International Journal of
Disabilities Sports and Health Sciences
e-ISSN: 2645-9094

RESEARCH ARTICLE

Intolerance of Uncertainty Levels in Families of Children with Special Needs During Covid-19 Process

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Abstract
The objective of this study was to investigate the levels of intolerance of uncertainty among families of children with special needs during the Covid-19 pandemic, with respect to various factors. The study utilized a relational survey model and included 250 families of children with special needs who participated in the research during the Fall academic year of 2020-2021. Due to the Covid-19 pandemic's unavoidable circumstances, data were collected electronically via Google Forms. To gather the data, a "Demographic Information Form" and an "Intolerance of Uncertainty Scale" were administered. The obtained data were analyzed using the SPSS 26.0 software. The results indicated that families of children with special needs had a higher level of intolerance of uncertainty, as indicated by the scale's overall scores and the prospective anxiety sub-dimension($p>0.05$). The study further revealed that the families' income level and whether one of their relatives had Covid-19 significantly impacted their intolerance of uncertainty levels($p>0.05$). However, there were no significant differences based on the families' age, gender, marital status, Covid-19 status, loss of a loved one due to Covid-19, chronic illness, or job loss during the pandemic($p>0.05$).Based on studies examining the intolerance of families of children with special needs to uncertainty, efforts can be made to provide psychological support to families of children with special needs.Seminars can be organized for families of children with special needs by institution managers or special education teachers.

Keywords
COVID-19, Families, Intolerance of Uncertainy, Children with Special Needs

INTRODUCTION

In December 2019, Covid-19 emerged in the city of Wuhan in China, quickly affecting the entire world and causing a global pandemic (Zheng et al., 2020; Wang et al., 2020; Altuntaş et al., 2022). Covid-19 is a highly contagious disease with symptoms such as fever, cough and difficulty breathing. The disease was first seen in Turkey on March 11th, 2020 (Ministry of Health of Turkey, 2020). After cases began to appear in different countries, measures were taken to slow the spread of the disease, such as travel restrictions, remote work for some employees, partial or full lockdowns and schools switching to online education (Alper, 2020; Memikoglu, 2020).

The expectations of parents can change with the addition of each child to the family. Such changes in expectations can have positive or negative effects on communication and interaction within the family. Families who learn that they have a child who requires special education may

Received: 02 May.2023 ; **Accepted:** 05 August 2023; **Online Published:** 25 October 2023
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How to cite this article: Nuri, C. and Gökşin, G.B. (2023). Intolerance of Uncertainty Levels in Families of Children with Special Needs During Covid-19 Process. *Int J Disabil Sports Health Sci*;2023;6(3):316-331.https://doi.org/10.33438/ijdshs.1288074

have to delay or cancel many things they wanted to do and reevaluate their life goals. Preexisting communication and interaction deficiencies within the family may worsen with the diagnosis of the child (Ozsenol et al., 2003).

In the literature, it is widely accepted that families of children with special needs go through a stage model with its components in accepting this situation. There are many processes that families experience in this stage model. These processes are shock, disbelief and denial, anger and resentment, bargaining, depression and sadness and acceptance stages (Cavkaytar, 2010).

The inclusion of a child with special needs into a family can cause changes in the experiences of family members, create traumas and negatively affect the current structure of the family (Iscan and Malkoc, 2017). Studies on families of children with special needs show that these families experience more stress and anxiety than families with typically developing children (Metin, 2012). The reasons for families of children with special needs to experience more stress and anxiety than families with typically developing children are difficulties and problems in the child's care, education, health status, treatment and growing (Sivrikaya and Tekinarslan, 2013).

It is known that changes in the course of the Covid-19 pandemic, the emergence of new variants and similar situations can have negative effects on individuals' psychological conditions. It is considered that these situations can lead to uncertainty, concern, anxiety and stress. The concept of uncertainty is the situation where the future situations and events are unclear. Uncertainty can have negative consequences on human psychology (Sarıcam, Erguvan, Akın and Akca, 2014).

