

# Comparison of parenting style in mothers of children with and without stuttering: a case-control study

Maryam Eshghizadeh<sup>1</sup>, Mehdi Basiri Moghadam<sup>2</sup>, Tahereh Baloochi Beydokhti<sup>3</sup>, Elahe Banafshe<sup>4</sup>, Samaneh Najafi<sup>5</sup>, Arezo Kiyani<sup>6</sup>

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1. Lecturer of Pediatrics Nursing Department, School of Nursing and Midwifery; Social Development & Health Promotion Research Center, Gonabad University of Medical Sciences, Gonabad, Iran

2. **Correspondence to:** Lecturer of Pediatrics Nursing Department, School of Nursing and Midwifery; Social Development & Health Promotion Research Center, Gonabad University of Medical Sciences, Gonabad, Iran

Tel/Fax: +98 533 7229025

E-mail: basiri1344@gmail.com

3. Lecturer of Medical-Surgical Nursing Department, School of Nursing and Midwifery, Gonabad University of Medical Sciences, Gonabad, Iran

4. Lecturer of Midwifery Department, School of Nursing, Gonabad University of Medical Sciences, Gonabad, Iran

5. BS in Nursing, Student Research Committee, Gonabad University of Medical Sciences, Gonabad, Iran

6. BS in Nursing, Student Research Committee, Gonabad University of Medical Sciences, Gonabad, Iran

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## Introduction

Stuttering is a developmental speech disorder [1] and often begins during the preschool years when child's speech and language skills are developed [2]. Child's efforts to learn speech and normal stresses of development can accelerate the repeating of sounds, pauses in production, prolongation of sounds that

## Abstract

Stuttering is an interactional disorder. Parents' relationship with children is the most effective factor on family interaction patterns. Since the progress of each child in learning language is derived from a complex combination of environmental and biological factors, this study was conducted to compare parenting style in mothers of stuttering and non-stuttering children. This case-control study was conducted, on 60 children with stuttering selected by convenience sampling as the control group among elementary school children and all children who went to the speech therapy centers as the case group and 120 children without stuttering were selected by random sampling as the control group. Two groups were matched in terms for residence, sex and age. The main variables were parenting style and stuttering. The data collection form and Baumrind parenting style questionnaire were completed by mothers. Data were analyzed by SPSS-19. The mean scores were 41.3 ( $\pm 3.8$ ) and 42.5 ( $\pm 4.2$ ) for authoritative parenting style, 25.9 ( $\pm 3.8$ ) and 26.4 ( $\pm 4.1$ ) for permissive style, and 29.2 ( $\pm 7.2$ ) and 25.7 ( $\pm 5.6$ ) for authoritarian style in case and control groups, respectively. The mean score of authoritarian style was significantly higher in case group than in control group. The mean score of authoritarian parenting style in mothers of stuttering child was more than in mothers of children without stuttering. Therefore, further studies are recommended on parenting style and stuttering

**Keywords:** Child, Mother, Parenting Style, Stutter

is defined as stuttering [3]. The overall prevalence of stuttering in preschool children is 2.4% [4]. Compared to the prevalence, the incidence of stuttering is more, about 5% [4]. Stuttering has a significant effect on energy, social functioning, as well as emotional and mental health status [5]. Children with speech disabilities are at greater risk of anxiety

disorders in early adulthood [6]. The etiology of stuttering is complicated [7]. Recent studies show that different factors have a role in stuttering such as genetics, inheritance, language skills of the child and the child's ability to move his mouth when talking, the child's mood and the reaction of people who are around the child [8]. Stuttering children are more sensitive, although, mood and nature are relatively static and are genetically determined, they can be influenced by environmental factors [9]. The result of a study conducted by Anderson showed that there is a potential association between the child's nature and stuttering that can be adjusted by parental behaviors [10].

