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ORIGINAL ARTICLE

Examining the health service satisfaction levels of children with visual impairment

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Abstract

It is aimed to examine the difference between the satisfaction levels of children with visual impairments with the health services they receive according to some variables. The study examining the satisfaction levels of children with visual impairments with the healthcare services they receive is descriptive and was conducted between 1 August 2023 and 12 October 2023. The study population consisted of children with visual impairment. The sample consisted of 120 visually impaired children who voluntarily participated using the simple sampling method from the non-probability sampling method and were selected with their own and parental consent. Data were collected online with the support of the children's parents. Sociodemographic data form (gender, age, educational level, disability level, social security) and health service satisfaction scale were used to collect data. SPSS 25.0 data analysis program was used to statistically analyze. Notably, 33.3% (66.7%) of the children with visual impairment were girls (boys). Regarding educational level, 51.7%, 34.2%, and 14.2% were primary-school, secondary-school, and high-school students, respectively. Visually impaired children participating in the research; The relationship between sociodemographic factors (such as gender, health insurance type, educational status, disability level, age) and the health service satisfaction scale was found to be high and showed a significant difference (p <0.05).

Sociodemographic factors are important for evaluating satisfaction with health services among children with visual impairment. Future studies should examine satisfaction with health services among children with visual impairment and address relevant problems. Since studies on the level of utilization of health services in children with visual impairment are insufficient and the reason for this is difficult in terms of specificity and accessibility, providing alternatives to research in this field will guide future research.

Keywords: Children with visual impairment, low vision, health service

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Introduction

Increasing service quality and presentation by health service providers positively impacts patient satisfaction. Providing special services to disabled patients especially individuals with visual impairment is important for their satisfaction. Moreover, providing humane services to patients has a legal dimension [1]. In Türkiye, legal and physical arrangements for disabled patients are being developed. The Ministry of Health published the "Basic Information Guide on Accessibility for Individuals with Disability" with the circular numbered 2010/79 to implement the provisions of the law in locations where health services are provided [2,3].

Children with visual impairment in addition to the difficulties and problems that they face in their living spaces owing to their disability face problems specific to their condition in hospitals [4]. These problems can be addressed through effective health services and legal regulations. For patients with visual impairment who want to receive health services from a health institution, the presence of functional arrangements in the institution can increase their satisfaction and loyalty. from the moment patients first arrive at the hospital, the following must be considered: Did they benefit from the disabled car park? Were they welcomed by the patient greeter? Did they benefit from the hospital sketches, patient rights, and priority patient signs? Did they have easy access to a place where they could sit and the consultancy when they applied to the outpatient clinic? Did they communicate easily with the employees? Did they benefit from the elevators, direction signs, and toilets arranged for the disabled that is, places that facilitate the maneuvering of chairs and stretchers? These and similar arrangements can benefit children with visual impairment through "disabled application points or offices" established in organizations. Consequently, satisfaction with the healthcare services received by individuals with visual impairment ensures both the quality of care and mobilization of the individuals concerned. This study aimed to examine the level of satisfaction with the healthcare services received by children with visual impairment.

Research Question

Do the levels of satisfaction with the health services received by children with visual impairment differ?

Materials and Methods

Type of Research: This study is descriptive in nature.

Place and Time of Research: The research data were collected online with the support of the parents of 120 children with visual impairment selected by a simple sampling method, those who are visually impaired children participate voluntarily and have parental consent.

Population and Research Sample

The research population comprised children with visual impairment. The sample comprised 120 children with visual impairment, who participated voluntarily and were selected by a simple sampling method, ensuring parental consent. According to the national disability data system in Türkiye, 281,439 of 2.5 million disabled people are visually impaired. Thus, the number of individuals with visual impairment is limited [5].

Data Collection Tools

Research data were collected through the following data collection forms:

- Sociodemographic data form

- Health Service Satisfaction Scale

Sociodemographic Data Form: This form comprised five questions on gender, age, educational level, disability level, and social security.

Health Service Satisfaction Scale: The scale was developed by Ercan et al. (2004) [6]. The Likert-type scale comprises 8 subscales and 43 items. These items' scores range from 0 to 4. The lowest and highest scores that can be obtained are 0 and 172, respectively. Higher scores indicate patients' satisfaction with the health services provided. Ercan et al. (2004) [6] analyzed the Cronbach's alpha, theta, and omega reliability coefficients for the scale, finding it to be highly reliable (α=0.9682, θ=0.9709, Ω=0.9841).