The intolerance of uncertainty is the negative reactions that individuals give to events and situations encountered in the flow of their lives (Bhur and Dugas, 2002). It is thought that the Covid-19 outbreak and the emotions associated with the perceived risk have further intensified anxiety (Tull et al., 2020). It is known that Covid-19 poses a risk for individuals with chronic illnesses and those aged 65 and above, who are defined as the high-risk group. In the initial period when the outbreak disease emerged, the fact that people did not know about this disease and the strict measures taken in countries where the disease was seen caused negative situations to occur in human psychology (Karakas, 2020).

Families of children with special needs are believed to experience higher levels of anxiety and stress compared to families with typically developing children, and their current negative psychological states may be influenced by the levels of stress, anxiety, and intolerance of uncertainty caused by the psychological impacts of the Covid-19 outbreak. Therefore, the primary objective of this study was to investigate the levels of intolerance of uncertainty in families of children with special needs during the Covid-19 pandemic based on various factors. To achieve this overarching aim, the study aimed to address the following questions.

1. What are the intolerance of uncertainty levels of families of children with special needs during the Covid-19 outbreak?
2. Is there a significant difference in the intolerance of uncertainty levels of families of children with special needs during the Covid-19 outbreak based on age, gender, marital status, income level, status of having or not having Covid-19 disease, status of their close ones having or not having Covid-19 disease, having lost a close one because of Covid-19, having a chronic illness and experiencing job loss during Covid-19?

MATERIALS AND METHODS

Research Model

In this study, the relational survey model, which is one of the quantitative research methods, was used to examine the level of intolerance of uncertainty among families of children with special needs during the Covid-19 process. Quantitative research focuses on examining the relationships between mathematically measured variables and is concerned with quantities. It examines the direction of views on the researched subject in the universe. In quantitative research, it is necessary to select the sample to represent the universe and to ask the participants in the sample the correct questions (Saunders, Lewis and Thornhill, 2016). Relational survey is a research model used to determine the presence and/or degree of linked changes in two or more variables (Oral and Coban, 2020). In studies using the correlational survey model, the description of a situation or event as it is, determining the relationships, effects and degrees of the variables

that cause this situation or event is the goal (Kaya, Balay and Gocen, 2012).

Study Group

The study group consisted of 250 parents of children with special needs who volunteered to participate in this study. Study group of the study was determined using simple random sampling technique. In simple random sampling, all units have an equal chance of selection. In practice, units are listed and random selections are made from among them. When the population is not very large and complex, the selection process can be facilitated and, in this method, evaluation and sampling errors can be easily calculated without statistical weighting (Dawson and Trapp, 2001; Kılıc, 2013). Within this scope, data collection tools of the research were applied to 250 parents who volunteered to participate using random sampling technique. Written informed agreement wasacquired from the families for this study infollowing with the guidelines set out in theDeclaration of Helsinki.The demographic characteristics of the families of children with special needs in the study group are given in detail in Table 1.

Table 1. Demographic characteristics of the families of children with special needs

Variable		Number (n)	Percentage (%)
Age	20-29 age	67	26,8
	30-39 age	111	44,4
	40 age and above	72	28,8
Gender	Female	165	66
	Male	85	34
Marital status	Single	68	27,2
	Married	182	72,8
Income level	Low	66	26,4
	Middle	107	42,8
	High	77	30,8
Status of having or not having Covid-19 disease	Yes	163	65,2
	No	87	34,8
Status of their close ones having or not having Covid-19 disease	Yes	158	63,2
	No	92	36,8
Having lost a close one because of COVİD-19	Yes	96	38,4
	No	154	61,6
Having a chronic illness	Yes	77	30,8
	No	173	69,2
Experiencing job loss during Covid-19	Yes	77	30,8
	No	173	69,2

Table 1 shows the demographic characteristics of the participants included in the study.

Data Collection Tools

For data collection in this study, researchers used the “Demographic Information Form” which was prepared with expert opinions to gather information about families of children with special needs. The form included questions on age, gender, marital status, income level, Covid-19 status, whether their close ones had Covid-19, having lost a close one due to Covid-19, having a chronic illness, and experiencing job loss during the pandemic.

