

Relationship between perceived parenting style with anxiety levels and loneliness in visually impaired children and adolescents

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Received: 10/16/2016 – Accepted: 10/31/2016

DOI: 10.1590/0101-60830000000096

Abstract

Background: Visual impairment is a risk factor for psychiatric disorders in the affected children and adolescents, but there are only a limited number of studies concerning the mental health characteristics of visually impaired children and adolescents. **Objective:** The aim of this study was to determine levels of loneliness and anxiety in visually impaired children and adolescents, to analyze parenting style perceived by visually impaired children and adolescents, to compare those with typically controls. **Methods:** The study included 40 children and adolescents with visually impairment and 34 control group without visual impairment. Sociodemographic data form, the UCLA loneliness scale, and the State-Trait Anxiety Inventory for Children were used in both groups. The parenting Style Scale was used to determine perceived parental attitudes. **Results:** This study found more loneliness and trait anxiety levels in visually impaired children and adolescents compared to the control group. Authoritative parenting style was the most frequent type of parental attitude in the visually impaired group. In visual impairment group, loneliness level was higher in subgroups of authoritative and permissive-indulgent parenting style. However, level of trait anxiety was higher in authoritative parenting style subgroup compared to the control group. **Discussion:** The results of this study showed higher loneliness and anxiety levels in visually impaired children and adolescents. Further studies are needed to determine psychopathological risks in this population.

Hamurcu M et al. / Arch Clin Psychiatry. 2016;43(5):112-5

Keywords: Visual impairment, children and adolescent, parenting style, loneliness, anxiety.

Introduction

Visual impairment in childhood is the impairment of the structure and the function of eye, affecting the process of learning via the sense of sight in a negative way¹. World Health Organization (WHO) defined “blindness” as a visual acuity < 3/60 in the better eye, “severe visual impairment” as a visual acuity worse than 6/60 and equal to or better than 3/60, and “moderate visual impairment” as a visual acuity in a range from worse than 6/18 to 6/60². According to WHO criteria, there are 19 million visually impaired children worldwide, and 1.4 million of them are blind³. Vision is a very important sense for communication between the child and the outer world. Congenital loss of vision is a risk factor for psychiatric disorders in the affected children and adolescents⁴.

Loneliness is a subjective, unpleasant, and painful experience resulting from an imbalance between the present social relationship and the desired social relationship of the individual^{5,6}. Loneliness is a universal phenomenon with an evolutionary basis. Loneliness warns the individual for the threat of standing alone. Loneliness is widely seen in children. A review reported that 10%-15% of the children and adolescents felt very lonely⁷. It was shown that various factors such as the quality of the social relations were significantly correlated with development of loneliness experience in children and adolescents^{8,9}.

It has been suggested that more psychological problems can appear in children with disabilities and chronic diseases^{10,11}. Disabilities threaten the quality and continuity of the relations with friends, family and other people. Supportive relations with peers, family, and other important people play role in social and emotional development of individuals with disabilities. In some children and adolescents with health problems such as visual impairment, disabilities may affect the quality and continuation of social relationships with family and friends negatively, and those relationships are important for coping with the disability¹². Many studies showed higher loneliness and anxiety levels in children and adolescents with disabilities when compared to their peers without any disabilities¹³⁻¹⁷.

It has been reported that various factors play role in development of loneliness. One of those factors is family support. The quality of the relationships between parents and their children may affect loneliness. Low loneliness levels in the children of warm and loving families¹⁸ suggest that family relationships are important in occurrence of loneliness feeling. It has been suggested that the relationship with family members is an important factor in occurrence of loneliness feeling in children and adolescents¹⁹. Maccoby and Martin classified parenting styles into four groups as authoritarian, authoritative, permissive-indulgent and permissive-neglectful. It was indicated that the adolescents who perceived a authoritative parenting style felt less loneliness, had more friends and social support compared to the perceived neglectful parenting style^{20,21}.

There are only a limited number of studies concerning the mental health characteristics of visually impaired children and adolescents. The first aim of our study was to compare loneliness and anxiety levels between visually impaired children and adolescents and controls without disability. The second aim of our study was to investigate the frequency of different parenting styles in parents of visually impaired children and adolescents. The third aim was to compare the relation of perceived parenting style with loneliness and anxiety levels in visually impaired and control groups.

