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Research article

Mental well-being and related factors in individuals with stuttering

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HIGHLIGHTS

- Stuttering affects not only the fluency of speech, but also the psychosocial functionality of people.
- High levels of dysfunctional beliefs such as self-confidence and hopelessness, fear of being negatively evaluated for stuttering, avoidance behavior and lack of perceived social support negatively affect mental well-being of people who stutter.
- The development of self-help groups for individuals with stuttering, creating awareness in the society and facilitating the access of these individuals to a speech therapist and other treatment options will be useful approaches.

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ABSTRACT

Aim: This study aimed to determine the effects of various sociodemographic variables and experiences, unhelpful beliefs about stuttering, and perceived social support on psychological well-being in stuttering adults.
Methods: Forty-five stuttering adults were included in our study, and sociodemographic data were collected using a stuttering experiences information form, the Unhelpful Thoughts and Beliefs About Stuttering (UTBAS)-6 scale, the perceived social support scale, and the Warwick-Edinburgh Mental Well-being Scale.
Results: It was determined that the total score of the UTBAS scale, the high scores on the fear of negative evaluation, avoidance, self-doubt and insecurity, and the hopelessness subscales, and the low scores of the perceived social support scale were correlated with lower psychological well-being results in stuttering individuals.
Conclusions: To support the mental well-being of individuals with stuttering, we believe it would be beneficial to provide mental assessment and supportive approaches, raise awareness to eliminate prejudice and stigmatizing attitudes toward individuals with stuttering in the family and wider society, and develop social support systems, alongside speech therapy.

1. Introduction

Language development and speaking ability, which are central communication skills, develop in the first years of life. It becomes more complex and effective with the contribution of individual maturation and environmental stimuli. In its most general definition, stuttering, in which speech fluency is impaired, is a disorder that can develop worldwide and affect people of all ages and genders, regardless of culture, language, or race (Guitar, 2006). The World Health Organization defines stuttering as a disorder that occurs in speech rhythm due to involuntary repetitive prolongations and interruptions, in which the individual knows precisely what they want to say (Williams et al., 2010). Syllable repetitions, prolonging, or blocks in speech explain its clinical appearance (Guitar, 2006; Williams et al., 2010).

Stuttering is a multidimensional concept that needs to be dealt with in addition to observed speech symptoms, some accompanying physical symptoms, increased autonomic activity, negative emotional reactions and avoidance behaviors related to speech, and changing social dynamics (Özer Anthols, 2019). Individuals with stuttering may be exposed to several negative attitudes from their family members in the early stages of their life, and they often experience experiences, such as peer bullying, criticism and ridicule, and stigmatization during childhood and adolescence (Blood and Blood, 2007; MacKinnon et al., 2007; Yarus and Quesal, 2004). While causing avoidance and social isolation, these are all

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situations that can potentially disrupt the communication competence, self-esteem, and social development of the individual, which may affect the individual's whole life (Blood et al., 2011). Over time, the effect of all these negative experiences may lead to these individuals experiencing feelings, thoughts, and behavioral symptoms, such as fear of negative evaluation, avoidance behaviors, low self-confidence, and hopelessness about the future (Özmen, 2018). Social anxiety, which develops as a result of these dysfunctional beliefs and attitudes in the majority of individuals with stuttering may result in difficulties in education and professional life in adulthood, avoidance of social environments, and lower quality of life (Blumgart et al., 2010).

The perception of social support, which is directly related to the mental well-being of individuals, becomes even more critical for stuttering individuals who suffer negative experiences, such as criticism, ridicule, exclusion, and stigma. Studies have shown that lack of social support in people with stuttering may be associated with increased anxiety and negative mental state and may increase avoidance of social communication (Blumgart et al., 2014; Craig et al., 2011).

Psychological well-being is a condition that can be determined not only by the absence of any mental disorder, but also by the presence of multifaceted features, such as having a life purpose, autonomy, self-acceptance, realizing one's potential, establishing quality relationships with others, and environmental dominance (Ryff and Keyes, 1995). While factors, such as temperamental characteristics that reduce ability to communicate well, shyness, academic inadequacy, lack of income, and negative peer relationships, are risk factors that negatively affect psychological well-being, the power existing in their personal potential and the social support they receive from their environment appear to be protective factors (Bulut, 2018; Öz and Bahadır Yılmaz, 2009).

Our study aimed to examine the effects of various sociodemographic variables, experiences with stuttering, fear of negative evaluation, avoidance behaviors, low self-confidence and hopelessness about the future, and perceived social support on the mental well-being of individuals with stuttering.

2. Materials and methods

2.1. Participants

Our study included 45 patients with stuttering aged 18 years and above, who were literate, volunteered to participate in the study, and were admitted to the Mersin City Training and Research Hospital ENT outpatient clinic and speech therapy specialist between April 15, 2021 and August 15, 2021. In addition, the participants met the diagnostic criteria for stuttering according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) American Psychiatric Association (2013) diagnostic criteria as a result of the evaluation conducted by the psychiatrist. In our study, the sample formula of known universe was used to determine the minimum number of samples to be taken (Sümbüloğlu and Sümbüloğlu, 2005) and the sample size was found to be 52 (The number of population size was calculated based on the number of patients admitted with the same diagnosis on the same dates 1 year ago). Sixty-three stuttering patients applied on the specified dates, 11 chose not to participate in the study, and seven were not included in the evaluation due to missing data entry. Forty-five patients with stuttering aged 18 and over who gave verbal and written consent to participate in the study, were literate, did not have mental retardation, and completed the questions in the study were included. Ethics committee approval of our study was received from Mersin Toros University Scientific Research and Publication Ethics Committee with the date 22.03.2021 and the decree number 1202/39.