In addition, the “Intolerance of Uncertainty Scale” (IUS) was used, which was developed as a short form by Carleton, Norton, and Asmundson (2007) and adapted into Turkish by Sarıcam, Erguvan, Akın, and Akca (2014) after undergoing validity and reliability analyses. The IUS-12 consists of 12 items and two subscales: the “prospective anxiety” dimension (the first seven questions) and the “inhibitory anxiety” dimension (the remaining five questions). The total score on the scale ranges from 12 to 60, with higher scores indicating a higher level of intolerance of uncertainty and lower scores indicating a lower level. The score obtained is linearly related to the level of intolerance of uncertainty. The Cronbach’s

alpha coefficient for the scale was found to be a = 0.84, and for the inhibitory anxiety subscale, it was calculated as 0.77.

Data Collection and Analysis

Ethical permission was obtained from the Cyprus International University Scientific Research EthicsCommittee before the data were collected for thisstudy.The study collected data from 250 families of children with special needs between February 1, 2022 and April 15, 2022, using Google Forms sent via electronic mail and messaging applications. The collected data were analyzed using Statistical Package for Social Sciences (SPSS) 26.0 software. Before starting the data analysis, the Cronbach Alpha test was applied to assess the reliability of the participants' responses to the Intolerance of Uncertainty Scale, and the alpha value was found to be 0.966. Descriptive statistics were used to determine the distribution of participants according to their demographic characteristics, and the Intolerance of Uncertainty Scale scores were analyzed for normality using the Kolmogorov-Smirnov test and Skewness-Kurtosis values. The analysis showed that the data set had a normal distribution.

RESULTS

The Intolerance of Uncertainty Scale scores of families of children with special needs are presented in Table 3.

According to the findings presented in Table 2, the families of children with special needs obtained an average score of 25.05±6.96 on the prospective anxiety subscale of the Intolerance of Uncertainty Scale, ranging from a minimum of 7 to a maximum of 35. For the inhibitory anxiety subscale, the average score was 17.38±5.54, with a minimum of 5 and a maximum of 25. Finally, the families had an average score of 42.42±12.17 on the overall Intolerance of Uncertainty Scale, with a range of 12 to 60.

Table 2. The Intolerance of uncertainty scale scores of families of children with special needs

	n	$\bar{x}$	SS	Min	Max
Prospective anxiety	250	25,05	6,96	7	35
Inhibitory anxiety	250	17,38	5,54	5	25
Intolerance of Uncertainty Scale	250	42,42	12,17	12	60

Table 3. Comparison of intolerance of uncertainty scale scores by age variable for families of children with special needs

	Age	n	$\bar{x}$	SS	Min	Max	F	p
Prospective anxiety	20-29 age	67	26,13	8,13	7	35	1,209	0,30
	30-39 age	111	24,83	6,50	10	35		
	40 age and above	72	24,38	6,44	9	35		
Inhibitory anxiety	20-29 age	67	18,58	6,22	5	25	2,211	0,11
	30-39 age	111	16,87	5,37	5	25		
	40 age and above	72	17,03	5,00	5	25		
Intolerance of Uncertainty Scale	20-29 age	67	44,72	14,18	12	60	1,647	0,19
	30-39 age	111	41,70	11,43	17	60		
	40 age and above	72	41,40	11,08	17	60		

*$p<0,05$

The results in Table 3 indicate that no statistically significant difference was found ($p>0.05$) in the overall scores of the Intolerance of Uncertainty Scale and its sub-dimensions based on the age variable among families of children with special needs. The families had similar scores in terms of prospective anxiety, inhibitory anxiety, and the overall scores on the Intolerance of Uncertainty Scale, regardless of their age groups.