Table 1. Distribution of participants according to demographic characteristics.

		f	%
Gender	Girls	40	33.3
	Boys	80	66.7
Educational level	Primary school	62	51.7
	Middle school	41	34.2
	High school	17	14.2
Disability level	Lightweight	2	1.7
	Low vision	80	66.7
	Very low vision	25	20.8
	Completely visually impaired	13	10.8
Health insurance	SSI (pension fund, BAGKUR, etc.)	99	82.5
	Other (private health insurance)	21	17.5

Table 2. Descriptive values of the scores obtained from the health service satisfaction scale.

Variables	Min.	Maks.	Med.	Ort/m[a]	Ss
Outpatient examination and treatment	5	32	20.91	2.61	6.91
Clinic (inpatient treatment)	5	32	20.26	2.53	7.08
Other health and bureaucratic transactions	6	28	19.28	2.75	5.33
Staff evaluation	0	16	10.83	2.71	4.29
Patient rights	1	20	13.14	2.63	4.54
Physical assessment of the hospital	2	16	10.91	2.73	3.63
Cafeteria services	0	16	10.68	2.67	3.89
General evaluation	0	12	8.03	2.68	3.1
HSSS total	84	320	114.04	2.65	27.59

HSSS=Health Service Satisfaction Scale. [a]0-0.8= very low; 0.9-1.6= low; 1-7-2.4= medium; 2,5-3,2= high, 3,3-4,0= very high.

Table 3. Means, standard deviations, and independent groups t-test results for the health service satisfaction scale scores according to the child's gender.

Variables	Gender	N	Med.	Ss	t(120)	*p*
Outpatient examination and treatment	Girls	40	18.5	7.75	-2.78	0.01
	Boys	80	22.11	6.15		
Clinic (inpatient treatment)	Girls	40	18.1	5.77	-2.41	0.02
	Boys	80	21.34	7.45		
Other health and bureaucratic transactions	Girls	40	19.55	4.92	0.39	0.7
	Boys	80	19.15	5.55		
Staff evaluation	Girls	40	9.03	4.53	-3.39	0.00
	Boys	80	11.73	3.88		
Patient rights	Girls	40	11.2	4.79	-3.47	0.00
	Boys	80	14.11	4.1		
Physical assessment of the hospital	Girls	40	10.53	3.67	-0.82	0.42
	Boys	80	11.1	3.62		
Cafeteria services	Girls	40	9.55	4	-2.30	0.02
	Boys	80	11.25	3.72		
General evaluation	Girls	40	7.45	3.31	-1.46	0.15
	Boys	80	8.33	2.97		
HSSS total	Girls	40	103.9	29.88	-2.94	0.00
	Boys	80	119.11	25.06		

Data Evaluation

Distribution of the Health Service Satisfaction Scale scores was analyzed by calculating the skewness and kurtosis coefficients. Descriptive analysis was performed to determine children's satisfaction levels with health services. Independent groups *t* test and ANOVA were used to compare the satisfaction levels of the participants according to their demographic characteristics. *Pearson* correlation coefficient was calculated to examine the relationship

Table 4. Pearson correlation coefficients for the relationship between age and health service satisfaction scale scores.

Variables	Age of Child
Outpatient examination and treatment	-0.218*
Clinic (inpatient treatment)	-0.088
Other health and bureaucratic transactions	-0.012
Staff evaluation	-0.151
Patient rights	-0.051
Physical assessment of the hospital	-0.191*
Cafeteria services	-0.107
General evaluation	-0.183*
HSSS total	-0.172

*p<0,05; N=120

Table 5. Means, Standard deviations, and ANOVA results for the health service satisfaction scale scores according to the children's educational level.

Variables		Educational level of the child	N	Med.	Ss	F(2;117)	*p*	Scheffe post hoc
Outpatient examination and treatment	1.	Primary school	62	22.42	5.89	3.19	0.04	1>2, 1>3
	2.	Middle school	41	19.34	7.42			
	3.	High school	17	19.18	8.14			
Clinic (inpatient treatment)	1.	Primary school	62	21.34	6.95	2.15	0.12	-
	2.	Middle school	41	18.44	5.66			
	3.	High school	17	20.71	9.75			
Other health and bureaucratic transactions	1.	Primary school	62	19.53	4.82	2.51	0.09	-
	2.	Middle school	41	18.05	6.09			
	3.	High school	17	21.35	4.68			
Staff evaluation	1.	Primary school	62	11.56	3.77	2.37	0.10	-
	2.	Middle school	41	9.71	4.74			
	3.	High school	17	10.82	4.59			
Patient rights	1.	Primary school	62	13.58	4.16	0.61	0.55	-
	2.	Middle school	41	12.61	4.33			
	3.	High school	17	12.82	6.22			
Physical assessment of the hospital	1.	Primary school	62	11.69	3.21	3.23	0.04	1>2, 1>3
	2.	Middle school	41	9.93	4.06			
	3.	High school	17	10.41	3.48			
Cafeteria services	1.	Primary school	62	10.9	3.74	0.51	0.60	-
	2.	Middle school	41	10.71	4.26			
	3.	High school	17	9.82	3.56			
General evaluation	1.	Primary school	62	8.53	3.02	2.51	0.09	-
	2.	Middle school	41	7.83	2.7			
	3.	High school	17	6.71	3.96			
SHHH total	1.	Primary school	62	119.56	22.63	2.87	0.06	-
	2.	Middle school	41	106.61	29.24			
	3.	High school	17	111.82	36.15			

