

Impact of Visual Impairment on Quality of Life among Adolescents

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The present research aimed to explore the quality of life in adolescents following visual impairment and sighted adolescents. The present study tested a hypothesis that there will be a significant difference observed in the quality of life of adolescents with compromised vision and their sighted peers. The sampling technique being used in the study was purposive sampling. The sample comprises 80 adolescents (40=visually impaired and 40= sighted) were recruited from Govt. Institute of blind, Govt. schools for Boys and Govt. school for Girls from Peshawar KP. The World Health Organization Quality of Life Scale (WHOQOL-BREF) was used to measure the desired life's quality of visually impaired and their sighted peers. The scale evaluates the life's quality of an individual in four main domains i.e. physical health, psychological, social and environmental. In current study WHOQOL-BREF (Urdu version) was employed to measure the quality of life of visually impaired adolescents and their counterparts. An independent samples t-test was performed. Findings revealed that visually impaired adolescents experienced an overall lower quality of life and also showed low score in all four domains namely physical health, psychological, social relationships and environment as compared to their sighted peers. Further implications along with suggestions are being discussed.

Keywords: visual impairment, quality of life, sighted adolescents, WHO Quality of Life scale

Among all senses, vision is considered one of the most important and significant sense. Any abnormality or disability related to vision greatly influence individual's life and markedly impaired his development (Angelopoulou-Sakantami, 2002). Visually impaired individuals suffered numerous hardships in nearly every domain of their life i.e. physical, social, psychological as well as cognitive development (Kotsis & Andreou, 2004). Visual impairment in childhood has severe and long-lasting implications not only for the child but for his family too. It may greatly affect his employability and social interaction in later life as an adult (Rahi & Cable 2003).

Blindness and visual defects lead to a number of public health issues, social as well as economic problems, particularly in developing countries (Shahriari, Izadi, Rouhani, Ghasemzadeh & Maleki, 2007). As per World Health Organization estimation, globally 124 million and 37 million people are effected due to visual impairment and blindness respectively (WHO, 2006). Approximately 90% of individuals with blindness and low vision belong to developing countries (Tabbara, El-Sheikh & Shawaf, 2005). Furthermore, World Health Organization (WHO) defined total blindness as "the person's incapacity to count one's hand's fingers from a distance of ten feet" while 'partial blindness is the incapability of person's with visual defect to calculate hand's fingers from a distance equal to or less than twenty feet" (Polychronopoulou, 2003).

According to Bekibele & Gureje (2008) visual impairment causes restraints in nearly every aspect of daily life, particularly their life's quality. Harding (2001) noted that quality of life can cover various characteristics of an individual's well-being, for instance, social, psychological, physical, and environmental along with his standard of living. Furthermore, the quality of life explained by World Health Organization Quality of Life (WHOQOL)'s group as "the perception of an individual about his course of life especially in the form of values, morals as well as the society where he lives his life and connected to his expectations, activities, demands, standards goals and worries" (WHOQOL Group, 1995; Bonomi, Patrick, Bushnell & Martin, 2000). A number of literature suggested that visual impairment has debilitating consequences on quality of life, resulting in decreased motor activity (Rubin, Munoz, Bandeen-Roche & West, 2000; Mangione, Gutierrez, Lowe, Orav & Seddon, 1999), poorly rated self health (Wang, Mitchell & Smith 2000), diminish emotional functioning (Rovner, Zisselman & Shmuel-Dulitzki 1996; Scott, Smiddy, Schiffman, Feuer & Pappas, 1999) and inadequate socialization (Wang, Mitchell, Smith, Cumming & Attebo, 1999; Scott, Smiddy, Schiffman, Feuer & Pappas, 1999).

There is sufficient empirical and clinical evidence that suggested that visually impaired individual has low quality of life. It is well documented that visual impairment is linked with diminished psychological, social, economic resources as well as having limited physical activity (McAuley et al., 2006; Vu, Keeffe, McCarty, & Taylor, 2005; Reinhardt, Boerner, & Benn, 2003; Ormel et al., 1997; Verbrugge & Patrick, 1995). According to Bandura (1997) visual impairment may also affect the quality of life by ruining psychological wellbeing for instance personal efficacy which is a perception of one's belief to succeed one's own life situations or able to achieve a task. Likewise, individual followed by severe visual impairments report their inability to control different aspects of their life as well as environmental situations, resulting in poorer life's quality (McAuley et al., 2006; Ormel et al., 1997)

A significant amount of literature determine that visual impairment has posed serious and life-threatening effects on quality of life possessed by older population but little research has done to determined the lethal effects of visual impairment on adolescents. A significant literature noted that older adults with visual impairment score considerably low on quality of life scale as compared to healthy controls with intact vision. Older adults with visual impairment have less life satisfaction and experience two to five times more depression than their sighted peers (Horowitz, Brennan, & Reinhardt, 2005; Horowitz, 2003; DiNuzzo, Black, Lichtenstein, & Markides, 2001)

The present study thus attempts to investigate the quality of life of adolescents following visual impairment and then compare with their sighted peers.

