNicholas, 2008), and may be rejected by peers or bullied (Sharkey & McNicholas, 2008). However, other studies found that children with SM were not victimized by peers any more than the control children (Cunningham et al., 2004). Finally, studies that examined social problems using self-report found that children with SM believed they were accepted and well-liked by peers despite parent-reported deficits of social skills (Cunningham, McHolm, & Boyle, 2006).

Selective mutism can interfere with social and academic functioning. Children with SM are excessively shy and socially isolated. They have a fear of embarrassment in front of a group so they cling to caregivers. They even have temper tantrums, oppositional behavior, and compulsive traits (Hurley, 2018).

- **Symptoms of SM**

Selective mutism can be characterized by lack of speech and communication that range from different social situations to selected social situations (Steffenburg et al., 2018). According to research, SM symptoms are particularly common in school and educational settings where the child encounters difficulties communicating to his/her teachers (Steffenburg et al., 2018).

In this respect and since SM is noticed in school settings, it is essential for educators to split apart the difference between shy behavior and symptoms of SM; these two should not be confused together (Kovac & Furr, 2019). Children with SM experience lasting challenges in developing social communication skills, in school and in engaging with peers or others (Kohrt, 2018). Therefore, a child who is shy will speak in other times normally. When s/he suffers from SM, s/he will resist communicating. This selective resistance to speech and communication should exist for at least a month to be considered a symptom of SM (Muris, Hendriks, & Bot, 2016). Moreover, such resistance should not be related to other factors such as lack of knowledge and might hinder other functions linked to school performance and social interactions (Muris, Hendriks, & Bot, 2016).

Likewise, other symptoms as anxiety disorders extend in adulthood to low self-confidence and lack of readiness or volition (Kohrt, 2018). Besides, according to Starke (2018), anxiety indicates the development of speechlessness, depression, panic disorders, dissociative disorders, obsessive-compulsive behavior, and Asperger's disorder. It is important to note that Asperger's disorder is a minor form of autism that obstructs social interactions, speech, and nonverbal communication, such as extreme awkwardness (Wong, 2010). These consequences and conditions can be long lasting as many studies indicate that children who experience SM might have communication issues, school/work performance problems, and other disorders (Muris, Hendriks, & Bot, 2016; Steffenburg et al., 2018).

- **Effects of SM on Language**

One of the most affected domains by SM is the language and communicative domains. Children with SM tend to experience speech difficulties in different situations and tend to develop speech and language

problems. In a study conducted on 54 children with SM, Kristensen (2000) reported that SM is associated with other developmental disorders that are related to motor skills, learning, and communication.

Hurley (2018) clarified that those students with SM struggle in understanding in class or when doing homework. They never speak out loud in case they didn't perceive the explanation. Armstrong, Blum, and Klein (2012) pinpointed that they also achieve low scores in assessments of receptive skills, to expressive ones as vocabulary. Plus, they find it hard to tell their own story. Thus, they suffer from expressive narrative language. Wong (2010) emphasizes on the importance of performing hearing tests to check whether a student suffers from any disorder that delays the use of language. He also assures that they have normal receptive and cognitive skills but find it difficult to express out loud when it comes to expressive skills as speaking. Sometimes, they fear speaking because of mispronouncing a word due to premorbid speech. They may develop language delay in silence. Wong (2010) adds also to test the receptive language; audio tapes to test fluency, pitch, rhythm, and inflection.

- **Diagnosis of SM**

There has been confusion regarding the diagnosis of SM especially in the absence of a clear, comprehensive, and uniform approach to address the diagnosis and treatment of SM (Holka-Pokorska, Pirog-Balcerzak, & Jarema, 2018). A recent classification has modified the diagnosis of SM from being under the category of "disorders of childhood and adolescents" to becoming under "anxiety disorders". Accordingly, it was noted that SM can be diagnosed in children and adults as a type of anxiety disorders and not a symptom related to other developmental or neurological disorders (Holka-Pokorska, Pirog-Balcerzak, & Jarema, 2018).

It is important to note that the diagnosis of SM has been controversial and inconsistent as some researchers consider it as an outcome of speech difficulties and not as a disorder (Holka-Pokorska, Pirog-Balcerzak, & Jarema, 2018). In fact, many theories and explanations have been linked to SM throughout the years.

In 1934, the term Elective Mutism (EM) was first given to denote the selective choice of verbal communication in certain situations. Throughout the years, many behavioral patterns were linked to this disorder and these

emphasized insubordination, communication withdrawal, and parental manipulation. The term EM was later replaced by SM to emphasize communication selectivity (Holka-Pokorska, Pirog-Balcerzak, & Jarema, 2018; Krysanski, 2010; Muris & Ollendick, 2015; Muris, Hendriks, & Bot, 2016;).

