

1 **Introduction**

2 Selective mutism was first defined by Kusmaull in 1877 as ‘one who had no mental health
3 problem, but preferred not to speak with others’(1), but the term was coined by Tramer in
4 1934 (2). According to ICD-10, selective mutism is characterized by normal or near-normal
5 comprehension of the spoken language, sufficient expressive language to form social
6 interactions and in some cases, normal or almost normal speech(3). Usually it emerges during
7 early childhood and its incidence is comparable in both genders. Prevalence is between 0.3
8 and 0.8 per 1,000 in the population (4).

9 Selective mutism is considered difficult to treat, because it is important for the treatment to
10 include speech therapists, teachers, school counselors and the families, in addition to child
11 psychiatrists. Sometimes, it can be difficult to organize such multi-discipline treatment.

12 In the treatment of selective mutism, suggestion, persuasion, conversion, psychodynamically
13 oriented play therapy, hypnosis, family therapy, and behavioral therapy have been used (5).
14 The use of pharmacology as a treatment method for selective mutism has only begun to be
15 tested empirically within the last decade, beginning with a case presented in 1990 (6). Many
16 treatment strategies involve the alleviation of anxiety. These include pharmacological,
17 behavioral, individual, group and family approaches (7,8).

18 There are some studies suggesting that psychopharmacological treatments are also effective in
19 selective mutism (9,10,11).

20 Some studies show that citalopram is also associated with successful results in the treatment
21 of anxiety disorders in children and adolescents (12, 13,14). Citalopram was reported to be
22 effective in a case with obsessive compulsive disorder and comorbid selective mutism,
23 accepted as a variant of social phobia. (15). Escitalopram has been shown in clinical trials to
24 improve anxiety symptoms associated with depression, panic disorder, and social anxiety
25 disorder (16).

26 The cases in this study have been diagnosed according to DSM-IV criteria and followed by
27 the same physician.

28 The aim of this study is to present two cases of selective mutism successfully treated with
29 citalopram and two cases successfully treated with escitalopram.

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32 **CASE 1:** Patient F, who is now 9 years old, has had selective mutism since he was 5 years
33 old. There were no complications during pregnancy, birth or the neonatal period. He walked
34 when he was 13 months old, said his first words at 15 months, and started forming sentences
35 when he was 2 years old. No trauma or serious physical disorders are reported. His
36 development was uneventful until he was 5 years old, and his speech developed normally.

37 The Denver Development Test was administered by the patient's previous pediatrician and no
38 developmental problems were detected.

39 The language sub-section of the development chart at the day-care center he attended from 3
40 to 3.5 years of age showed that he knew many words and he was able to form three- to
41 four- word sentences.

42 Family history: His mother reports that neither she nor her family have any mental disorders
43 or speech impediments. His father also denied any mental disorders, but he first spoke when
44 he was about 3 years old; apart from this, neither he nor his family have had any mental or
45 speech problems.

46 Symptoms: Patient F started forming sentences at age 2 and his speech followed its normal
47 developmental course until he was 5, being able to communicate with both family members
48 and strangers. After this age he began to talk only occasionally with his parents, and never
49 with strangers. He seemed to continue to communicate with his brother, who is two years
50 older. His parents report that he looked very uncomfortable when there were guests in the
51 house, that he did not make much eye contact, and usually went to another room. When they
52 were out of the house he usually avoided crowded settings with strangers, and when he had to
53 enter such a place he talked to no one, withdrew and looked very anxious, had hot flushes and
54 broke into a sweat. He rarely played with children other than his brother, but even then he
55 remained passive and when someone yelled at him or bullied him, he wouldn't defend
56 himself, but cried instead.

57 During his examination, he did not talk with the doctor at all, made scarce eye contact, looked
58 very uneasy and tearful.

59 Previous treatment: When he was 5 years old, he was taken to a child psychiatry clinic and
60 was treated with behavioral therapy for 6 months, and with fluoxetine 20 mg/d for 3 months,
61 without any visible benefits.

62 Treatment: After a full examination, treatment that consisted of citalopram 10 mg/d was
63 started. After 1 month of therapy his parents reported that he was much more active in the

64 house, talked with them more often, still did not talk to guests but was more comfortable and
65 active in their company, and communicated more with his brother. He spoke a few words with
66 the doctor at this examination. Citalopram was increased to 20 mg/d, and at the next
67 examination one month later his parents reported that he spoke with them much more, he
68 began to oppose some of their requests, he began to speak with guests, played with children in
69 the neighborhood more, in a more relaxed way, talked to them and defended himself when
70 necessary. During the examination he answered all the questions asked by the doctor. At
71 seven months of 20 mg/d citalopram therapy, patient F. started attending school and for one
72 year now he has continued to communicate with his teacher and classmates in a normal way.