Table 4. Comparison of intolerance of uncertainty scale scores by gender variable for families of children with special needs

	Gender	n	$\bar{x}$	SS	t	p
Prospective anxiety	Female	165	24,81	7,24	-0,746	0,457
	Male	85	25,51	6,40		
Inhibitory anxiety	Female	165	17,15	5,67	-0,917	0,360
	Male	85	17,82	5,26		
Intolerance of Uncertainty Scale	Female	165	41,96	12,60	-0,844	0,399

Upon analysis of Table 4, it was observed that there was no statistically significant difference (p>0.05) in the scores obtained by families of children with special needs from the sub-dimensions of prospective anxiety and inhibitory anxiety as well as the overall score on the Intolerance of Uncertainty Scale, based on the gender variable. The results indicated that female and male participants had similar scores in terms of prospective anxiety, inhibitory anxiety and overall scores on the Intolerance of Uncertainty Scale.

Table 5. Comparison of intolerance of uncertainty scale scores by marital status variable for families of children with special needs

	Marital Status	n	$\bar{x}$	SS	t	p
Prospective anxiety	Single	68	25,54	5,44	0,688	0,492
	Married	182	24,86	7,46		
Inhibitory anxiety	Single	68	17,34	4,69	-0,066	0,948
	Married	182	17,39	5,83		
Intolerance of Uncertainty Scale	Single	68	42,88	9,69	0,363	0,717
	Married	182	42,25	12,99		

Upon analysis of Table 5, it can be seen that there is no statistically significant difference (p>0.05) in the overall scores of the Intolerance of Uncertainty Scale and its sub-dimensions based on the marital status variable of the families of children with special needs. Although single participants had higher prospective anxiety scores and overall scores on the Intolerance of Uncertainty Scale than married participants, and married participants had higher inhibitory anxiety scores than single participants, the differences were not statistically significant.

Table 6. Comparison of intolerance of uncertainty scale scores by income level variable for families of children with special needs

	Income level	n	$\bar{x}$	SS	F	p	Diff.
Prospective anxiety	Low	66	22,83	8,58	4,748	0,009*	1-2
	Middle	107	26,01	6,23			1-3
	High	77	25,61	5,99			
Inhibitory anxiety	Low	66	16,30	6,36	1,794	0,168	
	Middle	107	17,61	5,59			
	High	77	17,97	4,55			
Intolerance of Uncertainty Scale	Low	66	39,14	14,83	3,336	0,037*	1-2
	Middle	107	43,62	11,36			1-3
	High	77	43,58	10,20			

**p<0,0*

The results showed that there was a statistically significant difference (p<0.05) between the overall scores of the Intolerance of Uncertainty Scale and the average scores of the prospective anxietysubscale obtained by families of children with special needs within the scope of the research, according to the variable of income level. The scores of the participants with low income were calculated to be significantly higher than the prospective anxiety scores and Intolerance of Uncertainty Scale general scores of the participants with moderate- and high-income status.

Table 7. Comparison of intolerance of uncertainty scale scores by status of having or not having covid-19 disease variable for families of children with special needs

	Status of having or not having Covid-19 disease	**n**	$\bar{x}$	**SS**	**t**	**p**
Prospective anxiety	Yes	163	24,83	6,99	-0,682	0,496
	No	87	25,46	6,93		
Inhibitory anxiety	Yes	163	17,28	5,47	-0,366	0,715
	No	87	17,55	5,68		
Intolerance of Uncertainty Scale	Yes	163	42,11	12,16	-0,557	0,578
	No	87	43,01	12,24		

Upon analysis of Table 7, it can be concluded that there is no significant difference (p>0.05) in the overall scores of the Intolerance of Uncertainty Scale and the scores obtained from its sub-dimensions, i.e., prospective anxiety and inhibitory anxiety, based on the variable of having or not having Covid-19 disease among parents of children with special needs. The scores of participants who had Covid-19 disease and those who did not have Covid-19 disease were found to be similar in terms of prospective anxiety, inhibitory anxiety, and overall scores of the Intolerance of Uncertainty Scale. Therefore, having Covid-19 disease did not have a significant impact on the scores of the participants.

