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Original Article

Quality of Life of Families of Children with Speech Disorders

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Abstract

Background: Under the influence of numerous life factors, speech constantly undergoes changes. Parents of children with speech and language disorders have a lower quality of life compared to the parents of children without. The study examined different domains of the quality of life of families with and without speech disorders.

Methods: A cross-sectional study was conducted in Serbia, in 2024, on a sample of 206 preschool children aged 5- 7 years and their parents/guardians. As a research instrument, in addition to the General Questionnaire on sociodemographic characteristics of children and parents' respondents/guardians, the Family Quality of Life Survey (FQOL) was used to assess the family's quality of life.

Results: Articulation disorder was detected in 78.2% of children. Difference between the two groups of parents was found in terms of place of residence, work status, education levels, and children's age. From the five domains of family quality of life, significance was found in the domain of family interaction regarding the support, support related to disability, and family safety. Regarding the physical/material well-being domain, the significance was found for dental care and parenting domains. No differences were found in the domain of emotional well-being.

Conclusion: The importance of the study reflects in the possibility of applying the obtained research results for the creation of educational programs that will encourage positive attitudes of parents and children about speech therapy interventions, which can influence successful rehabilitation of speech disorders and improve family quality of life.

Keywords: Speech disorder; Children; Family quality of life survey; Serbia

Introduction

Speech disorder is a common developmental diagnosis in preschool age. It can have immediate and long-term effects on children's lives. The literature suggests that children with speech disorders are at increased risk for poorer outcomes in social, emotional, behavioral, and academic functioning. This data is worrying, especially if you take into account the fact that speech disorders affect children's adaptation to the social environment, but also the loss of interest in school (1-3).

Speech Sound Disorders is a generic term used to describe a range of difficulties producing speech sounds in children. Thus, pathological articulation is a deviation in building voices, both on the visual, acoustic and kinesthetic level. According to some data, about 4-5% of children are affected by such disorders (4).

If voice correction is not started on time, children may first experience frustration due to misunderstanding from the environment. When they start the school, degradation of school skills in reading and writing is showed. In addition, these children are under the influence of high stress because they are often bullied by their peers. Quite often, the consequences are timidity, insecurities of the child, inadequate social adaptation, etc. Therefore, correction of the articulation of the child should start before enrolling into the school. It is considered that the period of preschool age is particularly important because children can then acquire unoriginal habits, which can lead to significant morphological changes of parts of the face and thus influence the improper acquisition of articulatory habits (5-7).

However, it is important, when we investigate difficulties in children, to explore also parental perceptions since they can make important contributions understanding of the impact of a condition on a child and inform interventions. Parents of children with speech disorders have a worse quality of life than that of parents of healthy children of the same age (8).

We examined the different domains of the quality of life of families of children with speech disorders in relation to the quality of life of families of children with normal speech status. There is a lack of such research in our environment, as well as a lack of recommendations on how to improve interventions and improve the quality of life of families of children with speech disorders. The findings would be of direct benefit to clinicians, researchers, and policy makers as they expand understanding of speech difficulties in children and their impact on quality of life. In addition, the results should enable the creation of intervention strategies for early recognition of speech disorders and timely and adequate treatment of these disorders.

Methods

The research was conducted as a cross-sectional study. The population on which the research was conducted were children of preschool age (from 5 to 7 years of age) and their parents/guardians.

The research was conducted in the children's health care service of the Health center "Petrovac on Mlava", Serbia, in 2024. In progress performing regular preventive examinations of children as part of regular speech therapy testing, the pronunciation of each child's voice was assessed individually. Immediately after the Triage Articulation Test (TAT) was conducted, an insight into whether or not the child has an articulation disorder was obtained. After this assessment, the speech therapist gave advice on whether the child needed speech therapy treatment and asked for consent to fill out questionnaires for the purpose of the study.

Parents were included in the study after signing the Informed Consent form with full information. Ethical research standards are in line with international (Declaration of Helsinki) and specific legislation of the Republic of Serbia. (Ethics approval: No 01-515/2024).