between satisfaction level and age. Analyses were performed using SPSS 25 statistical package program.

Ethical Consideration

Permission for using the Health Services Satisfaction Scale was obtained from Erdem et al. (2004) via e-mail. Permission for the study was obtained from Hakkari University Scientific Research and Publication Ethics Committee (2023/89-1).

Results

According to Table 1, 66.7% of the participants are boys, 51.7% graduated from primary school, 66.7% suffer from low vision, and 82.5% have SSI health insurance and 17.5% have private health insurance. The ages of the participants range between 7 and 17, and the mean age is calculated as 10.96 (SD=2.52).

In Table 2, the mean scores for outpatient examination and treatment, clinic (inpatient treatment), other health and bureaucratic transactions, personnel evaluation, patient rights, physical evaluation of the hospital, cafeteria services, general evaluation, and HSSS total are 20.91 (SD=6.91), 20.26 (SD=7.08), 19.28 (SD=5.33), 10.83 (SD=4.29), 13.14 (SD=4.54), 10.91 (SD=3.63), 10.68 (SD=3.89), 8.03 (SD=3.10), and 114.04 (SD=27.59), respectively. The mean scores obtained indicate that the participants' satisfaction with health services is high.

In Table 3, no significant difference exists in the mean scores of other health and bureaucratic procedures (t[120]=0.39; p>0.05), physical evaluation of the hospital (t[120]=-0.82; p>0.05),

Table 6. Means, standard deviations, and ANOVA results for the health service satisfaction scale scores according to the disability level of the child.

Variables		Disability level of the child	N	Med.	Ss	F(2;117)	p	Scheffe post hoc
Outpatient examination and treatment	1.	Light & low vision	82	22.35	5.99	6,25	0,00	1>3
	2.	Very low vision	25	17.48	7.83			
	3.	Completely visually impaired	13	18.38	7.92			
Clinic (inpatient treatment)	1.	Light & low vision	82	21.68	6.35	6,09	0,00	1>3
	2.	Very low vision	25	16.48	7.46			
	3.	Completely visually impaired	13	18.54	8.14			
Other health and bureaucratic transactions	1.	Light & low vision	82	19.46	5.05	2,65	0,08	-
	2.	Very low vision	25	17.52	5.97			
	3.	Completely visually impaired	13	21.54	5.16			
Staff evaluation	1.	Light & low vision	82	11.96	3.54	10,61	0,00	1>2, 1>3
	2.	Very low vision	25	8.36	4.39			
	3.	Completely visually impaired	13	8.38	5.59			
Patient rights	1.	Light & low vision	82	13.99	3.66	4,91	0,01	1>3
	2.	Very low vision	25	11.08	5.47			
	3.	Completely visually impaired	13	11.77	6.15			
Physical assessment of the hospital	1.	Light & low vision	82	11.33	3.51	2,14	0,12	-
	2.	Very low vision	25	9.64	3.26			
	3.	Completely visually impaired	13	10.69	4.61			
Cafeteria services	1.	Light & low vision	82	11.07	4.01	1,38	0,26	-
	2.	Very low vision	25	9.68	3.6			
	3.	Completely visually impaired	13	10.15	3.39			
General evaluation	1.	Light & low vision	82	8.73	2.64	7,75	0,00	1>3
	2.	Very low vision	25	6.2	3.18			
	3.	Completely visually impaired	13	7.15	4.12			
HSSS total	1.	Light & low vision	82	120.59	22.16	8,91	0,00	1>3
	2.	Very low vision	25	96.44	30.21			
	3.	Completely visually impaired	13	106.62	37.6			

and general evaluation (t[120]=-1.46; p>0.05) according to the gender of the child. The mean satisfaction scores for outpatient examination and treatment (mean=22.11; SD=6.15), clinic (inpatient treatment; mean=21.34; SD=7.45), personnel evaluation (mean=11.72; SD=3.88), patient rights (mean=14.11; SD=4.10), (mean=10.53; SD=3.67), (mean=11.10; SD=3.62), (mean=9.55; SD=4.00), (mean=11.25; SD=3.72), and SHMO total (mean=119.11; SD=25.06) are significantly higher among boys.