Table 8. Comparison of intolerance of uncertainty scale scores by status of their close ones having or not having covid-19disease variable for families of children with special needs

	Status of their close ones having or not having Covid-19 disease	**n**	$\bar{x}$	**SS**	**t**	**p**
Prospective anxiety	Yes	158	24,44	6,75	-1,828	0,069
	No	92	26,10	7,24		
Inhibitory anxiety	Yes	158	16,67	5,54	-2,672	0,008*
	No	92	18,59	5,33		
Intolerance of Uncertainty Scale	Yes	158	41,11	11,84	-2,260	0,025*
	No	92	44,68	12,44		

**p<0,05*

When Table 8 is examined, it is determined that there is a statistically significant difference (p<0.05) between the Intolerance of Uncertainty Scale general scores and the inhibitory anxiety subscale scores according to the variable of status of their close ones having or not having Covid-19 disease. The inhibitory anxiety and Intolerance of Uncertainty Scale general scores of participants whose family members did not have Covid-19 were found to be statistically significantly lower than those whose family members had Covid-19.

Table 9 shows that there is no statistically significant difference (p>0.05) between the scores of the families in terms of prospective anxiety and inhibitory anxiety sub-dimensions as well as their general scores on the Intolerance to Uncertainty Scale based on the variable of having lost a close one because of Covid-19. The scores on the Intolerance to Uncertainty Scale and the prospective anxiety and inhibitory anxiety sub-dimensions are found to be similar for participants who have lost a close one during the Covid-19 pandemic and those who have not.

Table 9. Comparison of intolerance of uncertainty scale scores by having lost a close one because of covid-19 variable for families of children with special needs

	Having lost a close onebecause of Covid-19	n	$\bar{x}$	SS	t	p
Prospective anxiety	Yes	96	24,60	7,51	-0,795	0,427
	No	154	25,32	6,61		
Inhibitory anxiety	Yes	96	17,69	5,50	0,702	0,483
	No	154	17,18	5,56		
Intolerance of Uncertainty Scale	Yes	96	42,29	12,87	-0,136	0,892

Table 10. Comparison of intolerance of uncertainty scale scores by having a chronic illnessvariable for families of children with special needs

	Having a chronic illness	n	$\bar{x}$	SS	t	p
Prospective anxiety	Yes	77	23,87	7,91	-1,792	0,074
	No	173	25,57	6,46		
Inhibitory anxiety	Yes	77	17,00	5,97	-0,716	0,475
	No	173	17,54	5,34		
Intolerance of Uncertainty Scale	Yes	77	40,87	13,68	-1,349	0,178
	No	173	43,12	11,40		

**p<0,05*

When Table 10 is examined, it is determined that there is no statistically significant difference between the scores of prospective anxiety, inhibitory anxiety subscales and general scores of Intolerance of Uncertainty Scale according to the variable of having a chronic illness (p>0.05). Generally, the scores of participants with a chronic illness on the general score of intolerance of uncertainty and the subscales of prospective anxietyand inhibitory anxiety were higher than those of participants without a chronic illness but this score difference was not statistically significant.

Table 11. Comparison of intolerance of uncertainty scale scores by experiencing job loss during covid-19 variable for families of children with special needs

	Experiencing Job Loss during Covid-19	n	$\bar{x}$	SS	t	p
Prospective anxiety	Yes	77	24,87	8,14	-0,269	0,788
	No	173	25,13	6,40		
Inhibitory anxiety	Yes	77	17,62	6,53	0,471	0,638
	No	173	17,27	5,05		
Intolerance of Uncertainty Scale	Yes	77	42,49	14,42	0,060	0,952
	No	173	42,39	11,06		

When Table 11 is examined, it is seen that there is no statistically significant difference (p>0.05) between the overall scores and subscales of the Intolerance of Uncertainty Scale according to the variable of experiencing job loss during the Covid-19 process for families of children with special needs. The prospective anxiety and inhibitory anxiety scores and the overall scores of the Intolerance of Uncertainty Scale were found to be similar for the participants who experienced job loss during the Covid-19 process and those who did not.