Materials and methods

Design and participants

A total of 40 patients (24 females and 16 males) that had severe visual impairment and admitted to Ophthalmology Department of Ankara Numune Education and Research Hospital between March 2014 and January 2015, and agreed to participate in the study were included in the study. The control group consisted of 34 children and adolescents (15 females and 19 males) that admitted to Children and Adolescent Psychiatry Department of Gulhane Military Medical Academy, and found not to have any psychiatric

disorders. The ones with any organic diseases or mental retardation determined by physical, neurological, or psychiatric examination were excluded in both groups. Informed consent was obtained from both parents or legal guardian after the standard information about the study conducted and the nature of the procedures was explained. The study was approved by the Ethics Committee of Gulhane Military Medical Academy and conducted according to the principles of Declaration of Helsinki.

Measurements

A patient socio-demographic information form was prepared, and the questions regarding demographic data were asked to parent of the patients. The form prepared by the investigators was used to note sociodemographic data of the children such as age, gender, and education level of children. This form was administered at the beginning of the study and the rest of the measures were administered to the children afterwards by a face to face interview. All measurements were filled in about 30 minutes and administered at one visit.

In this study, we used the Parenting Style Scale (PSS) developed by Lamborn *et al.*²², validated in Turkish by Yilmaz²³ and consisted of 3 dimensions (acceptance/involvement, firm control, and psychological autonomy). Acceptance/involvement dimension aims to measure children's perception of how much parents are loving, careful and participative (for example; "When I have any problem, I am sure that my parents would help me"). Firm control dimension aims to measure children's perception of how much their parents are controller (for example; "Do your parents let you to go out at night during school time with your friends?"). Psychological autonomy dimension aims to measure how much parents implement their democratic attitudes and how much they encourage their children to express independency (for example; "My parents say that I should argue with elder people"). There are 9 items in acceptance/involvement and psychological autonomy dimensions on a 4-point Likert Scale. The first two items of firm control dimension are answered a 7-point, and the remaining 8 items are answered on 3-point Likert Scales. The measurements can be made in two ways. In the first one, the different levels of authoritative parenting style may be differentiated from the answers of 3 dimensions. In the second one, parental attitudes may be divided into four groups as authoritarian, authoritative, neglectful, and indulgent, regarding the scores of acceptance/involvement, and firm control. The reliability study was done on three different groups consisting of primary school, high school, and university students. Test re-test reliability coefficients and Cronbach alpha internal consistency coefficients were 0.74 and 0.60 for acceptance/involvement dimension, 0.93 and 0.75 for firm control dimension, and 0.79 and 0.67 for psychological autonomy dimension, respectively, in primary school students. Test re-test reliability coefficients and Cronbach alpha internal consistency were 0.82 and 0.70 for acceptance/involvement dimension, 0.88 and 0.69 for firm control dimension, and 0.76 and 0.66 for psychological autonomy dimension, respectively, in high school students²³.

The UCLA Loneliness Scale was developed by Russell *et al.* in order to determine the level of loneliness²⁴. It contains 20 items, and asks subjects to indicate how often they feel the way described in each of the statements. Statements are then evaluated on a 4-point scale, ranging from 'Never' (= 1) to 'Often' (= 4). For example, item 4 reads, "I do not feel alone". The total scores range from 20 to 80, with higher scores indicating greater loneliness. The reliability and validity studies of the scale in Turkish were performed by Demir, and Cronbach alpha internal consistency coefficient was found as 0.96²⁵.

The State-Trait Anxiety Inventory for Children (STAI-C) is also called as "How I Feel Questionnaire". It was developed by Spielberger in 1973²⁶. It aims to measure individual differences for tendency of anxiety. Its validity and reliability studies in Turkish were performed by Özusta in 1995²⁷. It consists of 2 sections (state and trait) with each section include 20 questions. The children are asked, "How they feel usually and at the moment", and indicate the most suitable choice on response scale. Twenty items are answered by marking one of the choices that are scored as 1, 2, or 3, in relation with the presence and severity of the anxiety. The score of the scale may be between 20 and 60. Test re-test reliability coefficients of STAI-C were found as 0.60 for State-Anxiety Scale, and as 0.65 for Trait-Anxiety Scale²⁷.

Statistical analysis

The analysis of the data was performed with SPSS 15.0 package program. Number, percent, mean, and standard deviation were used in descriptive statistics. Kolmogorov-Smirnov test was used to determine normal distribution of the continuous variables. Comparison of the continuous variables between the groups was performed with T- and Mann-Whitney U tests. Chi-square test was used to compare discrete variables. Pearson correlation analysis was used to analyze correlations among the variables. $p < 0.05$ was considered as statistically significant.