The criteria for including children in the study were age from 5 to 7 years of age, preserved hearing, good intelligence, good articulation, functional articulation disorder (functional dyslalia), orthodontic dyslalia and comorbidity of articulation disorder with another speech disorder
The criteria for excluding children in the study were existence of hearing loss or deafness, biological (neurodevelopmental) disorders: intellectual disability, autism, ADHD, developmental dysphasia, cerebral paralysis, various syndromes, organic dyslalia resulting from injury or disease of the CNS or cranial nerves that participate in the articulation process, and language disorders. The respondents were divided into two groups. The first group consisted of parents/guardians of preschool children who were diagnosed with a speech disorder (articulation disorder) by a speech therapist using the Triage Articulation Test. The second group consisted of parents/guardians of preschool children without speech disorders (articulation disorders).
The independent variables that were assessed were demographic - gender, family structure, number of household members, type of settlement; socioeconomic - education of parents, material status, work status of parents. The dependent variable was quality of family life.
To examine the sounds of a language, each country has its own articulation test that is adapted to the pronunciation of the sounds of that speaking area. In our speaking area, the Triage Articulation Test is most often used, which is used daily in speech therapy practice to assess the condition of the sounds of the Serbian language. It provides a detailed analysis of voices, both pathological and those that meet the criteria of correct pronunciation.
As a research instrument, in addition to a general questionnaire on demographic and socioeconomic characteristics of respondents (gender, marital structure, place of residence, number of household members, education, material status, and work status) which was created for this purpose, the Family Quality of Life Survey (FQOL) was also used to assess the quality of life of family.
The Family Quality of Life Survey (FQOL) is a 25-item 5-point Likert-type scale that measures family quality of life in five domains: family interaction, parenting, emotional well-being, physical/material well-being, and support in related to disability/developmental disorder (9).
Descriptive statistics methods were used to display the data. Chi-square ($\chi 2$) test was used to compare differences in frequency of categorical variables. All statistical calculations were performed using the commercial, standard software package SPSS, version 20.0 (IBM Corp., Armonk, NY, USA).

Results

The conducted survey included 206 parents. Observed in relation to the gender of parents/guardians, there were (80.6%) female persons and 40 (19.4%) male persons. The average age of parents/guardians was 35.90 ± 7.82 years, while no statistically significant difference was found in the average age of male and female persons (35.87 ± 7.35 vs. 36.00 ± 9.62 years, Independent samples *t* test, $P = 0.926$). A statistically significant difference between the two groups of parents was found for place of residence ($P <0.001$), work status ($P =0.005$), education levels ($P < 0.001$), age distribution of children ($P =0.003$). A statistically significantly higher percentage of parents whose children have an articulation disorder were: from the villages (64.6%), unemployed (49.7%) and high school educated (47.2%), in contrast to parents of healthy children who were in a higher percentage from the city (66.7%), employed (73.3%) and with a university degree (42.2%). The socio-demographic characteristics of the parents as well as the differences in the two groups of parents are shown in Table 1.

Table 1: Socio-demographic characteristics of parents/guardians according to the presence/absence of articulation disorders in children