DISCUSSION

The present study aimed to investigate the level of intolerance to uncertainty among families of children with special needs during the Covid-19 pandemic. It is well-known that uncertain situations can lead to negative reactions and anxiety, especially during the pandemic (Kasapoglu, 2020). The study first examined the relationship between the level of intolerance to uncertainty and age, and no significant differences were found among different age groups of families. This is consistent with previous studies on university students which also found no significant relationship between age and intolerance to uncertainty (Kilit et al., 2020; Cetin, 2021). However, Akandere et al. (2009) reported that the age variable had an effect on the life satisfaction and hopelessness levels of families of children with intellectual and physical disability. It is possible that the intense anxiety and stress experienced by families of children with special needs due to their child's condition may explain why age did not significantly affect their level of intolerance to uncertainty in the present study.

The impact of gender on the level of intolerance to uncertainty among parents of children with special needs during the Covid-19 process was examined. The results showed no significant difference between the scores of the sub-dimensions of prospective anxiety and inhibitory anxiety and the general score of Intolerance of Uncertainty Scale based on the gender of parents. The scores were similar for both female and male participants. Similar findings were reported in studies conducted on university students by Tantan, Ulu and Yaka (2019) where the level of continuous anxiety, decision-making behavior and intolerance of uncertainty were not affected by gender. However, Kilit, Donmezler, Erensoy and Berkol (2020) found that the level of intolerance of uncertainty among university students varied significantly according to gender, with female students showing higher levels of intolerance to uncertainty than male students. In another study by Nuri, Direktor and Akcamete (2019) examining the quality of life and stress levels of parents of children with attention deficit hyperactivity disorder, female participants were found to have higher emotional well-being scores than male participants. Similarly, Derli and Okur (2008) found that regardless of gender, the depression levels of parents with a child with special needs were high, and the source of stress and depression was being a parent of a child with special needs. Families of children with special needs, particularly mothers, experience psychological and economic problems due to their inability to meet their children's needs, and they need social services and support to address these challenges, as reported by Isıkhan (2005).

It was found that there is no statistically significant difference between the general scores of the Intolerance of Uncertainty Scale and the scores obtained from the sub-dimensions of the scale according to the marital status variable of families of children with special needs. The inhibitory anxiety scores of families who are married were higher than those of single participants, while the prospective anxiety scores and general scores of Intolerance of Uncertainty Scale of single families were higher than those of married participants. However, it was found that these score differences identified due to the marital status of families were not statistically significant. Yıldız (2021) concluded that there was no significant difference related to the marital status variable in the levels of intolerance of uncertainty of teachers working in primary education level in private and public schools. In addition, Guduk, Guduk and Vural (2021) found no significant difference between the marital status variable of their participants and their levels of intolerance of uncertainty. In general, when the literature on marriage life and families of children with special needs is examined, it is seen that there is not much conceptual debate and psychological, social, economic and cultural problems are experienced in families of children with special needs and mothers are affected by these problems due to gender inequality. Therefore, it is thought that the disruption of marriage relationship, unequal distribution of responsibility between spouses and one of the spouses having more responsibility causing problems and leading to the breakdown of marriage (Danıs, 2006; Sarıhan, 2007).

It was observed that there is a statistically significant difference between the general scores of the Intolerance of Uncertainty Scale and the sub-dimension of prospective anxiety obtained by families according to their income level. The prospective anxiety scores of families of children with special needs who have a low income are significantly higher than the general scores of

Intolerance of Uncertainty Scale, compared to families of children with special needs with middle and high income level. Families of children with special needs have a need for financial resources for the care, needs, education and treatment of their children. Families with low financial status may experience problems in meeting the educational, care and treatment needs of their children which may lead to stress and anxiety. The reason for the higher intolerance for Intolerance of Uncertainty Scale scores of families with low financial status compared to those with middle and high income can be explained in this way. In contrast to these results, Kilit, Donmezler, Erensoy and Berkol (2020) concluded that the income levels of university students did not affect their levels of intolerance for uncertainty. In Konuk's (2021) study, a similar result was obtained showing that the cognitive flexibility, intolerance of uncertainty and psychological well-being scores of the participants differed according to their income levels. It is known that social services are also provided to families with special needs children in addition to educational services. The Ministry of National Education provides special education and inclusive education for individuals with special needs, as well as guidance and counseling services for their families. In addition, the Ministry of Family, Labor and Social Services provide home care support and institutional care services (Ministry of Family and Social Policies, 2017). The Social Security Institution provides some medical devices and orthopedic assistive devices in cooperation with non-governmental organizations (Social Security Institution, 2017).