Hypothesis

Significant difference will be observed in the quality of life of adolescents with visual impairment and their sighted peers. .

Method

Participants

The sample comprises of eighty participants (n=40 non institutionalized visually impaired adolescents, n=40 sighted adolescents) within age range of 13-18years, and they were selected through purposive sampling technique. The visually impaired and sighted adolescents were recruited from Govt. Institute of blind, Govt. Girls School Dakki Munawar Shah and Govt. Boys School Masjid Muhabat Khan respectively. They were matched in terms of age and education. Visually impaired adolescents who had reported additional related disabilities were excluded from the study.

As for as the degree of visual impairment, thirteen individuals had severe vision loss (32.5%) and twenty seven adolescents with partial vision loss (67.5%). For fifteen participant (37.5%) visual loss occurred congenital and for twenty five adolescents (62.5%) vision loss occurred as adventitiously. Of the twenty five

who lost their vision adventitiously, eight individuals lost their vision between the ages of 1 to 3, six lost their sight between the ages of 4 to 6, and eleven individuals lost their vision between the ages of 6 to 10 years.

Assessment Measure

World Health Organization Quality of Life Scale (WHOQOL-BREF)

The WHOQOL-BREF scale was developed by World Health Quality of Life Group (WHOQOL-Group) in 1998. It is 26 items scale and assesses how disease or disability diminishes the subjective well being of a person. It assesses quality of life of an individual in four main domains namely physical health, psychological, social relationships and environment. The general score on these four domains of WHOQOL-BREF indicates an individual's overall perception of his quality of life. Khan, Akhtar, Ayub, Alam & Laghari (2003) translated this scale in Urdu language and established its reliability with cronbach alpha coefficient .88. The higher score on WHOQOL-BREF denotes higher quality of life.

Procedure

After explaining the purpose of the study, consent of the concerned authorities of all the institutes was obtained. The researcher visited the institutions many times in order to establish Rapport with each participant especially visually impaired adolescents. In order to assess the quality of life of visually impaired adolescents and healthy controls, WHO Quality of Life-Brief (WHOQOL-BREF) scale was administered. Participants were given brief description regarding study and their written consents were obtained. It was explained to the participants that the confidentiality will be maintained and their data will be only used for research purpose. Following the demographic information of the individuals, the Urdu version of WHOQOL-BREF was administered individually to all the participants and the researcher(s) ensured that participants responded to all items. When administering the scale to visually impaired adolescents, the researcher(s) read the instructions aloud while visually compromised adolescents read them silently. After instructions, the researcher(s) also read each question aloud and participants answered the questions orally. During one-on-one session, participants were alone with researcher in the room, so no one else can hear the answers provided by the individuals.

Results

Table 1

Mean and Standard deviation of visually impaired adolescents on four domains of WHO-BREF test

Variables	N	Mean	SD	Max	Min
Physical	40	45.03	7.33	31	63
Psychological	40	37	10.71	19	63
Social	40	39.07	9.02	19	56
Environmental	40	37.45	12.34	31	63

Table 1 indicates the mean and standard deviation of visually impaired adolescents on four domains of WHO-BREF test. The result showed that visually impaired adolescents have highest mean value (45.03) on physical domain as compared on other three domains (37 Psychological, 39.07 Social & 37.45 Environmental respectively).

Independent sample t-test was used for statistical comparison of both groups on different domains and overall perceived quality of life.

Table 2*Comparison of visually impaired adolescents and their sighted peers on WHOQOL-BREF and its subscales*

variables	Visually impaired n=40	Sighted n=40	95% CL			
	M (SD)	M(SD)	t	p	LL	UL
Physical	39.13(5.67)	64.48(9.31)	14.705	.000	28.782	21.918
Psychological	36.53(9.925)	77.68(11.68)	16.979	.000	-45.975	-36.325
Social	39.08(9.02)	91.15(10.22)	24.149	.000	-56.368	-47.782
Environmental	35.93(10.75)	63.23(10.68)	11.386	.000	-32.073	-22.527
WHOQOL- BREF total	150.65(23.106)	297.78(25.29)	27.163	.000	-157.908	-136.342

Note: CI= Confidence interval; LL= Lower limit; UL= Upper limit

The results showed in table 2 indicated statistically significant differences in overall quality of life of visually impaired and sighted individuals. Similarly, the results also showed that sighted individuals reported better quality of life in all four mentioned domains i.e. physical, psychological, social as well as environmental as compared to visually impaired individuals.