Analyzing the statistically significant relationships in Table 4 a negative relationship between age and outpatient examination and treatment (r=-0.218; p<0,05), physical evaluation of the hospital (r=-0.191; p<0,05), and general evaluation (r=-0.183; p<0.05) scores. The higher the participants' age, the lower their satisfaction with outpatient examination and treatment, physical evaluation of the hospital, and general evaluation.

Table 5 indicates no significant difference in the mean scores according to the children's educational level. However, a significant difference is observed in the mean scores for outpatient examination and treatment (F[2;117]=3.19; p<0.05) and physical assessment of the hospital (F[2;117]=3.23; p<0.05). According to the post hoc test results, the mean scores of the children who graduated from primary school for satisfaction with outpatient examination and treatment and physical assessment of the hospital are significantly higher than the mean scores of the children who attended secondary school and high school.

Table 7. Mean scores, standard deviations, and independent groups *t*-test results of the health service satisfaction scale according to the children's type of social security.

Variables	Social security of the child	N	Med.	Ss	t(120)	*p*
Outpatient examination and treatment	SSI (pension fund, BAGKUR, etc.)	99	20.31	6.99	-2,08	0,04
	Other (private health insurance)	21	23.71	5.88		
Clinic (inpatient treatment)	SSI (pension fund, BAGKUR, etc.)	99	20.04	6.96	-0,73	0,47
	Other (private health insurance)	21	21.29	7.71		
Other health and bureaucratic transactions	SSI (pension fund, BAGKUR, etc.)	99	19.37	5.02	0,40	0,69
	Other (private health insurance)	21	18.86	6.74		
Staff evaluation	SSI (pension fund, BAGKUR, etc.)	99	10.45	4.39	-2,08	0,04
	Other (private health insurance)	21	12.57	3.31		
Patient rights	SSI (pension fund, BAGKUR, etc.)	99	12.68	4.61	-2,49	0,01
	Other (private health insurance)	21	15.33	3.47		
Physical assessment of the hospital	SSI (pension fund, BAGKUR, etc.)	99	10.59	3.67	-2,15	0,03
	Other (private health insurance)	21	12.43	3.04		
Cafeteria services	SSI (pension fund, BAGKUR, etc.)	99	10.64	3.78	-0,29	0,78
	Other (private health insurance)	21	10.90	4.45		
General evaluation	SSI (pension fund, BAGKUR, etc.)	99	7.84	3.25	-1,50	0,14
	Other (private health insurance)	21	8.95	2.09		
HSSS total	SSI (pension fund, BAGKUR, etc.)	99	111.92	27.39	-1,85	0,07
	Other (private health insurance)	21	124.05	26.97		

Table 6 presents a significant difference in the mean scores according to the disability level of the child. According to the results of the post hoc test, the mean scores of children with mild and low vision are higher for outpatient examination and treatment, clinical (inpatient treatment), personnel evaluation, patient rights, and general evaluation and HSSS total.

Table 7 indicates no significant difference in the mean scores according to the children's type of social security. However, a significant difference is observed in the mean scores for outpatient examination and treatment (t[120]=-2,08; p>0,05), personnel evaluation (t[120]=-2,08; p>0,05), patient rights (t[120]=-2,49; p>0,05), and physical evaluation of the hospital (t[120]=-2,15; p>0,05). Participants with other types of health insurance (private health insurance and other) have significantly higher mean satisfaction scores for outpatient examination and treatment (mean=23.71; SD=5.88), staff evaluation (mean=12.57; SD=3.31), and physical evaluation of the hospital (mean=12.43; SD=3.04)

Discussion

Sociodemographic variables including gender, age, educational level, level of disability, and social security are important factors for satisfaction with health services among children with visual impairment. This study's results pertaining to the participants' sociodemographic characteristics are similar to those of Rahi et al.'s study (2005) [8] on health service experiences of parents of children with newly diagnosed visual impairment. Moreover, findings from Açıl and Ayaz's (2015) [9] study on screening children with visual impairment for health problems and from Reddy and Sharma's (2011) [10] study on the prevalence of oral health problems among children with visual impairment are similar to this study's results.