2.2. Sociodemographic data form

A form consisting of 22 questions was prepared by the researchers and applied to the participants, in which age, gender, marital status, educational status, occupational information, and information and experiences related to stuttering (e.g., age of onset, family attitude, avoidance behaviors, effect on career choice) were proposed. The questions investigating the knowledge and experiences related to stuttering were prepared by the researchers based on the literature review on the subject (especially the studies that dealt with various challenges experienced by people with stuttering and the effects of these challenges on mental health, quality of life, etc) and our clinical experience.

2.3. Unhelpful Thoughts and Beliefs About Stuttering Scale-6 (UTBAS-6)

The sixth version of the Unhelpful Thoughts and Beliefs About Stuttering Scale (UTBAS-6), which we used in our study, was developed by Iverach et al. (2016). The scale consists of six items and three internal scales requiring five-point Likert-type scoring for each item, including frequency, unhelpful belief, and anxiety scoring.

When completing the three UTBAS-6 subscales, respondents are asked to read each of the 6 items and to indicate (a) "How frequently I have these thoughts" (UTBAS-1), (b) "How much I believe these thoughts" (UTBAS-2), and (c) "How anxious these thoughts make me feel" (UTBAS-3). A 5-point rating scale is used to indicate a response for each item (1 = never or not at all, 2 = rarely or a little, 3 = sometimes or somewhat, 4 = often or a lot, 5 = always or totally). Item responses for the three UTBAS-6 subscales are summed to produce a score ranging from 6 to 30 for each scale. Item responses for all three subscales can be summed to yield an UTBAS-6 total score ranging from 18 to 90, with higher scores indicates a higher frequency of unhelpful thoughts and beliefs about stuttering and greater anxiety associated with these thoughts.

On the other hand, the six items of the UTBAS-6 tap into negative thoughts associated with stuttering, including fear of negative evaluation ("People will think I'm strange," "People will think I'm incompetent because I stutter"), avoidance ("I don't want to go—people won't like me"), self-doubt and lack of confidence ("I'll never finish explaining my point—they'll misunderstand me"), and hopelessness ("What's the point of even trying to speak—it never comes out right," "I'll never be successful because of my stutter"). The authors also report that these thoughts have the potential to drive the development and maintenance of social anxiety and feelings of hopelessness and depression (Iverach et al., 2016). The Turkish validity and reliability study was performed by Özmen (2018).

2.4. Multidimensional scale of perceived social support

A study assessing the validity and reliability of the scale developed by Zimmet et al. (1988) was performed by Eker and Arkar in Turkey (1995). The seven-point Likert-type scale subjectively evaluates the adequacy of social support received from three different sources and consists of a total of 12 items. The lowest score obtained from the entire scale was 12, while the highest score was 84. A high score indicates high perceived social support (Eker and Arkar, 1995).

2.5. Warwick-Edinburgh Mental Well-being scale

The scale was developed by Tennant et al. (2007) in England to measure the level of psychological well-being. Adaptation to Turkish was performed by Keldal (2015). The scale, which is used to evaluate the positive mental health of individuals, consists of 14 items rated on a five-point Likert scale. Between 14 and 70 points were obtained in total. Higher scores indicate higher psychological well-being.

2.6. Statistical analysis

The data obtained from the study participants were analyzed using the Statistical Package for the Social Sciences (SPSS) demo version 21.0 (IBM SPSS Corp; Armonk, NY, USA). The normality of continuous

Table 1. Sociodemographic characteristics and experiences with stuttering.