73 The Wechsler Intelligence Scale for Children, Revised (WISC- R) was administered after he
74 started speaking; total IQ was 100 (verbal IQ 89, performance IQ 95, and the verbal subtest of
75 vocabulary was 90)

76 After he recovered, his teacher reported that he was talking to him/her and his friends, he was
77 able to answer his questions, and his performance was parallel to the class average.

78 **CASE 2:** Patient K, who is 11 years old, was first brought to our clinic when he was 9 and has
79 had selective mutism since he was 5 years old.

80 There were no complications during pregnancy or the neonatal period. There is no history of
81 trauma or serious illness. He walked at 20 months and began to form single words at 20
82 months. He began to form sentences when he was 3 years old. The Denver Development
83 Screening Test was administered between 3.5 and 4.5 years of age at the day-care center he
84 attended; the social development scores were consistent with his age. Also, the development
85 chart showed that he could express himself using long and multiple sentences.

86 Until he was five, he spoke normally with his parents, but rarely with strangers, and if he did,
87 it was in a very low voice. As he was late in walking and talking, he was taken to the doctor,
88 but no abnormality was found, except that developmentally he had motor retardation.

89 Family history: Both his mother and father deny any mental disorders or speech problems,
90 either for them or their families. They state that Patient K's two-year-younger brother is also
91 normal.

92 Symptoms: Patient K's parents report that he has been speaking to them in a low voice since
93 he was 5, he has not communicated with anybody else and he has not played with other
94 children in the neighborhood. When someone talked to him he would lower his head and cry;
95 he could not defend himself, when there were guests in the house or when he was in

96 unfamiliar settings he was very uneasy and began to sweat. He would begin to cry when
97 someone insisted upon getting an answer from him. Although he has been attending school
98 for the last four years, he does not communicate with his teacher or his classmates, uses his
99 notebook in a disorderly way; his grades were low and he had to repeat a year. When his
100 teacher forced him to speak he cried, he did not play with his classmates, and was very
101 uncomfortable amongst them. He did not communicate with the doctor during his
102 examination. WISC- R administered after he recovered showed the following: total IQ 90
103 (performance IQ 95, verbal IQ 87 and vocabulary subtest 90).

104 Previous treatment: He had received fluoxetine 10 mg/d therapy, but no satisfactory results
105 were achieved.

106 Treatment: Citalopram 10 mg/d was started. During the first two months he gradually spoke
107 more with his parents and brother, began to ask questions, still did not talk to strangers, but
108 began to look more comfortable in their presence. At this time, citalopram was increased to 20
109 mg/d and after one month he began to communicate a little with strangers, and he talked with
110 the doctor during his examination. The dosage was increased to 30 mg/d, after which he
111 began to communicate with strangers more, he talked with his teacher at school, and appeared
112 more relaxed in the company of strangers. He received citalopram 30 mg/d for six months in
113 total, and for the last three months the dose was reduced to 20 mg/d. There was a continuous
114 increase in his communication with strangers, with no regression.

115 After he recovered, his teacher reported that he was talking to him and his friends with no
116 communication problems, and his school performance was slightly lower than the average.

117 **CASE 3:** Patient OA is a nine year old boy attending the third grade in primary school. The
118 family came to see a child psychiatrist because he had never talked to anybody except his
119 mother, father and school teacher. He talked to his mother freely but rarely and a few words to
120 his father and teacher only when he needed to. No learning problems were reported. He
121 completes homework, and is successful in written examinations. He is described as nervous
122 and scornful.

123 The WISC-R administered after recovery showed the following: total IQ 98 (performance IQ
124 104, verbal IQ 92, vocabulary subtest 90).

125 During the initial visit, he did not talk to the psychiatrist, despite the latter's efforts.

126 The pregnancy of patient OA's mother was reported to be normal and no health problems
127 occurred. She had a normal delivery; no complications arose.

128 Patient OA started walking at the expected age, although he is physically retarded. He is 116
129 cm. tall, and weighs 19 kg at present. His cholesterol levels are above normal limits (230 mg).
130 He continues his follow-up visits at the endocrinology department.

131 He was diagnosed as having scoliosis a few months ago and prescribed a supporter. He has a
132 nocturnal enuresis, which has become worse since the application of the supporter.