When parents are talking with a stuttering child, they may indicate a feeling of fear, anxiety, and shame, restlessness and pity with their gesture or body movements. Their negative feeling and attitude have an effect on the child at risk for stuttering. The child feels the way he speaks is bad so tries not to stutter which will lead the child to struggle with words more. When a child is more aware about the problem in speech, he may experience a feeling of guilt, hopelessness, low self-esteem, and expect social disapproval [11]. In 2011, Lau concluded that stuttering children to their peers thought that their parents have lower attachment to their peers [7]. Parents should try to accept the child through paying attention to what he says, regardless of stuttering [3]. Self-esteem and acceptance of the child highly depend on the acceptance of the others especially parents [8]. Providing tranquility and relaxed and quiet lifestyle at home can be incredibly useful in treating stuttering [12]. Parents' communication with children is the most effective factor on family interactional patterns [13]. The relationship between parents and child and other family members can be considered as a system or network in which they interact with each other, this system affects children directly or indirectly through different parenting styles [14]. Parenting style means the methods parents apply to educate their children and includes criteria and regulations that they set for their

children [15]. Baumrind classified parenting styles into three types of authoritative, permissive and authoritarian. Each style has a different effect on development [16]. Studies suggest that the best developmental results are along with authoritative style [17]. Parents with authoritarian style expect that children obey their demands without question and they are less likely to talk with them and they may have expectations from the child that is more than his developmental ability [18]. Recent studies show that many families use inappropriate educational practices that will be the origin of fear, low self-esteem, dissatisfaction, pessimism and anxiety in their children [13]. Few studies have been conducted on parenting style and stuttering. The results of the study by Johnson showed that parents of stuttering children were more domineering, authoritarian and aggressive [19]. Since stress affects child's development and even stuttering children experience a worse situation in stressful conditions, how parents communicate with their children and the type of parenting style cannot be without effect. Given that few studies have been conducted on the relationship between parenting style and stuttering and their results are controversial, more studies are needed in this regard. Therefore, this study aimed to compare parenting styles in mothers of children with and without stuttering.

### **Method**

This case-control study was conducted on 3- to 13-year-old children with stuttering in cities of Gonabad and Torbat-e Heydarieh in spring 2012, where 60 children with stuttering were selected through convenience sampling and 120 children without stuttering were selected through random sampling. Sample size was determined after conducting guide study and by using a ratio comparison formula at CI 95% and power of 80%. For sampling, all children attending the only Speech Therapy centers of Gonabad and Torbat-e Heydarieh were selected as case group if they met the inclusion criteria. Because few stuttering

children attended the Speech Therapy Center of Gonabad, after obtaining permission, stuttering children of elementary schools in Gonabad were identified and selected. Then for each stuttering child, two non-stuttering children were randomly selected as the control group. Two groups were matched for residence, sex and age. Inclusion criteria included the age of children (3-13 years), not being bilingual, not having breathing difficulty, the lack of ADHD, not being mentally retarded, and willing to participate in the study. The variables were parenting style, stuttering, education, parents' jobs, income level, child's kind of punishment by parents, the history of speech disorders in the family and stressful incidents before stuttering occurs etc. Research tools included data collection forms and Baumrind Parenting Style Questionnaire. The questionnaire was made by Baumrind (1967) after lengthy studies. The questionnaire includes 30 items: 10 for permissive parenting style, 10 for authoritative style and 10 for authoritarian style. The score range of each style is from 10 to 50. Validity of Baumrind parenting style questionnaire has been approved by Buri using discriminant validity method. Also in Iran, Esfandiari approved the content validity of the questionnaire using retest and obtained the reliability of 0.69 for permissive style, 0.77 for authoritarian style and 0.73 for authoritative style [20]. In this research, the internal

consistency index of the questionnaire was equal 0.63 using Cornbrash's alpha. Construct validity was measured using varimax rotation in factor analysis method, where KMO index equaled to 0.56 and  $\chi^2$  equaled to 2030.163 in Bartlett test and significance level was set at 0.05 indicating correlation of the items in the community. According to factor analysis performed based on Kaiser's criterion, three factors were identified to explain 40% of variance of 30 variables. Data collection forms were made in two separate forms for children with and without stuttering and its validity was confirmed by content validity. Research units were identified and then Baumrind parenting style questionnaire was delivered to parents to complete through self-report and return it to researchers. Finally, data were analyzed by the SPSS-19 and at the significance level of 0.05. To compare the mean of styles in two groups, independent t-test was used. The regression was used to examine the relationship between influential variable son stuttering and parenting style.