	Number and percentage			Number and percentage	
	n	%		n	%
Gender			**Past psychiatric admission**		
Female	32	71.1	Yes	30	66.7
Male	13	28.9	No	15	33.3
Marital status			**Diagnosed psychiatric illness**		
Married	6	13.3	Yes	7	15.5
Single	37	82.2	No	31	68.9
Other (widowed, divorced, etc.)	2	4.5		7	15.5
Educational status			**Psychiatric drug use (past or present)**		
Primary education	10	22.2	Yes	13	28.9
High school	19	42.2	No	24	53.3
University and above	16	35.6	Doesn't remember	8	17.8
Profession			**How do your family and friends often react to your stuttering? (most common reaction)**		
Student	6	13.3	They get angry	0	0
Working	29	64.4	They complete my sentences	6	13.3
Unemployed	10	22.2	They warn me not to stutter	4	8.9
A stressful event that triggered the stuttering before it started			They pretend like I do not stutter	9	20
Yes	19	42.2	They tease	3	6.7
No	26	57.8	They show their impatience	6	13.3
			They patiently wait for me to complete	17	37.8
A stressful event that triggered the stuttering before it started			They pretend	0	0
Yes	19	42.2			
No	26	57.8			
In your student life, were you exposed to negative reactions due to stuttering by your school friends or peers? (Making fun of, mocking, casting out, nicknames, etc.)			**Being unable to object or respond to a situation due to stuttering?**		
Very often			Very often		
From time to time	8	17.8	From time to time	12	26.7
Rarely	16	35.6	Rarely	16	35.6
Never	15	33.3	Never	10	22.2
	6	13.3		7	15.5
Did stuttering influence your career choice?			**Have you ever received any treatment/therapy for stuttering?**		
Positively impacted	4	8.9			
Negatively impacted	19	42.2	Yes	23	51.1
Did not impact	22	48.9	No	22	48.9
Does anyone else in your family have stuttering?			**If you have received any treatment/therapy for stuttering, where did you get it?**		
Yes	14	31.1	Private institution	17	37.8
No	31	68.9	Government institution	6	13.3
			I didn't	22	48.9
To what extent do you think you get the support you need from your family about stuttering?			**Do you prefer to remain silent in chat environments due to stuttering?**		
Whenever I need	17	37.8	Very often	20	44.4
From time to time	17	37.8	From time to time	10	22.2
Insufficient support	11	24.4	Rarely	12	26.7
			Never	3	6.7
Do you avoid social situations because of stuttering?			**What services do you think are lacking in stuttering?**		
Very often	15	33.3	Raising awareness in society	16	35.6
From time to time	14	31.1	Self-help groups	4	8.9
Rarely	10	22.2	Treatment options, improving access to speech therapists	25	55.6
Never	6	13.3			

measurements was tested using the Shapiro–Wilk test. Differences between sociodemographic characteristics in terms of continuous measures were tested using the Student's t-test and analysis of variance (ANOVA). Levene's test was used to control the homogeneity of variances. When the homogeneity of the variances was met, the one-way ANOVA test was used for the differences between the groups, and the Bonferroni test was used for pairwise comparisons. When homogeneity of the variances was not ensured, the Welch test was used for the differences between the groups, and the Games-Howell test was used for pairwise comparisons. The mean and standard deviation values are presented as descriptive

statistics. Pearson's correlation analysis was used to determine the relationship between continuous measurements. Statistical significance was set at $p < 0.05$.

3. Results

A total of 45 participants, 32 women (71.1%) and 13 men (28.9%), completed the study. The mean age of the participants was determined as 24.9 ± 5.9 years. The mean age at onset of stuttering was 6.4 ± 4.2 years. The mean age of onset of stuttering was 6.8 ± 4.9 years for females and 5.7 ± 2.1 years for males. There was no statistically significant difference between the sexes in terms of the mean age at onset of stuttering ($p = 0.455$).

Six of the participants (13.3%) were married and 37 (82.2%) were single. When we look at their educational status, 10 (22.2%) of them had primary, 19 (42.2%) had high school and 16 (35.6%) had a university or higher education level. According to the results of our study, no significant relationship was found between gender, marital status and educational status, and UTBAS-6 total score, perceived social support and psychological well-being. 29 participants (64.4%) reported that they were working at a job, 6 (13.3%) were participating students, and 10 (22.2%) were unemployed. The presence of a triggering stressful life event before the onset of stuttering was confirmed by 19 (42.2%) participants. 14 (31.1%) of the participants reported that there was someone else in their family who stuttered.

Thirty (66.7%) of the 45 patients who participated in the study stated that they had a previous psychiatric application, and 7 (15.5%) stated that they had a diagnosed psychiatric disease. There was no significant difference between the participants with and without a psychiatric diagnosis in UTBAS-6 total score, subscale scores, perceived social support and psychological well-being. While 5 (71.4%) of 7 people with a diagnosed psychiatric illness were taking psychiatric medication, 2 (28.6%) said that they did not. In addition, it was found that 8 out of 31 people without a diagnosed psychiatric illness also used psychiatric medication in the past or currently.

The sociodemographic characteristics of the participants and their experiences with stuttering are presented in Table 1.

Table 2 shows the relationship between the participants' sociodemographic characteristics, such as age, gender, marital status, educational status, and stuttering-related experiences with their total UTBAS-6 scores, UTBAS-6 subscale scores, percieved total social support scores and mental well-being scores.

It was found that the behavior of avoiding social environments due to stuttering was very frequent in 15 (33.3%) of the participants and from time to time in 14 (31.1%). 6 participants (13.3%) reported that they had never had the behavior of avoiding social environments due to stuttering. There was a significant difference between the UTBAS-6 total score, fear of negative evaluation and avoidance subscale scores in the participants who reported that they never had social avoidance behavior compared to those who reported that it was very frequent, occasional, or infrequent (see Table 2). In addition, it was found that participants with avoidance behavior rarely or from time to time had significantly lower self-doubt and insecurity scores compared to those with very frequent behavior ($p = 0.02$).

Participants who reported that they never preferred to remain silent in chat environments due to stuttering had significantly lower UTBAS-6 total scores ($p = 0.005$), fear of negative evaluation ($p = 0.004$), avoidance ($p = 0.008$), and self-doubt and insecurity ($p = 0.006$) subscale scores than those who reported that they preferred very often.

