International Journal of Community Medicine and Public Health
Esmail ME et al. Int J Community Med Public Health. 2021 Dec;8(12):6076-6080
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20214451

Review Article

Definitions, importance, and application of selective mutism questionnaire in the primary care setting

Mustafa E. Esmail[1]*, Manar B. Alharbi[2], Ibrahim S. Alayed[2], Mohammed S. Alqahtani[2], Hassan F. Aldeeb[3], Yazeed H. Alanazi[2], Hassan A. Almasoud[4], Omar A. Almohaimeed[2], Suhail M. Alharthi[5], Yousef H. Alsuhaiman[2], Tahani A. Doshi[6]

[1]Department of Psychiatry, Al Amal Mental Health Complex, Jeddah, Saudi Arabia
[2]College of Medicine, Qassim University, Qassim, Saudi Arabia
[3]College of Medicine, Medical University of Warsaw, Warsaw, Poland
[4]College of Medicine, Medical University of Lodz, Lodz, Poland
[5]College of Medicine, Nicolaus Copernicus University, Toruń, Poland
[6]Primary Healthcare, Ministry of Health, Dammam, Saudi Arabia

Received: 21 October 2021
Accepted: 30 October 2021

***Correspondence:**
Dr. Mustafa E. Esmail,
E-mail: Muustafa801@yahoo.com

ABSTRACT

Children with selective mutism might suffer from less frequent involvement in school activities, reduced social and cognitive abilities, in addition to being at increased risk of subjective suffering and developing other associated morbidities. There is a lack of evidence regarding the assessment modalities that should be used to evaluate selective mutism. However, recent data show that the selective mutism questionnaire (SMQ) is validated among different investigations with well-established psychometric properties. In the present literature review, we have discussed the definition, uses, and importance of the SMQ for children with selective mutism in primary care settings. Our results show that the different included studies indicate the sensitivity and reliability of the tool to assess the severity of behavioral speaking among these children. Besides, evidence has shown that the tool can be used to assess the impact of treatment on the behavioral outcomes of these children. Based on these data, it has been demonstrated that the treatment of selective mutism can significantly enhance the scores and the behavioral speaking patterns. However, these scores were still relatively lower than the ones estimated for the typically developing children. The impact of more intensive treatment modalities has been suggested but was not adequately validated, and therefore, further research is a must for adequate interpretation and validation of the current findings to achieve better outcomes.

Keywords: Selective mutism, Evaluation, Severity, Behavioral speaking, Psychology, Selective mutism questionnaire

INTRODUCTION

Selective mutism is a behavioral disorder that affects children is manifested by the complete or partial absence of speech within certain situations when the affected child is expected to speak. Evidence indicates that certain criteria should be observed among the affected children before establishing a diagnosis of selective mutism. These include the presence of interference that lasts for at least one month and is not attributed to the reduced exposure to knowledge about the mother tongue in the regions where the affected children reside.[1] Estimates indicate that the prevalence of the condition is not high (being 1% within the school population), however, it has been indicated that the condition is marked as seriously disabling for the affected children that might lead to significant impacts on

the lives of the affected children.[1] This might include less frequent involvement in school activities, reduced social and cognitive abilities, and increased risk of subjective suffering and developing other associated morbidities.[2,3]

There is a lack of evidence regarding the assessment modalities that should be used to evaluate selective mutism. Nevertheless, recent data show that the selective mutism questionnaire (SMQ) is validated among different investigations with well-established psychometric properties.[4] In the present literature review, we aim to report the definition, uses, and importance of the SMQ based on evidence from the current investigations in the literature.

METHODS

This literature review is based on an extensive literature search in Medline, Cochrane, and Embase databases which was performed on 16 September 2021 using the medical subject headings (MeSH) or a combination of all possible related terms, according to the database. To avoid missing poetential studies, a further manual search for papers was done through Google Scholar while the reference lists of the initially included papers. Papers discussing the definition, uses, and importance of the SMQ were screened for useful information. No limitations were posed on date, language, age of participants, or publication type.