Variable		Parents with children with articulation problems N=161 n (%)	Parents without children with articulation problems N=45 n (%)	χ2
Gender	Female	130 (80.7%)	35 (77.8%)	*P* =0.604
	Male	31 (19.3%)	10 (22.2%)	
Status	Mother	132 (81.9%)	34 (75.6%)	*P* =0.400
	Father	27 (16.8%)	10 (22.2%)	
	Guardian	2 (1.3%)	1 (2.2%)	
Age MD ± SD		35.75 ± 8.57	36.40 ± 4.32	*P* =0.624*
Place of living	Village	104 (64.6%)	15 (33.3%)	***P* <0.001**
	City	57 (35.4%)	29 (66.7%)	
Employment status	Employed	81 (50.3%)	33 (73.3%)	***P* =0.005**
	Unemployed	80 (49.7%)	12 (26.7%)	
Education level	Elementary school	49 (30.4%)	6 (13.3%)	***P* <0.001**
	Middle school	76 (47.2%)	17 (37.8%)	
	Faculty	21 (13%)	19 (42.2%)	
	Master study	13 (8.1%)	3 (6.7%)	
	Doctoral study	2 (1.3%)	/	
Marital status	Extramarital union	52 (32.3%)	9 (20%)	*P* =0.293
	Marriage	97 (60.2%)	29 (64.4%)	
	Divorced	12 (7.5%)	7 (15.6%)	
Children's' age	4	26 (16.1%)	3 (6.7%)	***P* =0.003**
	5	9 (5.6%)	/	
	6	91 (56.5%)	31 (68.9%)	
	7	40 (21.8%)	11 (24.4%)	
Family type	With both parents	142 (88.2%)	36 (80%)	*P* =0.578
	With single parent	19 (11.8%)	9 (20%)	
Socio-economic status	Poor	2 (1.3%)	/	*P* =0.553
	Bad	9 (5.6%)	1 (2.2%)	
	Good	68 (42.2%)	21 (46.7%)	
	Very good	66 (40.9%)	19 (42.2%)	
	Excellent	16 (10%)	4 (8.9%)	
Number of children	Single child	31 (19.2%)	8 (17.8%)	*P* =0.655
	Two children	88 (54.6%)	28 (62.2%)	
	Three and more children	42 (26.2%)	9 (20%)	

*Mann Whitney test

When it comes to the sample of children, the research included 206 children, from of which 44.2% were girls and 55.8% were boys. Articulation disorder was detected in 78.2%, while 21.8% had a normal finding, so further statistical data processing is aimed at testing the differences between the two groups of respondents: parents/guardians of children with articulation dis-

order (n=161) and parents/guardians of children without articulation disorders (n=45).

Family quality of life assessed using The Family Quality of Life Scale (FQOL) in five domains: 1) family interaction, 2) parenting, 3) emotional well-being, 4) physical/material well-being and 5) support related to disability/developmental disorder.

The analysis of the family interaction domain indicated the existence of a statistically significant difference between the two groups of respondents regarding the aspect related to the fact that the family has other people/friends who provide them with support (P =0.021). The percentage of satisfied respondents was significantly higher among families of children without disorders compared to families with children who have articulation disorders (64.4% vs. 21.7%), who also in 5.6% of cases expressed dissatisfaction with support from by other persons, which was not the case in the control group (Table 2).

Table 2: Differences in the family interaction domain between the two groups of respondents

Variable		Presence of articulation problems N=161 n (%)	Absence of articulation problems N=45 n (%)	*P*
My family enjoys the time we spend together	Very unsatisfied	5 (3.1)	/	P =0.724
	Unsatisfied	6 (3.7)	/	
	Neither	4 (2.5)	3 (6.7)	
	Satisfied	98 (60.8)	29 (64.4)	
	Very satisfied	48 (29.9)	13 (28.9)	
My family members help children to be independent	Very unsatisfied	5 (3.1)	/	P =0.479
	Unsatisfied	7 (4.3)	/	
	Neither	3 (1.9)	2 (4.4)	
	Satisfied	67 (41.6)	18 (40.0)	
	Very satisfied	79 (49.1)	25 (55.6)	
My family has the support they need to relieve stress	Very unsatisfied	5 (3.1)	/	P =0.260
	Unsatisfied	9 (5.6)	/	
	Neither	6 (3.7)	5 (11.1)	
	Satisfied	86 (53.4)	22 (48.9)	
	Very satisfied	55 (34.2)	18 (40)	
My family members have other people who support them	Very unsatisfied	9 (5.6)	/	**P =0.021**
	Unsatisfied	18 (11.2)	3 (6.7)	
	Neither	36 (22.3)	2 (4.4)	
	Satisfied	35 (21.7)	29 (64.4)	
	Very satisfied	63 (39.1)	11 (24.5)	
My family members help the children with homework and other activities	Very unsatisfied	/	/	P =0.725
	Unsatisfied	15 (9.3)	3 (6.7)	
	Neither	18 (11.2)	3 (6.7)	
	Satisfied	80 (49.6)	26 (57.7)	
	Very satisfied	48 (29.9)	13 (28.9)	