It was determined that the participants who reported that they never experienced situations such as not being able to object or respond to a situation due to stuttering had significantly lower UTBAS-6 total and subscale scores compared to the other groups, and their psychological well-being scores were significantly higher than those who reported that they experienced it very often.

The scores of self-doubt and insecurity were found to be significantly higher in the participants who were exposed to negative reactions such as being teased, mocked, and excluded from time to time in their student life, compared to those who were never exposed ($p = 0.023$).

It was determined that the scores of self-doubt and insecurity were significantly higher in individuals who were teased because of stuttering in their family and close circle, compared to those who were treated as if they did not stutter. In addition, it was determined that the total perceived social support scores of those who were patiently expected to complete their stuttering in the family and close circle compared to the group being teased were significantly higher ($p = 0.045$).

Finally, when asked about the services they think are lacking in stuttering, 25 (55.6%) participants reported that treatment options and access to speech therapists should be improved; 16 (35.6%) stated that interventions to raise awareness in the society should be implemented and 4 (8.9%) stated that self-help groups should be developed.

No correlation was determined between the age of the participants, age at onset of stuttering, and the scale scores. The results of the correlation analyses of age, age of onset, UTBAS-6 total scores, UTBAS-6 subscaels, percieved social support and psychological well-being scale scores are summarized in Table 3. Accordingly, as the total UTBAS-6 score and the scores obtained from all subscales increased, it was observed that psychological well-being was negatively affected. It was noteworthy that as perceived total social support increased, psychological well-being scores also increased significantly.

It can be said that there is a statistically, very strong and linear relationship between the UTBAS-6 total score and its subscales. As the total score increases, the subscales of fear of negative evaluation score, avoidance score, self-doubt-insecurity and hopelessness also increase ($r = 0.900$, $p < 0.001$; 0.826, $p < 0.001$; $r = 0.795$, $p < 0.001$ and $r = 0.862$, $p < 0.001$ respectively). An inverse linear relationship was also observed between the UTBAS-6 total score and the total perceived social support and psychological well-being scale scores ($r = -0.404$, $p = 0.006$ and $r = -0.503$, $p < 0.001$, respectively). It can be said that as the total score of UTBAS-6 increases, there is a decrease in the total perceived social support and psychological well-being scores.

4. Discussion

Stuttering, a fluency disorder, is characterized by not only lack of speech fluency, but also difficulties in social communication, education, and professional life, difficulties in interpersonal relations and accompanying negative emotions, physiological symptoms, and avoidance behaviors in all societies. When the literature is examined, it is seen that stuttering is more common in men than in women (Craig et al., 2002; Özer Antholos, 2019). In contrast, 71.1% of the participants were women in our study. Among the reasons for this may be the fact that patients were recruited from a single center, the sample was not large enough, or that women attempted to seek help more than men.

In our study, it was determined that there was no significant difference between the mental well-being scale scores of the participants with and without a diagnosis of psychiatric illness. We think that it is necessary to focus on the concept of psychological well-being, rather than focusing on whether stuttering, which affects almost every area of life, such as communication, education, profession, and interpersonal relations, and causes the development of these thoughts and beliefs, causes a mental disorder to develop in affected individuals. According to Ryff and Keyes (1995), psychological well-being is related to whether a person is aware of their potential and goals while continuing their life and whether they can maintain a quality life in their relationships. When the basic constituents of mental well-being are examined, factors such as the individual's objective evaluation of themselves and their past life, accepting themselves as they are, making their own decisions, continuing their personal development by renewing themselves, establishing qualified and healthy relationships with other individuals, leading a

Table 2. The relationship of sociodemographic data and stuttering experiences with UTBAS-6, percieved total social support and psychological well-being scale scores.