Discussion

It is believed that sight is one of the crucial and vital indicators of better health and improved life (Swanson & McGwin 2004; Broman et al., 2002). Visual impairment causes the individual to limit their activities which in turn significantly hamper their life's quality (Verbrugge & Patrick 1995; Furner, Rudberg, & Cassel, 1995).

The findings of the current study showed significant differences in overall life's quality of visually impaired and sighted adolescents. The sighted adolescents reported better quality of life in all mentioned domains i.e. physical, psychological, social and environmental, as compared to visually impaired adolescents. These findings are consistent with the prior research of Chadha and Subramanian (2010) which suggests that visually impaired children had extensively low quality of life than the age-matched (3-16 years) comparison group. Another research by Wong et al., (2009) noted that healthy adolescents with visual disability showed statistically but not clinically lower school functioning and poorer psychosocial scores than those adolescents with normal vision. It may argue that visual impairment has seriously impaired the overall life's quality of a person and has serious implications on physical health, psychological well being as well as decreases social interactions and environmental standard of person's living.

It is well documented that adults following visual impairment has poor and low quality of life (Brown and Barrett 2011; Chia et al., 2004; Chia et al., 2003) but little data is available on the debilitating effects of visual disability on quality of life of adolescents. The result is also consistent with researches conducted on elderly patient population with visual impairment. Similarly, Langelaan et al., (2007) evaluated the effects of visual impairment on quality of life and then compare it with other chronic conditions. Their findings suggest that visual impairment has more serious and deleterious consequences on quality of life of an individual as compared to other serious health diseases and conditions. It may indicate that visually impaired individual has poor quality of life than coronary syndrome, hearing impairments, and diabetes type II, but less severe than stroke, major depressive disorder, chronic fatigue syndrome, multiple sclerosis, and other chronic psychological disorders. Similarly, Esteban et al., (2008) also examined different visual pathologies i.e. diabetic retinopathy, age related maculopathy and cataract, and found that greater visual impairment directly influence the quality of life linked to visual functions and consequently effect the quality of life of an individual.

Implications and Limitations

The current study may have potential significant implications for parents, teachers working in special schools, mental health professionals and society in large to plan a particular educational program for visually impaired adolescents, which sufficiently cater the needs of target population and consequently improve their quality of life. As mentioned earlier, a little literature is available on lethal effects of compromised vision on quality of life of adolescents. The current research will efficiently contribute to the existing body of knowledge regarding quality of life of visually disabled adolescents. These findings would help parents and teachers to learn more about the consequences of visual impairment on the life of individuals with compromised vision. The findings of the present study may enable the mental health professional to better understand visually disabled adolescents and develop a comprehensive rehabilitation plan.

A number of literature suggest that education, employment, healthy social interaction, financial independence and psychological rehabilitation have a considerable role in improving lives of individuals with compromised vision. It is suggested that increasing the level of education and devising proper and need based curriculum for visually challenged individuals may improve their living standards (Khorrami.Nejad et al., 2016). Moreover, Ribu et al. (2007) found a positive correlation in quality of life and employment status. Similarly, Wexler et al. (2006) reported that visually impaired individual's income has significant effect on his/her quality of life. Low income or unemployment has adverse effect on patient's feelings of self worth and his perception about self, family and world. With respect to health education, nurses/ health professionals should educate the visually impaired and their family regarding health issues in order to empower the disabled person so that they fight for educational opportunities, work/ employment, recreational opportunities, health facilities and access to assistive technologies (Rebouças et al., 2016) which in turn may strengthen their quality of life. So, this research may also reinforce the government and competent authorities to play a positive role and devise particular strategies especially in the field of education, creating more suited jobs and health policies keeping visually disabled in mind. The study may also help the society to remove the stigma attached to disability and to understand and help the visually disabled to build a positive image.

As far as the limitations of this study are regarding small sample size, in fact, the data has been gathered from merely one blind school and two mainstream schools. This research should be replicated with a large number of participants and also include more institutions for blind people across the country in order to explore the research question in greater depth. Another limitation of our study is that because of their blindness, the patients could not self-administer the questionnaire. The questions were thus read aloud and the patients' responses were recorded. This technique may have introduced a bias that affected the patients' responses. Furthermore, it would be important to use large prints or Braille in future researches in order to reduce biases.

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