**Results**

Boys comprised the majority of children with stuttering with a frequency of 63.4%. Minimum and maximum age of the research units was 3 and 13 years old, respectively. The mean age of children with stuttering was 8.5 (SD 2.1) (Table 1). 18.7% of stuttering

The flowchart of evaluated study in terms of being qualified to participate (N=220)

Control group		Case group	
Evaluation for being qualified to participate (N=140)		Evaluation for being qualified to participate (N=75)	
Excluded (N=10)		Excluded (N=10)	
Failure to meet inclusion criteria (N=6)		Failure to meet inclusion criteria (N=5)	
Reject participating (N=4)		Reject participating (N=5)	
Follow-up			
Failure to complete the questionnaire (N=10)		Failure to complete the questionnaire (N=5)	
Analysis			
Analyzed (N=120)		Analyzed (N=60)	
Excluded from data analysis (N=0)		Excluded from data analysis (N=0)	

**Table 1** The comparison of mean age of children and their parents in the case and the control groups

Group	Stuttering children	Non-stuttering children	Independent t-test		
			Mean difference	P-Value	95% confidence interval
Index	Mean (±SD)	Mean (±SD)			
Child's age	8.53(2.11)	8.88(2.12)	-0.350	0.3	-1.011– 0.311
Mother's age	32.1(5.4)	34.8(6.5)	-2.641	0.009	-4.622 – -0.660
Father's age	37.5(1.5)	39.2(4.9)	-1.705	0.188	-4.950 – 1.539

children had history of speech disorders in family members and 1.7% had a history of speech disorders in the first degree relatives and 17% had a history of speech disorders in the second degree relatives. 34.8% of stuttering children were under treatment less than a year, and 47.7 of them for 1 to 4 years and 17.4% between 5 and 8 years.

The possible range for child's age is 3-13, for mother's age is 22-48 and for father's age is 25-72. The result of Chi-square test showed a significant difference in the education levels

of mothers and fathers of children with and without stuttering (P=0.25 and P=0.032, respectively). Mothers of children in the control group had bachelor's degree or higher as compared to mothers of children in the case group. Also, both groups showed a statistically significant difference in terms of mothers 'jobs (P<0.001), a greater percentage of mothers of children in control group were employee compared to mothers of children in case group.

The results showed that there was a significant

**Table 2** The comparison of household income levels in the two groups of children with and without stuttering

Income levels	Insufficient		Sufficient		Higher than sufficient		Total		Chi-square
	N	%	N	%	N	%	N	%	
Stuttering children	13	21.7	44	73.3	3	5	60	100	P=0.003
Non-stuttering children	6	5.1	102	87.2	9	7.7	117		

difference in terms of gender among the first children of families (birth order) in both the case and the control groups (P=0.016). Also, there was a significant difference between the two groups in terms of income levels (P<0.003). The frequency of stuttering children was higher in families with insufficient incomes than in families with non-stuttering children (Table 2).

Both groups matched for variables of sex, age, child's age, father's age, father's job, the number of children of family, birth order, relative marriage, nightmare, fear of dark, shyness, kinds of punishment by parents and residence. Regarding the main objective of the study, the mean score of mothers' authoritarian style in the case group was more

**Table 3** The comparison of mean scores of mothers' parenting styles in the case and the control groups

Mothers parenting style*	Group		Mean difference	P Value	Independent t-test Confidence 95% interval
	Stuttering children Mean (Standard deviation)	Non-stuttering children Mean (Standard deviation)			
Authoritarian	(7.2)29.3	(5.6)25.7	3.571	0.001	5.73 – 1.411
Authoritative	(3.8)41.3	(4.2)42.5	0.67	0.075	0.123 – -2.51
Permissive	(3.8)25.9	(4.1)26.4	-0.534	0.416	0.76 – -1.828

\*The possible score range for authoritarian style is 1644-, for authoritative style is 3150- and for permissive style is 1938-.

than that in the control group and there was a statistically significant difference ( $P < 0.02$ ). But in terms of permissive and authoritative styles, no significant difference was observed (Table 3).

After multiple regression test, it was revealed that only the variable of authoritarian style has had a significant relationship with stuttering ( $R = 0.3$ ,  $P = 0.002$ ).