Sociodemographic feature		UTBAS-6 total score	Fear of negative consideration	Avoidance	Self-doubt and insecurity	Hopelessness	Perceived Social Support	Mental well-being
Gender	Female	52.1 ± 17.0	19.2 ± 5.6	8.4 ± 3.4	8.3 ± 4.1	16.2 ± 7.4	53,8 ± 18,2	48.8 ± 12.5
	Male	55.6 ± 22.9	19.5 ± 8.6	9.7 ± 4.8	8.3 ± 4.6	18.2 ± 6.9	59,9 ± 20,4	53.1 ± 14.1
	p	0.569	0.907	0.312	0.967	0.408	0,326	0.326
Marital status	Married	64.5 ± 13.8	23.8 ± 5.1	11.8 ± 3.0	9.8 ± 4.0	19.0 ± 6.4	60,0 ± 13,8	46.3 ± 16.1
	Single	51.1 ± 19.0	18.5 ± 6.4	8.4 ± 3.8	7.9 ± 4.3	16.2 ± 7.4	57,1 ± 17,3	51.4 ± 11.8
	p	0.107	0.061	**0.043**	0.319	0.386	0,702	0.361
Educational status	Primary education	56.7 ± 20.1	19.6 ± 7.2	9.3 ± 4.5	9.6 ± 3.4	18.2 ± 6.7	55,1 ± 20,1	51.8 ± 13.9
	High school	53.5 ± 19.9	19.2 ± 6.7	8.3 ± 4.0	8.7 ± 4.4	17.1 ± 8.3	52,0 ± 22,7	47.8 ± 14.6
	University and above	50.4 ± 16.9	19.1 ± 6.3	9.0 ± 3.3	6.9 ± 4.2	15.4 ± 6.4	60,1 ± 11,7	51.7 ± 10.4
	p	0.707	0.982	0.780	0.226	0.611	0,458	0.612
Diagnosed psychiatric illness	Yes	52.0 ± 16.4	20.4 ± 4.8	9.1 ± 2.7	7.3 ± 4.6	14.7 ± 8.6	45,3 ± 23,5	43.6 ± 17.1
	No	52.4 ± 19.2	18.1 ± 6.7	8.6 ± 4.2	8.2 ± 4.0	17.4 ± 6.6	58,3 ± 17,2	51.8 ± 12.3
	P	0.954	0.397	0.738	0.588	0.357	0,100	0.147
The stressor that triggers the onset of stuttering	Yes	58.1 ± 14.9	21.3 ± 5.0	10.0 ± 3.2	8.6 ± 3.9	18.0 ± 6.9	51,2 ± 16,7	46.3 ± 13.6
	No	49.4 ± 20.5	17.7 ± 7.1	7.9 ± 4.0	8.0 ± 4.4	15.8 ± 7.5	58,8 ± 17,8	52.8 ± 12.0
	P	0.125	0.067	0.066	0.624	0.322	0,183	0.097
Another family member with stuttering	Yes	58.4 ± 17.3	21.4 ± 6.5	9.4 ± 3.7	9.7 ± 3.3	17.9 ± 6.8	54,9 ± 21,4	47.8 ± 14.4
	No	50.7 ± 19.0	18.3 ± 6.4	8.5 ± 3.9	7.6 ± 4.4	16.2 ± 7.5	55,9 ± 17,9	51.1 ± 12.4
	P	0.201	0.131	0.449	0.121	0.491	0,869	0.434
Past treatment history for stuttering	Yes	51.8 ± 19.0	19.3 ± 6.8	9.2 ± 3.7	7.6 ± 3.7	15.8 ± 7.8	59,1 ± 15,0	49.3 ± 13.4
	No	54.4 ± 18.6	19.2 ± 6.3	8.4 ± 4.0	9.0 ± 4.6	17.7 ± 6.7	51,9 ± 21,8	50.8 ± 12.7
	P	0.648	0.986	0.484	0.287	0.374	0,201	0.708
To what extent do you feel you receive the support you need from your family about your stuttering	Whenever needed	41.8 ± 18.3	15.5 ± 7.2	7.8 ± 3.9	5.8 ± 3.3	12.8 ± 6.4	62,6 ± 17,0	55.7 ± 11.6
	From time to time	58.4 ± 15.9*	20.6 ± 4.8*	9.2 ± 3.9	9.8 ± 4.1*	18.6 ± 6.8*	52,3 ± 17,0	46.8 ± 10.4
	Inadequate	62.4 ± 15.3*	22.9 ± 5.0*	9.7 ± 3.6	9.7 ± 4.2*	20.0 ± 7.0*	49,6 ± 22,1	46.4 ± 16.2
	p	**0.004**	**0.004**	0.366	**0.007**	**0.011**	0,133	0.072
Exposure to negative reactions from peers in student life (Making fun of, mocking, exclusion, nicknames)	Very often	61.0 ± 15.6	22.4 ± 4.9	10.5 ± 2.7	10.0 ± 4.5	17.8 ± 8.5	46,3 ± 30,3	46.1 ± 17.3
	From time to time	55.4 ± 22.5	18.6 ± 7.7	9.1 ± 4.1	9.8 ± 4.3	17.9 ± 8.3	57,8 ± 12,6	48.9 ± 13.1
	Rarely	51.7 ± 15.5	19.3 ± 6.0	8.3 ± 4.1	7.3 ± 3.5	16.9 ± 5.5	59,9 ± 15,0	51.6 ± 11.2
	Never	39.7 ± 13.6	16.5 ± 6.0	6.8 ± 3.4	4,5 ± 2,3†	11.8 ± 5.9	51,3 ± 21,9	54.5 ± 11.5
	p	0.182	0.390	0.319	**0.023**	0.350	0,361	0.635
Did stuttering influence your career choice?	Positively impacted	61.3 ± 11.5	22.0 ± 3.4	9.3 ± 2.5	11.5 ± 1.7	17.8 ± 8.5	22,8 ± 20,2	36.3 ± 12.7
	Negatively impacted	55.9 ± 20.2	20.4 ± 6.3	9.5 ± 4.0	9.3 ± 4.4	16.8 ± 8.7	54,8 ± 13,6*	48.1 ± 13.4
	Did not impact	49.2 ± 18.0	17.8 ± 6.9	8.1 ± 3.9	6.8 ± 3.8*	16.5 ± 5.9	62,1 ± 16,5*	54.3 ± 10.7*
	p	0.348	0.305	0.507	**0.044**	0.952	**<0,001**	**0.021**

(*continued on next page*)

Table 2 (*continued*)

