Parental attitudes in children with persistent developmental stuttering: a case-control study

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Abstract

Background: Clinical experiences emphasize the possible role of parental attitudes and behaviours in shaping stuttering behaviors however, the number of studies in this area is still insufficient. **Objective:** Our aims were to compare parental attitudes in children with and without stuttering and to determine the effect of parental attitudes on stuttering severity. **Methods:** We used an age and gender matched case control design with 24 children with stuttering and 22 healthy school children. Demographic information form and Parental Attitude Research Instrument (PARI) were enrolled by the mothers. **Results:** According to our results; there was a statistically significant difference in parental attitudes of children with and without stuttering. Our results showed that excessive maternal control of the child and the expectations of obedience from the child more frequently observed in parents of the children with stuttering. Also there was a significant positive correlation with the severity of stuttering and excessive maternal control of the child, the expectations of obedience from the child and marital conflict. **Discussion:** In conclusion, there was an important difference in parental styles of study group and this difference was related to the severity of stuttering. Clinicans should address parental attitudes in this samples.

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Keywords: Parental attitudes, persistent developmental stuttering, severity.

Introduction

Developmental stuttering (DS) is a speech disorder with different manifestations, mainly characterized by involuntary repetitions of syllables, blocks, and prolongations, as well as physiological, behavioral, and emotional reactions to the speech disruptions[1,2]. The onset of DS typically occurs between 2 and 4 years of age[3]. Because many children will recover from stuttering without treatment, waiting periods are now commonly recommended to allow natural recovery to ocur[3]. In a review of the literature, Langevin, Packman, and Onslow noted that recommendations for wait times ranged from 6 months to 1-2 years, and even as long as 3 years[4]. According to Yairi and Ambrose, approximately 75% of preschoolers with DS undergo spontaneous remission within 4 years[5]. Persistent DS (PDS) is a form of DS that has not resolved, either spontaneously or from speech therapy. Approximately 30% of children experiencing a long-term problem who had DS in early childhood[3,6]. The cause of PDS is multifactorial and is associated with various neurobiologic, genetic and environmental risk factors. In a recent meta-analysis diffusion tensor imaging studies had been addressed which have recently implicated disrupted white matter connectivity in stuttering. Results revealed consistent deficits in the left dorsal stream and in the interhemispheric connections between the sensorimotor cortices. In addition, recent fMRI meta-analyses link stuttering to reduced left fronto-parieto-temporal activation while greater fluency is associated with boosted co-activations of right fronto-parieto-temporal areas[7]. The large presence of familial stuttering and the high concordance rate in twins support a genetic role in stuttering but to date, few linkage studies have nominated contributing genes[8-10]. A key issue for PDS is understanding about the factors that are associated with increased risk of persistence[3,6], but it is still not possible to understand predicting factors[11]. One of the theory about stuttering is W. Johnson's theory. According to this , stuttering begins in the ears of the parents (listeners), not in the mouth of the child[12]. And, although the notion has not been verified empirically, parents are still commonly regarded as responsible for stuttering in their child and thought to be strengthening it by such inappropriate reactions as correcting[13,14]. Starkweather contended that genes only increase the likelihood that a behavior will occur and that it is the environment or context that influences the "extent to which a behavioral trait finds expression"[15]. In course of time, additional factors, such as the child's articulatory skills, parent-child interaction and/or the child's temperament,

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may become significant in relation to the moment of stuttering, the chronicity of the disorder, and the impact that it has on the child's quality of life[6,16]. When we address parenchild interaction, we can see that both children and parents affected from the stuttering problem. In a study which surveyed 77 parents of preschoolers who stutter found that 71% of parents were affected emotionally by their child's stuttering, more than one third of parents reported not knowing what to say or do when their child stuttered, and half of the parents reported that stuttering had affected their communication with their child[4]. Similarly, Erickson and Block (2013) found that 69% of parents reported that stuttering had at least a moderate impact on their family, with almost one-third of participants indicating an "extreme impact."[17]. On the other hand studies on the feelings of children who stutter revealed that they had lower perceived parental attachment scores and lower perceived parental trust scores than did their fluent peers, and majority of stuttered children reported feeling frustrated with their parents' attempts to assist during stuttering moments[18]. The assumption from these approaches is that the manipulation of the environmental factors; specifically, parent attitudes herewith parent-child interaction can effect the long-term development and persistence of stuttering[19].