Results

The mean age of the visually impaired participants was 12.32 ± 3.38 (7-18) years, and the mean age of the control group was 10.82 ± 2.18 (7-15) years. There was no difference between the groups for their ages ($p = 0.06$). In visually impaired group, 40% ($n = 16$) of the participants were boys, and 60% ($n = 24$) of them were girls. The boys constituted 55.9% ($n = 19$), and the girls constituted 44.1% ($n = 15$) of the control group. The duration of education was significantly longer in the visually impaired group ($p = 0.027$).

UCLA loneliness scale scores indicated significantly a higher level of loneliness perception in visually impaired children ($p = 0.005$) (Table 1). The mean acceptance/involvement dimension scores of visually impaired and normal children showed a significant difference for PSS ($p = 0.049$). Two groups were similar for other two dimension scores (Table 1). STAI-C showed that mean trait anxiety scores of the visually impaired children were higher when compared to the control ($p = 0.004$) (Table 1).

Table 1. Comparisons of the parenting style scale (PSS), the UCLA loneliness scale, and the State-Trait Anxiety Inventory for Children (STAI-C) in the visually impaired and the control groups

	Visually impaired Group (n = 40)	Control Group (n = 34)	Z	p
Parenting Style Scale				
Acceptance/involvement	29.83 ± 4.17	31.59 ± 3.24	-2.00**	0.049
Psychological autonomy	20.55 ± 4.34	21.55 ± 5.10	-0.74*	0.460
Firm control	29.83 ± 2.77	29.85 ± 2.96	-0.69*	0.489
UCLA Loneliness Scale	36.28 ± 10.81	29.12 ± 8.96	-2.83*	0.005*
State-Trait Anxiety Inventory For Children				
State Anxiety Subtest	30.86 ± 6.29	31.61 ± 9.03	-0.38*	0.702
Trait Anxiety Subtest	36.46 ± 8.34	31.00 ± 7.12	2.954**	0.004

* Mann-Whitney U test. ** Student T test.

When the visually impaired and control groups were analyzed for perceived parental attitude, no significant statistically difference was found between two groups. The frequencies of the perceived parental attitudes in two groups are shown in Table 2.

Table 2. The frequencies of perceived parenting style in the visually impaired and the control groups

	Visually Impaired Group		Control Group		P
	n	%	n	%	
Authoritative	18	45	12	35.3	0.18
Authoritarian	6	15	11	32.4	
Permissive-indulgent	6	15	7	20.6	
Permissive-neglectful	10	25	4	11.8	

Comparison of the parenting styles (authoritative, neglectful, authoritarian, and indulgent) and UCLA loneliness score between visually impaired and control subjects is seen in Table 3. There was a statistically significant difference between authoritative and permissive-indulgent parenting style and loneliness scores ($p < 0.05$).

Table 3. Comparison of the visually impaired and the control groups for perceived parenting styles and the UCLA loneliness scale scores

	Visually impaired (n = 40)	Control Group (n = 34)	Z	p ^a
Authoritative	33.3 ± 9.49	25.7 ± 7.4	-2.145	0.032*
Authoritarian	36.7 ± 10.4	32.2 ± 12.1	-1.061	0.289
Permissive-indulgent	40.8 ± 11.3	29.2 ± 7.2	-2.086	0.037*
Permissive-neglectful	38.6 ± 12.8	30.2 ± 3.1	-1.064	0.287

^a Mann-Whitney U test was used. * $p < 0.05$.

Perceived parenting styles and state anxiety scores were compared between the visual impairment and the healthy control groups, and the differences between the groups were not significant (Table 4). Comparison of perceived parenting styles and trait anxiety scores between visually impaired and control groups showed that trait anxiety score was found higher in visually impaired group with a authoritative parenting style when compared to control group ($p = 0.001$) (Table 5).

Table 4. Comparison of the visually impaired and the control groups for perceived parenting styles and state anxiety scores

	Visually impaired (n = 40)	Control Group (n = 34)	Z	p ^a
Authoritative	30.6 ± 6.3	29.1 ± 8.5	-1.320	0.187
Authoritarian	31.6 ± 5.5	31.4 ± 7.1	-0.964	0.335
Permissive-indulgent	29 ± 4.2	34.5 ± 11.1	-0.586	0.558
Permissive-neglectful	31.2 ± 7.6	34.5 ± 12.6	-0.498	0.618

^a Mann Whitney U test was used.