Sociodemographic feature		UTBAS-6 total score	Fear of negative consideration	Avoidance	Self-doubt and insecurity	Hopelessness	Perceived Social Support	Mental well-being
Avoiding social situations due to stuttering	Very often	64.4 ± 17.2	23.1 ± 4.9	10.9 ± 3.7	11.0 ± 3.1	19.4 ± 8.7	51,3 ± 20,0	46.7 ± 14.2
	From time to time	53.3 ± 14.5	19.3 ± 5.0	9.1 ± 2.9	8.1 ± 4.2*	16.6 ± 6.1	52,1 ± 16,3	47.7 ± 12.9
	Rarely	52.2 ± 13.8	20.1 ± 4.7	8.2 ± 3.4	7.0 ± 4.1*	16.9 ± 6.2	59,5 ± 12,6	50.9 ± 9.8
	Never	25,8 ± 8,5*,†,‡	8,2 ± 2,6*,†,‡	3,7 ± 1,6*,†,‡	4.0 ± 1.7	10.0 ± 3.3	67,7 ± 26,9	62.7 ± 8.1
	p	**<0.001**	**<0.001**	**<0.001**	**0.002**	0.059	0,247	0.060
Preferring to remain silent in conversations due to stuttering	Very often	60.8 ± 17.8	21.7 ± 4.9	10.3 ± 3.4	10.4 ± 3.6	18.3 ± 8.7	47,9 ± 19,5	46.4 ± 15.4
	From time to time	54.5 ± 14.0	19.4 ± 5.8	9.5 ± 3.3	7.9 ± 4.0	17.7 ± 4.2	61,9 ± 10,7	51.5 ± 6.8
	Rarely	45.9 ± 16.8	17.8 ± 7.1	6.8 ± 3.7	6.0 ± 4.0	15.4 ± 6.1	62,8 ± 14,5	52.5 ± 12.3
	Never	25.7 ± 13.3*	8,3 ± 4,0*,†	4.3 ± 2.3*	4.3 ± 2.3*	8.7 ± 4.6	56,3 ± 36,9	60.0 ± 8.7
	p	**0.005**	**0.004**	**0.008**	**0.006**	0.078	0,152	0.278
Being unable to object or respond to a situation due to stuttering	Very often	63.6 ± 15.8	22.6 ± 4.7	10.1 ± 3.5	10.8 ± 3.2	19.9 ± 7.8	45,6 ± 24,2	43.3 ± 14.1
	From time to time	55.7 ± 15.1	20.2 ± 4.7	10.3 ± 2.7	8.3 ± 4.4	16.9 ± 6.8	57,5 ± 12,1	50.5 ± 13.2
	Rarely	54.3 ± 17.1	21.0 ± 5.7	7.8 ± 4.3	8.0 ± 4.3	17.5 ± 6.9	56,5 ± 11,0	49.8 ± 9.2
	Never	27,4 ± 8,8*,†,‡	8,9 ± 3,0*,†,‡	4,4 ± 2,5*,†	4.4 ± 1.9*	9.7 ± 3.1*	66,9 ± 24,7	61.0 ± 8.6*
	p	**<0.001**	**<0.001**	**0.001**	**0.013**	**0.023**	0,349	**0.035**
How do your family and friends often react to your stuttering?	-They complete my sentences	58.7 ± 22.4	21.0 ± 7.7	9.8 ± 4.8	9.3 ± 4.8	18.5 ± 6.5	56,0 ± 12,6	53.2 ± 9.5
	-They warn	61.3 ± 14.1	22.5 ± 4.2	8.8 ± 5.1	8.8 ± 4.3	21.3 ± 3.8	53,5 ± 13,9	50.0 ± 3.8
	-They pretend like I do not stutter	43.2 ± 16.2	16.6 ± 6.6	7.7 ± 3.4	5.2 ± 2.9	13.8 ± 7.0	62,2 ± 12,1	54.2 ± 10.9
	-They tease	74.7 ± 6.4	24.3 ± 1.5	10.3 ± 3.8	13,3 ± 1,5‡	25.7 ± 4.5	28,0 ± 27,7	34.7 ± 14.0
	-They show their impatience	60.7 ± 17.3	23.3 ± 5.0	11.2 ± 2.3	10.8 ± 4.5	15.3 ± 8.8	45,3 ± 19,4	46.7 ± 13.3
	-They patiently wait for me to complete	47.9 ± 17.7	16.9 ± 6.3	7.9 ± 3.8	7.6 ± 3.6	15.3 ± 7.0	60,8 ± 19,0#	50.7 ± 15.1
	p	0.061	0.086	0.433	**0.022**	0.115	**0,045**	0.317

* shows the differences with the first category,† shows the differences with the second category.
‡ shows the differences with the third category and # shows the differences with the fourth category.

purposeful life, and having the capacity to change and manage their environment when necessary, are observed (Keldal, 2015). However, individuals with stuttering encounter attitudes such as being mocked, nicknamed, ostracized, and stigmatized at a young age. These experiences lead to low self-esteem, hopelessness, disruptions in social development and communication competence, deterioration in many areas of functionality, and low quality of life in individuals with stuttering (Blood et al., 2011; Craig et al., 2009; Özmen, 2018). All these negative experiences have the potential to negatively affect the basic components of mental well-being of individuals with stuttering. Consistent with these findings, in our study, it was found that as fear of negative evaluation, avoidance behaviors, self-doubt, insecurity and hopelessness increased, psychological well-being decreased in individuals with stuttering.