Although there is limited research to suggest that parental attitudes differentiate stuttering and change its severity in children who stutter, clinical experiences emphasize the possible role of parental attitudes and behaviours in shaping stuttering behaviors. Commonly, health professionals have been encouraging the use of counselling techniques to promote effective interaction between the family members of the children who stuttering[20]. For a better interaction between parent and child, good listening skills with giving full attention, being aware of secondary behaviours, and beware of their self-regulatory skills[21]. But these recommendations are generally techniques for increasing parental child interaction. Differences observed in the attitude of the parents children with and without stuttering are still unknown. Therefore, there are no specific evidence-based recommendations for parents who have a child with stuttering. The aims of this study are to compare parental attitudes in children with and without PDS and to determine the effect of parental attitudes on stuttering severity.

Materials and methods

Participants and procedure

In this study, we used a case control design and we included two group of age and gender matched children, the study group was consisted of 24 children with PDS and the control group was consisted of 22 healthy school children. The research protocol was approved by the Research Ethics Board of the Ufuk University School of Medicine. Participants of the study group were recruited from the newly diagnosed children with stuttering and their mothers, who referred to Gulhane Research and Training Hospital Department of Child and Adolescent Psychiatry. The aim and procedure of the study were explained to the all parents and children and written informed consent from parents and assent from children were obtained. Inclusion criterion was having developmental stuttering and did not recover after the expected spontaneus remission time (in other words having PDS) and accepted to participate the study. Exclusion criterion was having comorbid neurological or phyical illness and don't accept to participate the study. We invited 30 parents to the study, 6 of them did not want to participate so 24 PDS children and parents recruited the study as study group. Study groups children were aged 6 to 17 (M = 10.5, SD = 3.5), and 75% of the sample were males. The mean maternal education was 9.1 ± 3.3 years and the mean paternal education was 10.7 ± 3.4 years.

Age and gender matched control group was recruited from an elementary school in Ankara. The teachers and parents were asked to complete the scales. We evaluated the severity of stuttering by Stuttering Severity Instrument 4th Edition (SSI-4) than we goruped the severity as mild, moderate and severe. Children who have a diagnosis according to the Schedule for Affective Disorders and Schizophrenia for School Age Children- Present and Lifetime version (K-SADS-PL) were excluded. Children in control group were aged 6 to 17 (M = 11.0, SD = 3.6) and 54.5% of the participants were male. The mean maternal education was 11.9 ± 4.1 years and the mean paternal education was 12.8±3.5 years. According to child's age and gender , there was not any significant differences between groups, but on the other hand parental education years were higher among control group.(see details in Table 1).

All referred children, who aged between 6-18, with a diagnosis of stuttering were consecutively included in the study. Children with a diagnosis of a neurological/physical disorder or mental retardation, families who didn't want to participate were excluded. The presence of psychiatric comorbidity in children was not accepted as an exclusion criteria in study group, but on the other hand only healthy children were included to the control group.

Measurements

Demographic Information Form

This form consisted of questions that were prepared by authors for obtaining information about the demographic characteristics (age, school, parental education, psychiatric disorders in the family, stuttering in the family, number of the siblings etc.).

Parental Attitude Research Instrument (PARI)

This instrument was developed by Schaefer and Bell (1958) to evaluate mothers' feelings towards family life and their children. The PARI scale was adapted to Turkish in a shortened form by Le Compte and friends in 1978[22]. Reliability coefficients were ranged between .58 and .88, and the alpha reliability coefficient was .64. The questionnaire was divided into five factors for conceptual validity and in these subscales a defined median of r was detected as .81.

Table 1. Demographic characteristics of the groups

	Study Group (N = 24)	Control Group (N = 22)	Statistics, p value
	Mean ± SD/Percentage	Mean ± SD/Percentage	
Age[1]	10.5 ± 3.5	11.0 ± 3.6	*t = .39, df = 44, p = 0.69*
Gender[2]	18 (75%, male)	12 (54.5%, male)	*x^2 = 2.1, df = 1, p = 0.12*
Maternal education[1]	**9.1 ± 3.3**	**11.9 ± 4.1**	***t = 2.51, df = 44, p = 0.01***
Paternal education[1]	**10.7 ± 3.4**	**12.8 ± 3.5**	***t = 2.05, df = 44, p = 0.04***
Number of the siblings[1]	2.6 ± 0.9	2.5 ± 1.2	*t = -.05, df = 44, p = 0.95*
Being the first child	8 (33.3%)	9 (40.9%)	*x^2 = .28, df = 1, p = .41*
Stuttering in the family[2]	**11 (47.5 %)**	**1 (4.5%)**	***x^2 = 10.7, df = 1, p = .001***
Pyschiatric disorders ın the family[2]	2 (8.7%)	1 (4.5%)	*x^2 = .31, df = 1, p = 0.51*

[1] Independent sample t test.
[2] Pearson Chi-square test.