There is no statistically significant difference between the scores of the sub-dimensions of prospective anxiety and inhibitory anxiety that parents of children with special needs receive based on their experience with Covid-19 and their scores on the Intolerance of Uncertainty Scale. The scores of parents of children with special needs who have experienced Covid-19 and those who have not were found to be similar in terms of prospective anxiety, inhibitory anxiety and general scores on intolerance of uncertainty. Based on these results, it can be interpreted that the situations experienced by families of children with special needs during the Covid-19 pandemic,the uncertainty of the course of the disease, lack of knowledge about the disease at the beginning of the outbreak, social restrictions that people are not used to and uncertainty that affects each individual in different dimensions have affected all individuals. In the study conducted by Kasapoglu (2020) on individuals' anxiety levels, psychological resilience and intolerance of uncertainty during the Covid-19 pandemic, it was concluded that the restrictions and social isolation during the Covid-19 pandemic increased individuals' anxiety and intolerance of uncertainty levels. Having a child with special needs affects the entire life of the family. The inclusion of a person with special needs in the family means the end of the expectation of having a typically developing child. This situation is said to cause serious stress on parents of children with special needs (Raina et al., 2005; Kaya, 2010; Ozulkuand Baglama,2022). Individuals with special needs and their families may face problems in many areas such as health, social, physical and economic. During the Covid-19 pandemic, problems may arise in accessing services provided to individuals with special needs. Due to the differences of individuals with special needs, their probability of complying with rules such as wearing masks, social distancing and other rules is lower than that of typically developing individuals. The Covid-19 pandemic causes more strain on individuals with special needs and their families in our society and exacerbates the negative conditions that already exist in this pandemic (Basaran et al., 2020). This situation can cause stress, anxiety, and other similar conditions in both individuals with special needs and their families.It was determined that there is a statistically significant difference between the general scores of the Intolerance of Uncertainty Scale and the inhibitory anxiety scores of the scale based on whether a close one had Covid-19. The inhibitory anxiety scores and the general scores of the Intolerance of Uncertainty Scale for families of children with special needs, where a close one did not have Covid-19, were found to be significantly lower than those of families where a close one had Covid-19. The fact that a close one of families of children with special needs not having had Covid-19 results in a higher intolerance of uncertainty score can be explained by the uncertainty about the consequences of the disease when it occurs in close proximity and fear of infecting individuals with chronic conditions in the family. The reason why the intolerance of uncertainty scores of families with children with special needs, where a close one hadCovid-19, are

higher than those of families where a close one did not have Covid-19 is thought to be because witnessing and knowing the disease process and seeing a close relative having the disease alleviates the families' anxiety and uncertainty.

There was no statistically significant difference between the scores of families of children with special needs, based on their prospective anxiety and inhibitory anxiety sub-dimensions, and their Intolerance of Uncertainty Scale general scores, based on whether or not they had lost a close one due to the Covid-19 pandemic. The uncertainty intolerance levels of individuals with high anxiety are more affected by sudden losses. Studies have shown that intolerance to uncertainty is effective in the occurrence of emotional problems after traumatic events (Fetzner, Horswill, Boelen, Carleton, 2013; Çuhacı and Nuri,2022). Living with individuals with special needs brings certain limitations to family members' lives and causes an adaptation process. The birth of a child with special needsaffects the emotions, thoughts and behaviors of both the family and the individual with special needs. When the literature is examined, it is stated that families of children with special needsexperience shock, denial, grief and depression processes (Kaya, 2010; Ozulkuand Baglama,2022). In their research, Ergun and Ertem (2012) found that the most common situations experienced by mothers of children with special needs were chronic sadness, anger and loneliness. It is thought that families of children with special needs face stressful situations such as economic difficulties, tension within the family, changes in the family's social life, the failure of spouses to meet the care burden of the special needs child, disappointment during the process of meeting with experts, mourning and depression.