Various theories have been proposed to elucidate the etiology of stuttering. According to the learning theory and diagnosis-eugenic theory, stuttering is a warning-reinforcement situation initiated by some environmental and emotional factors, and it develops as a result of the listeners' negative evaluations of stuttering behaviors in individuals with stuttering and their negative attitudes toward them (Craig et al., 2009; Iimura et al., 2018; Olson and Zanna, 1993). At this point, individuals' past experiences bring some unhelpful thoughts and beliefs about stuttering, which can trigger negative situations, such as anxiety, social anxiety, and avoidance behaviors (Özmen, 2018). All these negativities can trigger feelings, such as anxiety, shame, sadness, anger about negative evaluation, and avoidance behavior (Blood and Blood, 2007; MacKinnon et al., 2007; Olson and Zanna, 1993; Yarus and Quesal, 2004). It is inevitable that all these negative experiences, which begin at a young age, lead to dysfunctional thoughts and beliefs in individuals with stuttering. It is known that these dysfunctional thoughts and beliefs are associated with negative mental health in stuttering individuals (Blumgart et al., 2010; Özmen, 2018). As a result, these individuals may encounter negative consequences, such as decreased self-esteem, social isolation, and lower quality of life (Craig et al., 2009). Consistent with all these findings, our study determined that when the total UTBAS-6 scores and subscale scores, which evaluate unhelpful beliefs and attitudes, such as fear of negative evaluation, avoidance, self-doubt and insecurity, and hopelessness due to stuttering increased, the psychological well-being scores of these individuals decreased significantly.

Table 3. Correlation analyses of age, age of onset, UTBAS-6 total scores, UTBAS-6 subscaels, percieved social support and psychological well-being scale scores.

		UTBAS-6 total score	Fear of negative consideration	Avoidance	Self-doubt and insecurity	Hopelessness	Total support	Mental well-being
Age	r	-0.60	-0.14	-0.20	-0.083	-0.075	-0.186	0.061
	p	0.693	0.928	0.894	0.588	0.624	0.220	0.691
Age of onset of stuttering	r	0.015	0.003	-0.165	0.009	0.123	-0.231	-0.122
	p	0.924	0.987	0.280	0.956	0.422	0.127	0.425
UTBAS-6 total score	r		0.900	0.826	0.795	0.862	-0.404	-0.503
	p		**<0.001**	**<0.001**	**<0.001**	**<0.001**	**0.006**	**<0.001**
Fear of negative consideration	r			0.755	0.615	0.662	-0.389	-0.502
	p			**<0.001**	**<0.001**	**<0.001**	**0.008**	**<0.001**
Avoidance	r				0.632	0.549	-0.275	-0.333
	p				**<0.001**	**<0.001**	0.068	**0.025**
Self-doubt and insecurity	r					0.572	-0.468	-0.490
	p					**<0.001**	**0.001**	**0.001**
Hopelessness	r						-0.253	-0.376
	p						0.093	**0.011**
Total social support	r							0.630
	p							**<0.001**

On the other hand, stuttering, which often starts in the early years of life, may cause the affected individuals to be exposed to negative reactions in the family, school, workplace, and social environments (Blood and Blood, 2007; MacKinnon et al., 2007; Yarus and Quesal, 2004). Individuals with stuttering are exposed to peer bullying, exclusion, and stigmatization in childhood and may experience academic and professional disadvantages in subsequent years. Various studies have reported that society's perceptions and beliefs toward individuals with stuttering are biased, negative, malformed, and stigmatizing and people who do not stutter typically assume that a person who stutters is nervous, shy, introverted, passive, and prone to psychological problems (Craig et al., 2003; Hughes et al., 2010; Langewin, 2009; Riley et al., 2004). These negative perceptions and beliefs inevitably lead to adverse attitudes and stigmatization toward stuttering individuals (Boyle, 2018). On the one hand, this causes problems, such as social isolation, avoidance behavior, and difficulty in expressing oneself; on the other hand, it leads to the emergence and persistence of social distance and discrimination against these individuals (Bal, 2018; Boyle, 2018). As a result, the general functionality and quality of life of individuals in society deteriorate significantly (Bal, 2018). A study conducted with 324 adults showed that the majority of the participants experienced stigma at some point in their lives and expected to face stigmatizing attitudes, such as discrimination and negative treatment in the future. The same study concluded that both experienced and anticipated stigma are predictors of global mental health in these individuals (Bal and Ünsal, 2018). Our study determined that individuals who were exposed to stigmatizing attitudes, such as being teased, mocked, ostracized, and nicknamed by their peers at school, experienced more self-doubt and feelings of insecurity. When the reactions about their stuttering that were frequently received from family and close circles were examined, it was found that teased individuals had significantly higher self-doubt and insecurity scores than those treated as if they did not stutter. Considering all these, it is obvious that it is extremely important to combat stigmatizing attitudes towards individuals with stuttering. The identification of discriminatory and stigmatizing attitudes that these individuals may encounter in childhood by their friends, family, educators and social circles, and the interventions to be developed for these, should definitely be addressed. In this context, community awareness raising and educational campaigns are proposed in order to reduce the stigma against individuals with stuttering.