DISCUSSION

Based on evidence from the current investigations, the SMQ has been widely used among the different studies to assess the severity of selective mutism. The tool has been well validated with validated reliability among the different previous investigations in the clinical setting. It has been demonstrated that the questionnaire is mainly formed of a total of 36 items that are mainly directed to parents of the affected children with selective mutism to assess the severity of symptoms and related manifestations among these children. It has also been demonstrated that the age of these children usually ranges between 3 and 11 years old. The questionnaire can be distributed among parents within different settings, including public settings, healthcare settings, homes, or among family members and schools. Based on the questionnaire structure, these parents assess the severity of the condition using a 4-point scale. Accordingly, evidence indicates that the child's speaking behavior can be significantly assessed by the frequency of these behaviors. The overall interference ratings were shown to significantly correlate with total scores that have been reported by parents using the questionnaire. The previous investigation by Bergman et al estimated a satisfactory internal consistency for the tool (α=0.74).[5] Another investigation by Cohan and colleagues also estimated high internal consistency for the tool (α=0.83).[6] This indicates the high reliability of the modality based on evidence from these investigations.

Evidence indicates that SMQ is the current single validated tool that can assess the frequency of non-speaking behaviors in events where the affected children with selective mutism are expected to speak. It has been demonstrated the questionnaire assesses the severity of the condition on various social and interpersonal levels. Furthermore, it assesses whether the severity of the condition interferes with the non-speaking behavior of the affected child. Many previous investigations have been conducted to assess the importance and psychometric properties of the questionnaire based on data from children with selective mutism. The importance and outcomes from using the SMQ have been investigated and indicated by many investigations that were conducted among the different primary care settings. For instance, a previous comparative investigation was conducted by Oerbeck et al that investigated the severity of symptoms using SMQ among children with selective mutism and other typically developing infants.[7] The authors of this study indicated that SMQ significantly detects and evaluates the symptoms of selective mutism and lack of speech, as it has been observed that typically developing children that were included in this investigation had higher scores on the SMQ than other children with selective mutism. This was furtherly indicated in the previous investigations by Manassis et al and Bar-Haim et al.[8,9] Evidence also indicates that the SMQ scores that were reported by parents of children with selective mutism ranged between 0 and 1 (never and seldom, respectively), while the mean SMQ for other typically developing children ranged between 2 and 3 (often and always, respectively).[7] This indicates that SMQ can significantly stratify the severity of the condition among children and should be used as a valid tool for the assessment of selective mutism.

Evidence also indicates that there is a difference between the public and home subscale scores of SMQ for typically developing children which were 2.0, and >2.5, respectively in this population.[7] This difference was also indicated among various investigations previously that also indicated that the estimated mean SMQ scores were found among children with selective mutism, in addition to furtherly indicating that speech scores were relatively smaller in public, as well.[2,4,10-13] Buzzella et al also indicated this finding in their investigation that was primarily conducted to assess the family factors and comorbidities that are usually associated with selective mutism among children aged 3-13% years old, and 42% were males.[14] A previous investigation by Bergman et al also used the SMQ to compare the scores between children with selective mutism and others with children with anxiety disorders.[4] It has been reported that the estimated mean scores for children with anxiety disorders were higher (>2.5) than children with selective mutism. These findings were reportedly similar to the aforementioned investigation by Oerbeck et al that compared children with selective mutism with typically developing children. The Frankfurt scale of selective mutism (FSSM) is a recently reported questionnaire also

for parents to assess similar findings that are usually assessed by the SMQ. In a previous investigation by Gensthaler et al it has been demonstrated that the scores among children with anxiety disorders and typically developing children were comparable as previously discussed.[15] However, the authors used the FSSM questionnaire. It is worth mentioning that the authors of this investigation reported that the estimated scores for children with social phobia were twice as high as the estimated score for their included populations with anxiety disorders and typically developing children. The estimated scores were also half as high as the estimated scores for children with selective mutism. Therefore, it has been demonstrated that these findings provide significant evidence regarding the differences in speaking behaviors among these children.

Evidence from various studies in the literature also investigated whether SMQ can detect the impact of treatment of children with selective mutism on the characteristic speaking behavior. These investigations showed that after treatment of children with selective mutism for 3 months, it has been noticed that the SMQ scores for these children significantly increased. On the other hand, no significant changes were noticed for children with selective mutism that were not similarly treated for the 3 months. This indicates the efficacy of the SMQ in assessing these variables. Evidence also indicates that estimated SMQ scores and speaking behaviors were not significantly increased over time. On the other hand, it was demonstrated by the SMQ scores and speaking behaviors were significantly enhanced among children with selective mutism following the administration of adequate treatment modalities.[7,13,16] Therefore, it has been concluded that the speaking behaviors do not resolve by time and need adequate application of interventions and management plans before achieving enhanced outcomes. However, evidence regarding this information is still scarce, and not a big number of investigations have studied this conclusion. Therefore, researching this finding should still be furtherly validated by additional future investigations.