The adapted form consists of 60 items with five subscales:

- Dependency (16 items measuring the overprotective and overcontrolling attitudes towards the child; items: 1, 3, 4, 7, 11, 12, 14, 26, 27, 28, 32, 34, 36, 46, 52, 57);
- Egalitarianism and democratic attitudes (9 items measuring the ability to have a cooperating and friendly attitude towards the child; items: 2*, 13, 18, 22, 29*, 37, 44*, 45, 59; *= should be score as ''5-x");
- Rejection of the homemaking role (13 items measuring negative attitudes, the feelings of incompetency, and dissatisfaction with parenting; items: 6, 9, 16, 17, 21, 23, 31, 38, 41, 42, 49, 52, 55);
- Marital conflict (6 items measuring tension between parents; items: 8, 19, 33, 40, 48, 54);
- Strictness and authoritarianism (16 items measuring the expectations of obedience from the child; items: 5, 10, 15, 20, 24, 25, 30, 35, 39, 43, 47, 50, 53, 56, 58, 60).

The responses are given on a four-point scale, ranging from 'I find it not appropriate at all' to 'I find it quite appropriate', and the total score equals the sum of he 60-items. Ther is not a total score. The higher scores on a subscale correspond to the approval of the attitude measured in this subscale (Öner, 1997).

Stuttering Severity Instrument – Fourth Edition (SSI-4)

Stuttering Severity Instrument – Fourth Edition (SSI-4) is a reliable and valid norm-referenced stuttering assessment that can be used for both clinical and search purposes. It measures stuttering severity in both children and adults in the four areas of speech behavior: frequency, duration, physical concomitants, naturalness of the individual's speech. The Turkish validity and reliability study had been done by Mutlu *et al.*[23]. In this study authors conducted SSI to the children in study group and thenscored the children as 1 for mild, 2 for moderate and 3 for severe stuttering.

Statistical analysis

Statistical analysis was performed using the statistical package for social sciences (SPSS) software (version 22.0; SPSS Inc., Chicago, IL, USA). Demographic information was analyzed through descriptive statistics. Chi-square test was used for categorical variables.

Kolmogorov-Smirnov test was used to test for normality. The mean subscale scores were compared with Student's T-test or Mann-Whitney U test. Correlation analysis was performed by Pearson or Spearman correlation tests. A p value < 0.05 was accepted as statistically significant.

Results

The study and control group were similar except parental education (maternal and paternal education level were significantly higher among control group). Stuttering in the family members was significantly higher among study group, as expected.

The mean "'Excessive Maternal Control of the Child" and ''Strictness and Authoriatarianism'" subscales scores of PARI were significantly higher in study group (p =0.007; p = 0.007 respectively) while other sub-items were not significantly different (p > 0.05) between groups (Table 2).

When we assessed the correlations between Severity of Stuttering – PARI subscales, we found that stuttering severity and "Excessive Maternal Control of the Child", ''Marital Conflict" and "Strictness and Authoriatarianism" scores were positively correlated but correlation values were not strong (r = .38, r = .30, r =.40 respectively) (Table 3).

Discussion

This study compared parental attitudes in children with and without persistent developmental stuttering (PDS) and investaged the effect of parental attitudes on stuttering severity. According to our results; it was determined that there was a statistically significant difference in parental attitudes in children with and without PDS. Our results showed that excessive maternal control of the child and the expectations of obedience from the child more frequently observed in parents of the children with PDS. We also determined that there was a significant positive correlation with the severity of stuttering and excessive maternal control of the child, the expectations of obedience from the child and marital conflict.