The analysis of the parenting domain pointed to the existence of a statistically significant difference between the two groups of respondents regarding the aspect related to the open communication of family members with each other (*P* =0.028). In contrast to the families of children without disorders who were "satisfied" (35.6%) or "very satisfied" (64.4%) regarding the mentioned item, the families of children with articulation disorders expressed a certain degree of dissatisfaction, namely: 4, 9% "very dissatisfied" and 6.2% "dissatisfied" (Table 3).

No differences were found in the domain of emotional well-being between the two groups of respondents (Table 4).

Table 3: Differences in the parenting domain between the two groups of respondents

Variable		Presence of articulation problems N=161 n (%)	Absence of articulation problems N=45 n (%)	*P*
My family members have transportation provided to where they need to go	Very unsatisfied	7 (4.3)	/	*P* =0.105
	Unsatisfied	9 (5.6)	/	
	Neither	8 (4.9)	7 (15.5)	
	Satisfied	72 (44.7)	17 (37.8)	
	Very satisfied	65 (40.5)	21 (46.7)	
My family members talk openly with each other	Very unsatisfied	8 (4.9)	/	***P* =0.028**
	Unsatisfied	10 (6.2)	/	
	Neither	14 (8.8)	/	
	Satisfied	58 (36)	16 (35.6)	
	Very satisfied	71 (44.1)	29 (64.4)	
My family members teach children to get along with others	Very unsatisfied	7 (4.3)	/	*P* =0.662
	Unsatisfied	4 (2.5)	/	
	Neither	7 (4.3)	2 (4.4)	
	Satisfied	57 (35.4)	18 (40)	
	Very satisfied	86 (53.5)	25 (55.6)	
My family members have time to follow our interests	Very unsatisfied	/	/	*P* =0.721
	Unsatisfied	3 (1.9)	/	
	Neither	3 (1.9)	/	
	Satisfied	47 (29.2)	13 (28.9)	
	Very satisfied	108 (67)	32 (71.1)	
Our family solves problems together	Very unsatisfied	5 (3.1)	/	*P* =0.064
	Unsatisfied	18 (11.2)	2 (4.4)	
	Neither	18 (11.2)	2 (4.4)	
	Satisfied	76 (47.2)	22 (48.9)	
	Very satisfied	46 (27.3)	19 (42.3)	

Table 4: Differences in the emotional well-being domain between the two groups of respondents

Variable		Presence of articulation problems N=161 n (%)	Absence of articulation problems N=45 n (%)	*P*
My family members support each other in achieving their goals	Very unsatisfied	8 (4.9)	/	*P* =0.626
	Unsatisfied	4 (2.5)	/	
	Neither	8 (4.9)	3 (6.7)	
	Satisfied	55 (34.2)	15 (33.3)	
	Very satisfied	86 (53.5)	27 (60)	
My family members show that they love and care for each other	Very unsatisfied	4 (2.5)	/	*P* =0.520
	Unsatisfied	6 (3.7)	/	
	Neither	5 (3.1)	/	
	Satisfied	58 (36)	16 (35.6)	
	Very satisfied	88 (54.7)	29 (64.4)	
My family has help on the side that takes care of the needs of all our members	Very unsatisfied	8 (4.9)	/	*P* =0.425
	Unsatisfied	/	/	
	Neither	5 (3.1)	/	
	Satisfied	44 (27.3)	13 (28.9)	
	Very satisfied	104 (64.7)	32 (71.1)	
The adults in our family teach the children to make good decisions	Very unsatisfied	26 (16.1)	3 (6.7)	*P* =0.101
	Unsatisfied	21 (13)	2 (4.4)	
	Neither	34 (21.1)	10 (22.2)	
	Satisfied	44 (27.3)	20 (44.4)	
	Very satisfied	36 (22.4)	10 (22.2)	
My family has health care when they need it	Very unsatisfied	4 (2.5)	1 (2.2)	*P* =0.879
	Unsatisfied	4 (2.5)	/	
	Neither	6 (3.7)	2 (4.4)	
	Satisfied	60 (37.3)	17 (37.8)	
	Very satisfied	87 (54)	26 (57.8)	