### Discussion

The results of the study showed that mean scores of authoritarian style of parents with stuttering children was higher than mothers of children without stuttering. These findings are consistent with the results of studies by Johnson, Moncu and Depart. In their research, they concluded that parents of stuttering children were more domineering, aggressive, and persistent for themselves and their children [19]. Parents with authoritarian style are very demanding and not receptive to desires and needs of children [18] that can lead to stress in children. In a qualitative research of Lau, parents of stuttering children reported more disciplinary standards that were interpreted as further control among children. One hypothesis is that parents take more responsibility against their children communication and these disciplinary standards helped parents in this regard [7]. Basically, a first treatment step is that family members reduce their requests for child's speaking. Parents should review, reduce or remove unnecessary pressures, which help the child to experience less stress [21]. All of these cases can indirectly confirm the obtained results. Lau in the quantitative part of his study concluded that parenting style is not associated with stuttering [7]. The reason for the difference in the results of two studies is the sample size. He performed his research in two quantitative and qualitative parts on 10 children with stuttering and 10 children without stuttering. Another reason is related to the type of parenting style questionnaire. He used Parenting Bonding Instrument (PBI) that leads to four parenting styles based on the combined scores of two control and care.

Results of his research also suggested lower parental attachment scores among stuttering children compared to healthy children [7].

Anderson in his research on 32 stuttering children and 28 non-stuttering children concluded that parents of both groups were matched for behavior and attitude and beliefs and attitudes on parenting styles [10], which is inconsistent with the results of the current research. The reason for the discrepancy is the difference in the sample size and the type of parenting practices questionnaire. However in this study, a significant difference was observed between parenting and child's mood that suggests that stuttering can be adjusted by interaction between child's mood and parental behavior [10]. Lasagna *et al.* conducted a case-control study titled 'parenting practices in parents of stuttering child' on 143 families with stuttering child and 191 families with non-stuttering child. The variable of parenting had three components of compatibility, adoption, and punishment and results showed that parent's of stuttering children had significantly lower scores for compatibility, but no significant difference was observed for other components [22]. The quality of attachment can be a mental incentive to psychological improvement and the fluency of speech [7]. Results of the research showed that there is a significant difference between the stuttering children and non-stuttering children in terms of parents' education, mother's job, and income level.

In a study titled "prevalence of speech disorders in Tehran elementary school students", a significant relationship was observed between speech disorder and variables of parents' education level and job [23], which are consistent with the results of the present research. Nelson states social deprivation as one of the factors effective in stuttering [24]. Socioeconomic status from the second year of life has a positive correlation with cognitive development and language [18]. Instructions, criticism and physical punishment in families with low socioeconomic status are observed more. When these parents are at home, they

expect their children to obey them. The parents with high socioeconomic status talk with their children more and encourage them and give them more freedom to explore [18].

Results of the research revealed that this disorder is more prevalent among boys, which confirms previous literature on this topic. At the onset of this disorder the ratio is equal in both genders, but studies show that about the children who continue to stutter, the number of stuttering boys is three to four times higher than girls in school-age. Girls are more likely to recover from stuttering than boys. One reason is the inherent differences in verbal abilities and language of girls compared to boys. Another reason is that parents and family members often react differently to boys compared to girls [3], which again suggest the role of parents and their educational practices. Hence, it is recommended that studies be conducted to teach parenting styles and their effects on stuttering treatment. In this research, parents' accuracy to answer questions was beyond the control of the researcher that is considered one of the limitations of the study. Although these results can be attributed to the community, since the case group in this research was selected through non-random method because of the low number of stuttering children, the results can be used for future studies with larger sample sizes.

### Conclusion

The mean scores of authoritarian parenting style of mothers with stuttering children was higher than mothers with non-stuttering children and shows that there is a significant relationship between parenting style and stuttering, but the current study cannot evaluate the causal effect of parenting style on stuttering. Therefore, further studies are needed so as to use their results, if necessary, for treatment of stuttering.

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### Contributions

Study design: MA, TB, MB, AB

Data collection and analysis: MA, TB, MB, SN

Manuscript preparation: MA, TB, MB, AB, AK

### Conflict of Interest

"The authors declare that they have no competing interests."

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