Table 5. Comparison of the visually impaired and the control groups for perceived parenting styles and trait anxiety scores

	Visually impaired (n = 40)	Control Group (n = 34)	Z	p ^a
Authoritative	35.8 ± 7.5	26.1 ± 5.1	-3.370	0.001*
Authoritarian	38.5 ± 8.1	33.5 ± 8.7	-1.158	0.247
Permissive-indulgent	36.7 ± 3.5	33.7 ± 5.1	-0.956	0.558
Permissive-neglectful	36.6 ± 11.5	34 ± 2.5	-0.574	0.339

^a Mann Whitney U test was used. * $p < 0.05$.

Discussion

In this study, we aimed to compare children and adolescents with visually impairment and the control group without visually impairment for loneliness and anxiety levels; perceived parenting style characteristics; and effects of parenting styles on loneliness and anxiety levels. We determined that visually impaired children perceived higher loneliness and trait anxiety levels compared to the control group. The most frequently perceived parenting style was authoritative in visually impaired children and adolescents. The loneliness level was higher in visually impaired participants with authoritative and permissive-indulgent parenting styles when compared to the control group. Similarly, visually impaired participants that described their parents as authoritative had higher trait anxiety levels.

In our study, higher loneliness levels found in visually impaired children and adolescents are in agreement with the literature. The loneliness studies in the visually impaired subjects have usually been performed in the adults; however the studies on children and adolescents are scarce. Similar to our findings, Hadidi and Al Khateeb reported higher loneliness levels in visually impaired students when compared to the control group²⁸. Another study reported higher loneliness levels in visually impaired children and adolescents²⁹. Kef *et al.* found a higher loneliness level in the visually impaired group³⁰. However, the difference between the visually impaired and the control groups was not statistically significant. In another study, a higher loneliness risk was reported in visually impaired girls; however the risk was lower in the boys³¹.

It was reported that visually impaired children had fewer friends, limited socializing opportunities, and had less chance to improve interpersonal skills^{32,33}. It was also suggested that individuals with disabilities might have more negativities in their social relationships due to their physical appearance, and they might have less social experience³⁴. The individuals think that they are different and have less social activities may not maintain their activities with their peers³⁵. In addition, visual impairment may result in functional limitations, and difficulties to participate in social activities³¹.

In our study, we found higher trait anxiety levels in visually impaired children and adolescents when compared to the healthy controls. However, there was no significant difference between the groups for state anxiety levels. Bolat *et al.* performed a study on visually impaired adolescents, and found higher trait anxiety levels. Visually impaired children have limitations due to the problems of vision¹³. Therefore, anxiety and dependency feelings may appear³⁶. In addition, visually impaired children and adolescents experience more problems in finding the direction. Therefore, they have a higher chance to have accidents. Hence, it was reported that visually impaired subjects might have higher anxiety levels when compared to their peers¹³.

Another aim of our study was to determine the frequencies of perceived parenting styles in visually impaired children. In our study, the most frequent perceived parenting style was authoritative. Cardinali and D'Allura performed a study on visually impaired young adults, and the most frequent parenting style was authoritative³⁷. On the other hand, some other studies reported that authoritarian parenting style was more frequent³⁸. It was emphasized that the parents of the subjects with disabilities could be overprotective since they are concerned more for the safety of their children³⁹.

When the correlation of perceived parenting styles with loneliness levels were compared between visually impaired children and adolescents and the healthy controls; it was found that loneliness score was higher in case of authoritative and permissive-indulgent parenting styles. Higher trait anxiety levels were found in visually impaired subjects with authoritative parenting style when compared to the control group. Studies showed that children with a authoritative parenting style had less psychological symptoms, perceived less loneliness, and had lower social anxiety scores^{21,40}. In our study, each parenting styles was compared with the healthy control group for loneliness and anxiety levels. Although loneliness and anxiety scores

were lower in visually impaired children with authoritative parenting style when compared to other subgroups, but those scores were higher when compared to the healthy control group.

Absence of determining the exact degree of visual impairment in the visually impaired group, small number of the patients included in the study, and the cross-sectional design of study are the limitations of our study. In addition, another limitation of our study is not to evaluate other factors such as school and social environment which could be associated with loneliness.

In conclusion, in this study we found that visually impaired children and adolescents had higher loneliness and anxiety levels; however there were no differences for loneliness and anxiety levels and perceived parenting styles when compared to the healthy control group except authoritative and permissive-indulgent parenting styles. Further studies are needed to determine psychopathological risks and underlying reasons for any patterns that may emerge in visually impaired children and adolescents.

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