133 He was prescribed escitalopram 5 mg/day at his initial visit.

134 On the second visit, after being treated for 20 days, his mother reported that he had nausea for
135 the first few days and that his aggression had increased. She also reported that he had been
136 talking to his father and to his teacher to a greater extent. He answered all the psychiatrist's
137 questions during this examination.

138 On the third visit, on the 35th day of treatment, he was reported to be more cheerful, in
139 contrast to being quieter before. He had made jokes, had wanted to go out, had talked to his
140 father. His school teacher reported that he had teased his friends in school, he was more
141 energetic, talked too much and had been cautioned for this increased talking. On this visit, the
142 psychiatrist observed that patient OA talked more freely and answered all questions. If he was
143 reminded of causing mischief, he defended himself.

144 The 4th visit was on the 50th day of treatment. His mother reported that patient OA had
145 spoken to many people. She reported that he had overcome his problem, but was untidy and
146 stubborn at home. The psychiatrist observed that he interrupted his mother and talked freely.

147 No side effects were noted during the on-treatment assessments. His teacher evaluated him as
148 being talkative, after taking into account that he was not talking at all previously, but in fact
149 his talking was normal.

150 The treatment lasted 4 months. No symptom recurrence has been reported in the two and a
151 half months since stopping treatment.

152 **CASE 4:** Patient V, who is now 8 years old, has had selective mutism since she was 5 years
153 old. There were no complications during pregnancy, birth or the neonatal period. She walked
154 when she was 11 months old, said her first words at 12 months, and started forming sentences
155 when she was 2 years old. Her development was uneventful until 5 years old and her speech
156 developed normally.

157 The Denver Development Test was administered by the patient's previous pediatrician and
158 no developmental problems were detected.

159 Family history: Her mother reports that neither she nor her family have had any mental
160 disorders or speech impediments. Her father reports that neither he nor his family have had
161 any mental disorders or speech impediments.

162 Symptoms: Patient V started forming sentences at age 2 and her speech followed its normal
163 developmental course until she was 5, being able to communicate with both family members
164 and strangers. After this age she began to talk only occasionally with her parents, and never
165 with strangers. Her parents reported that she looked very uncomfortable when there were
166 guests in the house, that she did not make much eye contact and usually went to another room.
167 She did not communicate with her teacher or her classmates. When her teacher forced her to
168 speak, she cried, would not play with her classmates, and was very uncomfortable amongst
169 them.

170 During her examinations, she did not talk with the doctor at all and looked very uneasy and
171 tearful.

172 Treatment: After a full examination, treatment with escitalopram 5 mgr/d was started. After
173 one month of therapy her parents reported that she is much more active in the house and
174 talked with them more often. She spoke a few words with the doctor at this examination.
175 Escitalopram was increased to 10 mgr/d and at the next examination one month later her
176 parents reported that she was speaking with them much more, that she had begun to oppose
177 some of their requests, and she had begun to speak with guests and played with other children
178 in the neighborhood more, in a more relaxed way; she had begun talking to them and
179 defending herself when necessary. During the examination she answered all the questions
180 asked by the doctor.

181 No side effects were noted during the on-treatment assessments.

182 The treatment lasted 4 months. No symptom recurrence has been reported in the three months
183 since stopping treatment.

184 Wechsler Intelligence Scale for Children, Revised (WISC- R) was administered after she
185 started speaking; total IQ was 107(verbal IQ 104, performance IQ 108).

186 After she recovered, her teacher reported that she was talking to him and to her friends, she
187 was able to answer his questions, and her performance was parallel to the class average.

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190 **DISCUSSION**

191 In this case series, we demonstrated that children with selective mutism benefited from
192 citalopram –an SSRI antidepressant agent- treatment. In all cases, symptoms of social phobia
193 were present alongside selective mutism. After citalopram treatment, the children began to
194 speak in situations in which they had been taciturn before, and began to enter strange settings
195 that they had been avoiding. They were no longer uncomfortable with strangers, began to act
196 more relaxed, were able to defend themselves against other kids, and began to reveal their
197 wishes more freely. These results support the view that there is a connection between
198 selective mutism and social phobia. There were no side effects during the treatment period.