It was determined that there is no statistically significant difference between the scores of families who have a chronic illness in terms of their prospective anxiety, inhibitory anxiety scores and Intolerance of Uncertainty Scale general scores. Generally, the intolerance of uncertainty scale general scores of participants with chronic illnesses and the prospective anxiety and inhibitory anxiety scores are higher than those of families without chronic illness. However, this score difference calculated is not statistically significant. Having a child with special needs causes many difficulties such as financial problems, psychological problems, problems with family and social environment, education of the special needs child and monitoring of their health conditions (Ozsenol et al., 2003; Çuhacı and Nuri, (2022). During the Covid-19 pandemic, the difficulties that families with special needs children may experience have increased and they have had to cope with problems and challenges arising from the pandemic. Health problems of individuals with special needs and their families and their necessary treatment processes cannot be done at appropriate times due to the Covid-19 pandemic, causing them to experience more health problems (Kurt and Erden, 2020). The protective care needs of individuals with special needs have increased during the Covid-19 pandemic and there is a need for social service support in terms of providing protective care and supporting the care burden (Balcı and Kocatakan, 2021).

It was observed that there is no statistically significant difference between the overall scores and sub-dimensions of Intolerance of Uncertainty Scale of families of children with special needs children who experience job loss during the Covid-19 process and those who do not. The prospectiveanxiety and inhibitory anxiety scores and the overall Intolerance of Uncertainty Scale scores of families of children with special needs children who experience job loss during the Covid-19 process and those who do not were found to be similar. It is known that families of children with special needs children incur high expenses for their education and healthcare needs, transportation costs for their education, special diet programs in case of health problems of special needs children and procurement of devices and equipment they need due to their special needs which can put families in financial difficulties. It is thought that the effect of stress intensity of families with special needs children on family functionality varies according to their economic income status. In families of children with special needs children, mothers and fathers can be affected at different levels. Often, mothers try to quit their jobs and fulfill their responsibilities towards their special needs children. It is considered that providing financial support to families for their children with special needs reduces their financial difficulties. Providing free education, healthcare, transportation and necessary equipment for children with special needs is believed to positively affect the stress and anxiety levels of families.

As a result of the present study, significant differences were found in the intolerance of uncertainty levels of families of children with special needs children depending on their income status and the variable of one of close ones having Covid-19. However, no significant differences were found in the intolerance of uncertainty levels of families based on their age, gender, marital status, Covid-19 infection, losing a close one in Covid-19 pandemic, having a chronic illness and experiencing job loss during the Covid-19 process. Based on these results, the following recommendations can be made for further research and practices:

Based on studies examining the intolerance of families of children with special needs to uncertainty, efforts can be made to provide psychological support to families of children with special needs. Seminars can be organized for families of children with special needs by institution managers or special education teachers. The number of psychologists working in schools can be increased and meetings can be scheduled with families at certain intervals. Providing free education, health, transportation and necessary equipment to families of children with special needs is thought to positively affect their financial stress and anxiety. Research can be conducted on families of children with special needs taking into account the variables of their special needs to investigate their level of intolerance of uncertainty. Studies can be conducted that explain the direct relationship between intolerance of uncertainty and happiness in families of children with special needs. Based on research findings, group or individual intervention programs aimed at increasing families' tolerance to uncertainty can be developed and implemented. In addition, intervention programs that have been previously proven to be effective in reducing intolerance to uncertainty can be applied.

Acknowledment

Authors thank all the parentswho joined in this academic work.

Conflict of interest

No disagreement of interest is said by thewriters. In addition, no financial support wasreceived.

Ethics Committee

(Date: 20.01.2022; Decision number:-020-727). Participants who volunteered for thestudy were informed with a written informedconsent form.

Author Contributions

All authors contributed equally in all of the processes. All authors have read andagreed to the published version of the manuscript.

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