Regarding the physical/material well-being domain, a statistically significant difference was found for dental care (*P* =0.010). 5.6% of families with children who have articulation disorders stated that they are "very dissatisfied", i.e. 13% of them are "dissatisfied" with the dental care provided when it is needed, while in the group of families with healthy children, the attitudes were uniform, "satisfied " (51.1%) and "very satisfied" (48.9%) (Table 5).

Table 5: Differences in the domain of physical/material well-being between the two groups of respondents

Variable		Presence of articulation problems N=161 n (%)	Absence of articulation problems N=45 n (%)	*P*
My family has a way to cover their expenses	Very unsatisfied	8 (4.9)	/	*P* =0.149
	Unsatisfied	9 (5.6)	1 (2.2)	
	Neither	15 (9.4)	2 (4.4)	
	Satisfied	70 (43.5)	18 (40)	
	Very satisfied	59 (36.6)	24 (53.4)	
Adults in our family know other people who are in our children's lives (friends. teachers. etc.)	Very unsatisfied	7 (4.3)	/	*P* =0.152
	Unsatisfied	9 (5.6)	/	
	Neither	15 (9.4)	2 (4.4)	
	Satisfied	82 (50.9)	30 (66.7)	
	Very satisfied	48 (29.8)	13 (28.9)	
My family is capable of handling life's ups and downs	Very unsatisfied	2 (1.3)	/	*P* =0.708
	Unsatisfied	7 (4.3)	/	
	Neither	14 (8.7)	3 (6.6)	
	Satisfied	81 (50.3)	24 (53.4)	
	Very satisfied	57 (35.4)	18 (40)	
The adults in our family have time to take care of the individual needs of each child	Very unsatisfied	3 (1.9)	/	*P* =0.669
	Unsatisfied	6 (3.7)	/	
	Neither	13 (8.1)	3 (6.6)	
	Satisfied	84 (52.2)	24 (63.4)	
	Very satisfied	55 (34.1)	18 (40)	
My family has dental care when they need it	Very unsatisfied	9 (5.6)	/	***P* =0.010**
	Unsatisfied	21 (13)	/	
	Neither	13 (8.1)	/	
	Satisfied	63 (39.1)	23 (51.1)	
	Very satisfied	55 (34.2)	22 (48.9)	

In the domain of support related to disability, a statistically significant difference was found between the two groups of respondents for the feeling of family safety at work, at school and in the neighborhood (*P* =0.022). In the control group of respondents, who declared themselves "satisfied" (51.1%) and "very satisfied" (48.9%), there was no dissatisfaction with the feeling of security. Families of children with articulation disorders expressed dissatisfaction with this item: 1.9% "very dissatisfied" and 4.9% "dissatisfied" (Table 6).