It has been furtherly demonstrated that even though the estimated scores for children with selective mutism were significantly higher after treatment than before applying the treatment modalities, these scores were still lower than the estimated ones for typically developing children.[7] This difference was reported among the different investigations in the literature that used both the SMQ and the school speech questionnaire (SSQ).[2,10,11,16] Studies also show that the current evidence does not imply whether applying more intensive treatment modalities can increase the scores and make them similar to the normal children and enhance the speaking behaviors. It has also been reported that it is still unknown whether a group of children with selective mutism might suffer from a behavior-related permanent temperament concerning their speaking behavioral patterns.[17,18] Regarding the significance of the impact of one gender over the other when interpreting the data of the SMQ, it has been reported that no significant effects were noticed among children that either suffer from selective mutism or are typically developing. This indicates that the tool can be similarly applied among young male and female children.[4,7,19] Furthermore, evidence indicates that older children usually have a smaller score than other younger children at T2.[7] This has been attributed to the fact that the manifestations of selective mutism might not be significantly well-established among younger children. However, a previous long-term follow-up investigation showed that evidence is lacking regarding the appropriate interventions that should be applied for each group of patients, including the young and elderly population.[20] In this investigation, the authors suggested that for older children with selective mutism, another treatment modality should be offered by clinicians to significantly enhance the outcomes. For instance, in this context, it has been reported that using active cognitive restructuring might aid the management value when cognitive behavioral therapy has been planned for these patients. This has been indicated by the findings of a previous investigation that showed that favorable outcomes were noticed among older children with selective mutism that were treated with a cognitive component following a modular treatment plan.[12] In a recent Spanish investigation, the authors also suggested that the included parents did not notice any minor impact on the symptoms of selective mutism after the administration of relevant medications.[21] Therefore, it has been suggested that the administration of the anxiolytic medications does not impact the scores of the SMQ for children with selective mutism related to family, school, and social environments, although it has been indicated that it can significantly enhance the severity of the disease manifestations. Furthermore, the authors of this investigation also reported that the differences among the included groups were notable between children that had Spanish as their mother tongue and others that were not. Consequently, having another language other than the mother one can significantly enhance the outcomes of treatment among children with selective mutism as indicated by the SMQ scores. The validity of the SMQ in evaluating the effect of treatment over children with selective mutism has been validated by many worldwide investigations and in different languages.[7,16,19] Finally, we encourage that researchers conduct further investigations to overcome the current limitations among the included investigations in the current literature review. For instance, most studies did not compare the scores among the different populations of children over time, including children subjected to a treatment plan and others not. These two populations should also be compared with a normal group of children, indicating the need to conduct 3-armed comparative investigations to properly assess the efficacy of the SMQ in assessing the severity of selective mutism. Furthermore, the follow-up period was insufficient among some investigations which might not also be adequate to

assess the effectiveness of certain treatment plans applied to children with selective mutism.