A significant difference was observed in the mean scores of children with visual impairment according to gender. Bhandary et al. (2013) [11], in their study on caregivers' knowledge regarding oral healthcare of children with visual impairment, the level of healthcare among boys was significantly higher than that among girls. Priyadarshini et al.'s (2015) [12] study on the evaluation of oral health status among children with visual impairment revealed that boys had higher mean scores in the evaluation of their health status. Rahi et al. (2004) [13] in a study involving families in health services research on visual impairment in childhood; Barriers to participation in healthcare and related findings parallel the gender results in our study (i.e., boys participated more than girls).

A negative relationship was observed between participants' age and the health service satisfaction scores, and their satisfaction levels decreased as their age increased. This finding is similar to that of Tagelsir et al.'s (2013) [14] study on oral healthcare of school children with visual impairment in Khartoum State of Sudan, where children did not attach importance to oral health and were not satisfied with the health services that they received as their age advanced. Similarly, in Boulton et al.'s (2006) [15] study on health-related quality of life of children with visual impairment or blindness, the rate of falling sick increased as age advanced, and health checks remained incomplete; thus, they benefited less from health services, were not satisfied, and their quality of life was negatively affected. Additionally, Flanagan et al.'s (2003) [16] findings are similar to this study's results.

A significant difference was observed in participants' mean scores for health service satisfaction according to their educational level, and the mean scores of children in secondary and high school were higher. In Qtoof et al.'s (2022) [17] study a research on the satisfaction of visually impaired students, their parents and teachers with auxiliary services, the number of children receiving health services is less than those in primary school and the level of receiving health services increased as the educational level increased. In a Nellis, 2019 study [18] on the oral health status of children with visual impairment in New Delhi, children in middle and high school were included in the oral health program and were satisfied with the health services that they received, positively affecting their oral health. Knight et al.'s (2018) [19] findings on the characteristics specifically, educational level of children with visual impairment under the age of

four in two public tertiary hospitals in Selangor, Malaysia, are similar to those of our study.

A significant difference was observed in the mean scores of health service satisfaction levels of children with visual impairment according to the level of disability. Nellis's (2005) [20] study on the satisfaction of parents of children with severe visual impairment with and without concurrent disability demonstrated that Parents' satisfaction levels with the health service their children received were found to be lower than those of children with positive satisfaction levels. Perrin's (2002) [21] study on health services provided to children with disabilities showed that children with mild disabilities received more health services than visually impaired children. In the study conducted by Cabral and Moraes (2015) [22] on family caregivers of children in need of special health care, it was revealed that the health care need scores of visually impaired children with mild disabilities were higher than their peer groups.

No significant difference were observed in the mean scores for clinical (inpatient) treatment, other health and bureaucratic procedures, cafeteria services, and general evaluation according to the type of social security of children with visual impairment. Moreover, no significant difference was observed in the mean scores for physical evaluation of the hospital, personnel evaluation, patient rights, outpatient examination, and treatment. Our results are similar to those of Marcon et al.'s (2020) [23] study on special health and primary care needs of families of children with visual impairment, where the utilization level of health services differed according to the children's health insurance. In Särkikangas and Autio's (2017) [24] study on families of children with special needs who use social and health services, Activities of daily life vary depending on the health insurance status of families and children; those who receive state support benefit more from health services. Harrison et al. (2020) [25] investigated the barriers to access to health services for people with disability in rural Malawi. Significant differences were observed in the examination and treatment processes for people without social security who could not directly benefit from health services. The results of the study by Lee et al. (2024) [26] on the oral health status and oral health-related behaviors of visually impaired Hong Kong students are similar. Similarly, the results of the study by Shankar et al. (2024) [27] on the effect of oral health education interventions using braille on oral health in visually impaired children: a systematic review proposal and the results of Zhao et al. (2023) [28] on a human-centered design strategy for self-educated health care for visually impaired people are similar.

In this research; It will guide the determination of visually impaired children's utilization of health services and the research to be conducted in the relevant field. This study did not examine all visually impaired children in Türkiye and was limited to visually impaired children who participated in the study voluntarily and whose parental consent was obtained. The small sample size was limited because it was a specific flu. Even though it is a limitation, it will be a guide for future studies.

Conclusion

It has been determined that children with visual impairments differ according to their level of utilization of health services and some variables. Problems experienced by children with visual impairment regarding healthcare, accessibility, and satisfaction with care are affected by various factors, especially sociodemographic characteristics. In this context, quick and effective solutions should be proposed. It is necessary to evaluate patients' needs to increase satisfaction with the existing health services and improve knowledge, training, and experience of health professionals. Increasing accessibility to and satisfaction with healthcare services provided to children with visual impairment may enable them to receive quality services, with an equal, non-discriminatory, and holistic approach.

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Conflict of interest

The authors have no conflict of interest to disclose.

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