The diagnosis of SM includes a set of different conditions. These include failure to speak in specific situations, interference with educational and social performance, a minimal duration of one month, and lack of communication that is not attributed to lack of knowledge, developmental disorders, or speech/communicative issues (Holka-Pokorska, Pirog-Balcerzak, & Jarema, 2018).

- **Treatments of SM**

Treating SM aims at helping children speak in situations that were not comfortable to them earlier (Stone et al., 2002). Authors, researchers, and pediatricians emphasize the importance of employing a multi-modal and comprehensive approach to address SM (Holka-Pokorska, Pirog-Balcerzak, & Jarema, 2018). Such approach should combine both theory and diagnosis and should emphasize the involvement of the patients, parents, and school environment (Holka-Pokorska, Pirog-Balcerzak, & Jarema, 2018).

According to Oerbeck et al. (2018), the Cognitive Behavioral Treatment (CBT) is an effective treatment of SM. CBT is an intervention to increase speech and it can reduce stress and help in overcoming grief. Like other behavioral approaches, CBT focuses on modifying problematic behavior by considering factors such as emotions, environments, and mental wellbeing (Stone et al., 2002). Accordingly, CBT highlights the interconnectedness of thought/cognition and behavior and seeks to aid individuals in exploring such connection (Welsh, 2017).

Oerbeck et al. (2018) pointed out that long term outcome studies are inadequate and hence in their studies, the authors attempted to explore the effects of CBT through providing five-year outcome data. According to their study, CBT had evident positive outcomes on the long term and was effective in aiding children with SM (Oerbeck et al., 2018). The authors also acknowledged that it had been so challenging to treat SM and emphasized the importance of involving both parents and educators in treating SM (Oerbeck et al., 2018).

Additionally, Stone et al. (2002) noted that behavioral treatments are effective approaches in dealing with SM and they also emphasized the need to treat SM. As mentioned earlier, treating SM effectively necessarily needs the collaboration of parents and teachers. In this respect, it is important to note that teachers and educators play a pivotal role in discovering SM and addressing it.

Welsh (2017) identifies teachers and educators as "key players" in identifying and treating children with SM. According to the author, teachers are part of the intervention process, and they should be aware of situations where the child continuously refuses to communicate and talk (Welsh, 2017).

Oerbeck et al. (2018) recommended an exhaustive collaboration with teachers who are close at school and with parents at home because sometimes SM students likely fail to talk to therapists or counselors. In most cases, parents are present to help in clinics to decrease the feared stimuli/situation as verbal communication.

Then, they work on the cognitive reconstructing principles where they replace the fears in head with novice positive concepts. It appears promising after quoting the following: "In addition to the behavioral interventions such as contingency management, graded exposures tasks, modeling and shaping, relaxation training, and psych education including training of parents and educational staff on how to facilitate speech, the study used cognitive training externalizing the symptoms and cognitive restructuring. The outcome, mean 3 years after end of treatment was highly favorable, as 84% of the children had recovered from SM" (Oerbeck et al., 2018).

Another intervention is school-based where the child doesn't feel comfortable the most. The treatment starts at home in three sessions with parents and then alters to school. Psychoeducation and behavioral intervention occur when teachers and parents are both taught how to use defocused communication. Joyful and delightful activities are prescribed to reinforce speaking. This intervention is done twice a week in school for half an hour each for a period of six months. Withdrawal of the treatment happened in case the child started to speak freely before reaching the maximum length of treatment which is six months (Oerbeck et al., 2018).

- Conclusion

The causes and educational implications of SM are still largely unverified. Research into the topic is not abundant and often focuses on the psychological aspect rather than the learning one. This review article outlines the major causes, symptoms, and treatments to tackle the disorder, but unless an effort is made to recognize and dutifully study SM, little progress can be made to understand it.

Departing from what was discussed in this paper, the following implications can be reached. Firstly, SM should be diagnosed in early stages and teachers play a vital role in identifying it in classroom and educational settings. Secondly, teachers, educators, and parents should raise awareness on the matter and should be knowledgeable on how to identify and deal with SM. Additionally, treating SM should be a necessity and effective approaches like the ones explored in this article should be taken into account.

Consequently, this paper attempts to review the literature on SM and explore different aspects in relation to this topic. Future research should focus on studying different treatments and approaches to address SM and should focus on the long-term effects of such treatments.

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