In their research published in 2016, Boyle and colleagues examined the effects of contact (hearing personal stories from an individual who stutters), education (replacing myths about stuttering with facts), and protest (condemning negative attitudes toward people who stutter)— on attitudes, emotions, and behavioral intentions toward people who stutter. As a result of this study, they found that three anti-stigma strategies were more effective than the control condition for reducing stereotypes, negative emotions, and discriminatory intentions from pretest to posttest.

The rapid developments in technology in recent years, the fact that it gives access to more people and the restrictions experienced during the pandemic process have brought the use of virtual programs in many intervention programs. In a study investigating the effect of a virtual program on stigmatization of individuals with mental disorders among university students, researchers evaluated the effectiveness of a online multi-component program on reducing stigma toward mental illness that included project-based learning, clinical simulations with standardized patients and E-Contact with real patients (Rodríguez-Rivas et al., 2021). According to the results of this study, the participants belonging to the intervention group displayed significantly lower levels of stereotypes, perception of dangerousness, and global score toward people with schizophrenia. They also presented lower levels of dangerousness-fear, avoidance, coercion, lack of solidarity, and global score. The authors reported that the virtual program they evaluated in this study had a positive effect on all dimensions of stigma and was positively evaluated by the participants. The spread of virtual programs like this may enable various intervention programs to reach more people, including the stigma experienced by stuttering patients.

Our study revealed that individuals who did not avoid social environments due to their stuttering experience had less fear of negative evaluation, avoidance, self-doubt, and insecurity than those who did. Again, higher UTBAS-6 total scores, fear of negative evaluation, avoidance, self-doubt, and insecurity were found in those who preferred to remain silent in conversational environments due to their stuttering. It was determined that the total UTBAS-6 score and fear of negative evaluation, avoidance, self-doubt, insecurity, and hopelessness scores were higher in individuals who experienced an inability to object or respond to any situation due to their stuttering, and their psychological well-being scores were found to be lower.

Our study found that those who thought they received insufficient support from their families for stuttering had higher total UTBAS-6 scores, fear of negative evaluation, self-doubt and insecurity, and hopelessness scores compared to those who thought they received sufficient support. Social support is a concept that includes social, psychological, and economic assistance based on honesty, love, respect, and valuing, conveyed by an individual's family members, friends, co-workers, relatives, neighbors, or the person with whom

they have an emotional relationship, and helping them to cope with difficult conditions, especially under stress. Meanwhile, social support also defines functional and qualified social relationships that increase both physical and mental well-being (Cohen, 2004). In a study investigating mental resilience in adults with chronic stuttering, three factors thought to protect against the development of psychological distress or negative affect were identified (Craig et al., 2011). These are defined as having a strong sense of control over one's life and daily functioning, adequate social support networks, and successful integration into society. Another study (Blumgart et al., 2014) showed that poor social support was associated with negative psychological outcomes in individuals with stuttering. In our study, it was found that as the participants' perceived social support scores increased, their psychological well-being scores also increased significantly. Social support improves self-esteem, adaptation capacity, and a sense of belonging among individuals (Feldman and Cohen, 2000). In a study by Craig et al. (2011), it was determined that the lack of social support in individuals with stuttering increases anxiety and negative mood, which may deepen the avoidance of social interaction. Another study examining the quality of life and related psychosocial factors in individuals with stuttering found that increased self-esteem and social support from the family were associated with an increase in quality of life, independent of the severity of stuttering (Bloom, 1990).

Another important finding of our study was that when participants were asked about the services they thought were lacking in stuttering, it was determined that 22 (55.6%) of them thought that treatment options and access to speech therapists should be improved, 16 (35.6%) of them thought that awareness should be created in society, and four (8.9%) of them thought that self-help groups should be developed.

5. Conclusion

Stuttering affects an individual's speech and has critical impacts on social, academic, professional, and psychological areas. The risk of encountering negative reactions in almost all areas of life increases feelings, such as social isolation, decreased self-esteem, self-confidence, and hopelessness in these individuals, which may cause a decrease in mental well-being and quality of life. These negative attitudes, both within the family and in their social lives, lead to various negative beliefs and cognitions in stuttering individuals. Both these negative cognitions and the low level of social support perceived by people negatively affect their psychological well-being. At this point, we think that planning educational practices that raise awareness about stuttering in society, facilitating access to treatment options, and increasing social support of individuals with stuttering will be spiritually protective.

The limitations of our study include the fact that the study was conducted in a single center, the low number of patient admissions due to the pandemic, and the small sample size as a result. Future research may include evaluating the factors affecting the psychological well-being of individuals with stuttering with larger sample groups, determining social attitudes towards individuals with stuttering, and investigating intervention programs that will increase the psychological well-being and quality of life of patients. In this context, research that includes not only the patient but also the family and social environment will be useful for determining the attitudes of these individuals towards stuttering and developing culturally appropriate intervention programs. For our country, the validity and reliability studies of more scales in terms of language and culture will also enable further research.

Declarations

Author contribution statement

Seda Türkili: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Serkan Türkili: Conceived and designed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data.

Zeynep Feryal Aydın: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data.

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Data will be made available on request.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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