Table 6: Differences in the domain of disability-related support between the two groups of respondents

Variable		Presence of articulation problems N=161 n (%)	Absence of articulation problems N=45 n (%)	P
My family feels safe: at home, at work, at school, in the neighborhood	Very unsatisfied	3 (1.9)	/	P =0.022
	Unsatisfied	8 (4.9)	/	
	Neither	15 (9.4)	/	
	Satisfied	81 (50.3)	23 (51.1)	
	Very satisfied	54 (33.5)	22 (48.9)	
My family member with a disability has support to achieve their goals at school or at work	Very unsatisfied	4 (2.5)	/	P =0.573
	Unsatisfied	4 (2.5)	/	
	Neither	6 (3.7)	/	
	Satisfied	55 (34.2)	18 (40)	
	Very satisfied	92 (57.1)	27 (60)	
My family member with a disability at home has support to achieve their goals	Very unsatisfied	17 (10.6)	5 (11.1)	P =0.485
	Unsatisfied	12 (7.4)	/	
	Neither	23 (14.3)	7 (15.6)	
	Satisfied	58 (36)	15 (33.3)	
	Very satisfied	51 (31.7)	18 (40)	
My disabled family member has support to make friendships	Very unsatisfied	12 (7.4)	2 (4.4)	P =0.460
	Unsatisfied	10 (6.2)	/	
	Neither	55 (34.2)	8 (17.7)	
	Satisfied	50 (31.1)	20 (44.4)	
	Very satisfied	34 (21.1)	15 (33.4)	
My family has good relationships with service providers who provide services and support to our disabled family member	Very unsatisfied	15 (9.4)	3 (6.6)	P =0.212
	Unsatisfied	20 (12.4)	3 (6.6)	
	Neither	45 (27.9)	13 (28.9)	
	Satisfied	40 (24.8)	11 (24.6)	
	Very satisfied	41 (25.5)	15 (33.3)	

Discussion

Diagnosis of speech and language disorder in childhood affects the child in various aspects, and many researchers found the connection with poorer mental health outcome, especially in the area of behavioral problems, but the relationship was not clear due to other risk factors that may contribute in developing behavioral problems (10). In our research, the speech problems were detected in 78.2% of children who undergo the articulation test, more common among boys.

Also, the results of health-related quality of life in people with speech disorder were not consistent, where some did not found difference in comparison to the controls or found lower scores in quality of life, some did found significant correlation at all (11-13).

From parent perspective one of the most worrying aspect for their children with speaking problems were mental health because of obstacles they have in expressing themselves or being understood, especially among peers. In contrary, although the social interaction with teacher was

marked poorer in comparison to the children without speaking disorders, the competence of children and relationship with teachers were not influenced (14). In our research parents expressed feeling of family safety at work, at school and in the neighborhood where parents with children with speech disabilities felt very dissatisfied compared to the parents with children without speech disorder, which felt very satisfied about safety of their children.

In the earlier period of the life, young children with speaking and language disabilities can be isolated because of their conditions which limits their opportunities in different activities among peers in school, it makes harder to maintain and form connections, and later in the life it reflects to the life opportunities and career paths (1). As the results of not being more introduced with limitations of those people, public behavior of people negatively influence the health related quality of life (15). According to our results, parents expressed dissatisfaction with level of support from other people, which leads to isolation of their children.

In one study, there were investigated the differences of parents concerns between children with hearing and speaking disorders and control groups in the area of their children's' future development, and the parents with children with hearing problems scored lower than speaking problem indicating that hearing problems can cause larger impact (16).

The depression symptoms among mothers showed significant connection to the children speaking development, and parents with children with speech impairments graded their subjective health much worse than it actually was (17). Our study shows no differences in the domain of emotional well-being between the two groups of respondents.

Very often, children with speech difficulties in early age develop issues with understanding speech, but also influence their writing and reading that influence child's psychosocial health and increase the stress levels of their parents (18). The analysis of the parenting domain pointed to the existence of issue in open communication among group of parents. This may lead to the inadequate communication with children and can negatively affect further development of speech disorder.

Conclusion

Our findings indicate the importance of research on the quality of life of parents of children with speech disorders. Although there are no differences in the domain of emotional well-being between the two groups of respondents, concerns about the level of support from other people and the possibility of isolating their children indicate the necessity of integrative efforts in the field of education, health services and social groups in order to meet the needs of children with speech disorders and thereby ensure a better quality of life for their families.

Journalism Ethics considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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Conflict of interest

The authors declare that there is no conflict of interests.

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