CONCLUSION

Our results show that the different included studies indicate the sensitivity and reliability of the tool to assess the severity of behavioral speaking among these children. Besides, evidence has shown that the tool can be used to assess the impact of treatment on the behavioral outcomes of these children. Based on these data, it has been demonstrated that the treatment of selective mutism can significantly enhance the scores and the behavioral speaking patterns. However, these scores were still relatively lower than the ones estimated for the typically developing children. The impact of more intensive treatment modalities has been suggested but was not adequately validated, and therefore, further research is a must for adequate interpretation and validation of the current findings to achieve better outcomes.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. American Psychiatric Association A. Diagnostic and statistical manual of mental disorders. Vol 3: American Psychiatric Association Washington, DC. 1980. Available at: https://www.psychiatry.org/psychiatrists/practice/dsm. Accessed on 15 July 2021.
2. Cornacchio D, Furr JM, Sanchez AL, Hong N, Feinberg LK, Tenenbaum R, et al. Intensive group behavioral treatment (IGBT) for children with selective mutism: A preliminary randomized clinical trial. J Consult Clin Psychol. 2019;87(8):720-33.
3. Steffenburg H, Steffenburg S, Gillberg C, Billstedt E. Children with autism spectrum disorders and selective mutism. Neuropsychiatric Dis Treatment. 2018;14:1163-9.
4. Bergman RL, Keller ML, Piacentini J, Bergman AJ. The development and psychometric properties of the selective mutism questionnaire. J Clin Child Adolesc Psychol. 2008;37(2):456-64.
5. Bergman R, Keller M, Wood J, Piacentini J, McCracken J. Selective Mutism Questionnaire (SMQ): development and findings. Poster session presented at the American Academy of Child and Adolescent Psychiatry, Honolulu. 2001.
6. Cohan SL, Chavira DA, Shipon-Blum E, Hitchcock C, Roesch SC, Stein MB. Refining the classification of children with selective mutism: a latent profile analysis. J Clin Child Adolesc Psychol. 2008;37(4):770-84.
7. Oerbeck B, Overgaard KR, Bergman RL, Pripp AH, Kristensen H. The Selective Mutism Questionnaire: Data from typically developing children and children with selective mutism. Clin Child Psychol Psychiatry. 2020;25(4):754-65.
8. Manassis K, Tannock R, Garland EJ, Minde K, Mc IA, Clark S. The sounds of silence: language, cognition, and anxiety in selective mutism. J Am Acad Child Adolesc Psychiatry. 2007;46(9):1187-95.
9. Bar-Haim Y, Henkin Y, Ari-Even-Roth D, Tetin-Schneider S, Hildesheimer M, Muchnik C. Reduced auditory efferent activity in childhood selective mutism. Biol Psychiatry. 2004;55(11):1061-8.
10. Catchpole R, Young A, Baer S, Salih T. Examining a novel, parent child interaction therapy-informed, behavioral treatment of selective mutism. J Anxiety Disord. 2019;66:102112.
11. Klein ER, Armstrong SL, Skira K, Gordon J. Social Communication Anxiety Treatment (S-CAT) for children and families with selective mutism: A pilot study. Clin Child Psychol Psychiatry. 2017;22(1):90-108.
12. Lang C, Nir Z, Gothelf A. The outcome of children with selective mutism following cognitive behavioral intervention: a follow-up study. Eur J Pediatr. 2016;175(4):481-7.
13. Oerbeck B, Stein MB, Wentzel-Larsen T, Langsrud Ø, Kristensen H. A randomized controlled trial of a home and school-based intervention for selective mutism – defocused communication and behavioural techniques. Child Adolesc Mental Health. 2014;19(3):192-8.
14. Buzzella BA, Ehrenreich-May J, Pincus DB. Comorbidity and family factors associated with selective mutism. Child Develop Res. 2011;909508.
15. Gensthaler A, Dieter J, Raisig S. Evaluation of a Novel Parent-Rated Scale for Selective Mutism. Assessment. 2020;27(5):1007-1015.
16. Bergman RL, Gonzalez A, Piacentini J, Keller ML. Integrated Behavior Therapy for Selective Mutism: a randomized controlled pilot study. Behav Res Therap. 2013;51(10):680-9.
17. Muris P, Hendriks E, Bot S. Children of Few Words: Relations Among Selective Mutism, Behavioral Inhibition, and (Social) Anxiety Symptoms in 3- to 6-Year-Olds. Child Psychiatry Human Develop. 2016;47(1):94-101.
18. Gensthaler A, Khalaf S, Ligges M, Kaess M, Freitag CM, Schwenck C. Selective mutism and temperament: the silence and behavioral inhibition to the unfamiliar. Eur Child Adolesc Psychiatry. 2016;25(10):1113-20.
19. Letamendi AM, Chavira DA, Hitchcock CA, Roesch SC, Shipon-Blum E, Stein MB. Selective Mutism Questionnaire: measurement structure and validity. J Am Acad Child Adolesc Psychiatry. 2008;47(10):1197-204.
20. Oerbeck B, Overgaard KR, Stein MB, Pripp AH, Kristensen H. Treatment of selective mutism: a 5-year follow-up study. Eur Child Adolesc Psychiatry. 2018;27(8):997-1009.

21. Olivares-Olivares PJ, Alcázar Á, Núñez Núñez R, Olivares J. Psychometric propierties of the Selective Mutism Questionnaire in Spanish children. Int J Clin Health Psychol. 2021;21:100249.

Cite this article as: Esmail ME, Alharbi MB, Alayed IS, Alqahtani MS, Aldeeb HF, Alanazi YH. Definitions, importance, and application of selective mutism questionnaire in the primary care setting. Int J Community Med Public Health 2021;8:6076-80.