Relationships between stuttering children and their parents have received considerable attention in past researchs. Most investigators have dealt with parental attitudes toward very young children. Their findings are in relatively close agreement and suggest that the attitudinal and behaviorial pattern of stutterers' parents (as a group) is different from that of parents of nonstutterers. Over-protection,

Table 2. Comparison of PARI Subscale Scores Among Groups

	Study Group (N = 24)	Control Group (N = 22)	Statistics, p value
	Mean ± SD	Mean ± SD	
Excessive Maternal Control of the Child (Dependency)	**47.3 ± 8.4**	**39.4 ± 10.4**	***t = -2.8, df = 44, p = 0.007***
Democratic Attitudes Towards Child Rearing (Egalitarianism and Democratic attitudes)	27.2 ± 3.8	28.6 ± 3.0	*t = 1.3, df = 44, p = 0.17*
Rejection of the homemaking role	29.2 ± 6.0	29.6 ± 7.7	*t = 0.2, df = 44, p = 0.83*
Marital conflict	15.0 ± 4.2	12.7 ± 4.0	*t = -1.8, df = 44, p = 0.06*
Strictness and Authoritarianism (Expectations of obedience from the child)	**41.4 ± 8.6**	**34.5 ± 8.0**	***t = -2.8, df = 44, p = 0.007***

Independent sample t test was used. Boldface values are: p < 0.05.

Table 3. Correlation Between Severity of Stuttering and PARI Subscale Scores In Each Other

	1	2	3	4	5	6
Severity of Stuttering	1					
Excessive Maternal Control of the Child	**.385****	1				
Egalitarianism and Democratic attitudes	-.113	-.270	1			
Rejection of the homemaking role	-.016	.273	-.132	1		
Marital conflict	**.303***	**.415****	.034	**.722****	1	
Strictness and Authoritarianism	**.400****	**.811****	-.302*	.450**	**.587****	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

over-supervision and control, high expectations, and perfectionism in child-rearing practices, feelings of rejection toward the child, and unfavorable evaluation of his/her personality are the main characteristics of this pattern[24]. Furthermore, the interaction theory of stuttering relates the origin of the problem to parental attitudes, particularly to parents overreaction to their child's speech[12].

Similarly, in a quantitative study with children who stutter; findings revealed that they perceived their parents with significantly lower attachment, particularly in relation to trust, and parents of them perceived their children with significantly higher maladjustments than fluent counterparts. In addition themes in this study emerged pertaining to attitudes, perceptions and relationships with teachers, peers and parents, with consistent experiences of teasing and bullying reported as a consequence of the stutter. The majority of children recounted frustration with the nature in which their parents attempted to remediate their stuttering[18]. These findings and our results about the positive relationship between severity of Stuttering and "Excessive Maternal Control", "Marital Conflict" and "Strictness and "Authoritarianism" highlight imperative management considerations for PDS children and their parents. There are many evidence that harsh parenting styles characterized by critical, punitive reactions and over control to children's mistakes may increase self-monitoring and sensitize children to error commission to avoid parental punishment[25-27]. Although it is not possible to evaluate causility in a cross-section study like the present one, it can be speculate that maternal harsh parenting could be one of the reason of chronicity of DS by sensitizing the child.

On the other hand, it can be observed that while parents cannot control if and when stuttering begins, once the disorder has been diagnosed and is chronic, they feel more anxious and change their attitudes, form of interaction with the child as a overprotecting style. This suggests that the child's stuttering triggers particular reactions of the parents, which may increase the disfluency even more. There is a two-way relationship between the parents' reactions and the child's disfluency[4,14,28]. Evidence that change in a parent's interaction style can also affect the child's fluency further demonstrates a bidirectional relationship between stuttering and parent interaction[19]. Recent studies suggest that desensitization of parents is an important part of therapy process that enables them to understand their own emotional responses to their child's stuttering and to manage them more effectively. By this involving ,parents can understand the dynamics within the family system and respond to their child's stuttering in helpful ways that are likely to enhance therapeutic success[29,30].

The present study has several limitations. First, parental attitudes were assessed after stuttering began, so the impact of stuttering on parental attitudes could not be determined. Also, parental attitudes were evaluated on the basis of parents' self-report, so it is not known how children perceive their parents' attitudes. Also the higher level of parental education in control group could effect the results.

In conclusion, there was a statistically significant difference in parental styles in children with and without stuttering and this difference was related to the severity of stuttering. Consequently, in the treatment of stuttering, the parents should be informed about the negative parental attitudes and its possible effects, also they should be encouraged to change their attitudes. Further research seems to be needed to assess the effect of counseling on parents' attitudes toward the child who stutters.

Disclosure

All authors have no conflict of interest to declare

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