199 There is a concept that regards selective mutism as a variant of social phobia (9,10).

200 In social phobia, the person experiences anxiety, shyness, and fear of scrutiny, affecting
201 performance in general (17), while in selective mutism the person experiences anxiety in
202 some certain situations requiring verbal communication. Also, this can be accompanied by
203 some features of social phobia such as social anxiety, withdrawal, sensitivity (3) and extreme
204 shyness, fear of social failure, and avoidance from social life(18). Medications, such as
205 antidepressants containing SSRI shown to be helpful for treating social phobia, have been
206 increasingly used to treat children with SM (19). There are a variety of different theories
207 about what causes selective mutism. One of those theories is that selective mutism is not a
208 disorder, but rather a manifestation of social phobia (6,9,10). There are some studies
209 suggesting that psychopharmacological treatments are also effective in selective mutism
210 (9,10, 11, 12).

211 There are only a few publications concerning the use of citalopram and other SSRIs in
212 selective mutism. We believe that the effects of citalopram, escitalopram, and other SSRIs on
213 children with anxiety disorders and selective mutism should be further investigated with
214 controlled trials.

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221 **REFERENCES:**

- 222 1. Kussmaul A. Die Störungen der Sprache. Leipzig, FCV Vogel; 1877.
- 223 2. Tramer M. Elective mutism. Z. Kinderpsychiatr 1934; 1:30-35.
- 224 3. World HealthOrganization. ICD- 10 international classification of mental disorders.
225 Geneva: World Health Organization; 1992.
- 226 4. Brown JB, Lloyd H. A controlled study of children not speaking at school. J Assoc
227 Workers Maladjust Child 1975;49-63.
- 228 5. Browne E, Wilson V, Layborn PC.Diagnosis and treatment of elective mutism in
229 children.J Am Acad Child Psychiatry1963; 2: 605-617.
- 230 6. Glowny DH, Weinstock RC. Phenelyzine treatment of elective mutism.Journal of
231 Clinical Psychiatry 1990; 51: 384-385.
- 232 7. Dow SP, Sonies BC, Scheib D, Moss SE, Leonard HL. Practical guidelines for
233 the assessment and treatment of selective mutism. J Am Acad Child Adolesc
234 Psychiatry 1995; 34(7): 836-846.
- 235 8. Wright HH, Holmes GR, Cuccaro ML, Leonhardt TV . A guided bibliography of
236 selective mutism (elective mutism) literature. Psychol Rep 1994;74:995-1007.
- 237 9. Black B, Uhde TW.Elective mutism as a variant of social phobia. J Am Acad Child
238 Adolesc Psychiatry1992; 31:1090-94.
- 239 10. Black B, Uhde TW. Fluoxetine treatment of elective mutism; a double blind placebo
240 controlled study. J Am Acad Child Adolesc Psychiatry 1994; 33: 1000-1006.
- 241 11. Dummit ES , Klein RG, Tancer NK, Asche BK, Martin J. Fluoxetine treatment of
242 children with selective mutism: an open trial.J Am Acad Child Adolesc Psychiatry
243 1996;35:615-621.

- 244 12. Lepola U, Leisonen E, Koponen H. Letter to the editor- Citalopram in anxiety
245 disorder of childhood and adolescence. *Eur Child and Adolesc Psychiatry* 1994; 3:
246 277-279.
- 247 13. Sourander A. Case study: Selective serotonin reuptake inhibitors in the treatment of
248 severely disturbed preadolescents with comorbid diagnosis. *Nord J Psychiatry* 1999; 3:
249 431-433.
- 250 14. Lepola U, Leinonen E, Koponen H. Citalopram in the treatment of early onset panic
251 disorder an school phobia. *Pharmacopsychiat* 1996; 29:30-32.
- 252 15. Thomson PH., Rasmussen G., Anderson CB.: Elective mutism: A 17-year old girl
253 treated success fully with citalopram. *Nord J Psychiatry* 1999; 53: 427-429.
- 254 16. Davidson JRT, Bose A, Korotzer A. Escitalporam in the treatment of generalized
255 anxiety disorder: Double- blind, placebo controlled flexible dose study. *Depression and*
256 *Anxiety*. Published online 2004; 19(4): 234-240.
- 257 17. Bernstein GA, Layne AE. Introduction: Social Phobia. In: Sadock BJ, editor.
258 *Comprehensive Textbook of Psychiatry*. New York: Lipincott Wiliam & Wilkins;
259 2005.
- 260 18. American Psychiatric Association: *Diagnostic and Statistical Manual of Mental*
261 *Disorders, Fourth Edition*. Washington: DC, American Psychiatric Association; 1994.
- 262 19. Dow SP, Sonies BC, Scheib D, Moss SE, Leonard HL. Practical guidelines for
263 the Assessment and treatment of selective mutism. *J Am Acad Child Adolesc*
264 *Psychiatry* 1995; 34(7):836-846.
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