Razi International Medical Journal

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Razi International Medical Journal

Journal homepage: www.rimj.org/pubs/index.php/journal

RESEARCH ARTICLE

Physical and mental aspects of quality of life among Afghan school-going adolescents

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ARTICLE INFO

Open Access

Received:
2023-06-10
Accepted:
2023-11-17
Published:
2023-11-30

Keywords:
Quality of life
Physical component
Mental component
Adolescents
Afghanistan

ABSTRACT

Background: The World Health Organization define quality of life (QoL) as "the individual's perception of their position in life, within the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns''. This study, focuses on the physical, and mental aspects of Afghan school adolescents' quality of life.

Methods: A cross-sectional survey study involving 545 adolescents was carried out in Herat province, Afghanistan. The participants were selected from 10 public primary, secondary, and high schools, which were randomly chosen from a pool of 86 schools registered with the Herat Education Department.

Results: The quality of life of almost half of the participants was poor on the physical component score (49.2%). Two-thirds of the participants had poor quality of life on the mental component score (66.8%). Multiple regression indicated that middle-income economic status (AOR=2.289, p=0.022), and low-income economic status (AOR=1.550, p=0.044) were significantly associated with physical component score of quality of life. It indicated that place of residency (AOR=1.620, p=0.040) was significantly associated with physical component score of quality of life.

Conclusion: This study found that QoL of school students are low in both the physical and mental components. It is important to identify children and adolescents who are at risk of developing mental health problems at an early age. To help young people who are struggling with mental health issues and their access to medical treatments, targeted early preventative and intervention are required.

Introduction

The long-running armed conflict in Afghanistan has had a profoundly damaging impact on its citizens, particularly its youth. Despite recent improvements in the country's health due to the implementation of the National Basic Package of Health Services (BPHS) in 2003 and the Essential Package of Hospital Services

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Cite this article as Physical and mental aspects of quality of life among Afghan school-going adolescents. *Razi International Medical Journal, 3(2).* DOI: 10.56101/rimj.v3i2.131

(EPHS) in 2005, Afghanistan continues to face significant health issues due to rapid population growth, illiteracy rates, poverty, unemployment, inflation, and violence (1-2).

A measure of total well-being and quality of life (QoL) includes happiness and life satisfaction (3). The World Health Organization's proposed definition of quality of life (QoL) that is most frequently used is "the individual's perception of their position in life, within the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns'' (4).

Adolescence is a crucial time when young people grow and during which they might change their behavior and forge new paths to good or bad adult health (5-6). Identifying quality of life–related issues can create pertinent knowledge for public health policy to promote the health and safety of adolescents (7). At this stage of life of humans' health authorities can roll out programs aimed at improving the health and well-being of individuals.

War and political violence are associated with high rates of mental health disorders and are associated with the risk of long-term mental health problems (8). Afghan children constitute a particularly vulnerable group for these outcomes. The significance of determining and enhancing the quality of life for Afghan teenagers, who make up a sizeable section of the population, has gained more attention in recent years. A study on the consequences of armed conflict on children established that, even though most younger children in Afghanistan were not directly exposed to war-related events, such as bombings, physical attacks, or killings, they still suffered from indirect traumatic consequences of the war, such as extreme poverty leading to child labor, together with the psychological consequences of their parents' deteriorated mental health status (9). Among Afghan school-attending children, as many as 39% reported exposure to at least one war-related traumatic event in their lifetime, which adds to this group's high level of exposure to domestic violence (mostly toward their mothers, but also towards them), with a higher prevalence for boys than girls (10).

Little is known about the quality of life of Afghan school-age youth. This study, focuses on the physical, and mental aspects of Afghan school adolescents' quality of life. The results of this study will help guide policies and initiatives aiming at raising Afghan school teenagers' quality of life and fostering their well-being.

Materials and Methods

Study design, setting, and participants

A cross-sectional study was conducted in 10 randomly selected public secondary and high schools of Herat province (Afghanistan) out of the 86 schools registered in the Herat Education Department. The 10 schools were selected using a lottery method. Students were selected randomly from all of the classes of the selected schools. Those aged between 11 to 18 years were invited to participate in the study. The eligibility criteria to participate in the present study were: (i) being a secondary or high school student; (ii) being under 19 years old; (iii) being able to understand the Dari/Persian language, and (iv) providing written or verbal informed consent from their parents. A total of 545 students participated in the present study who completed a survey at home. The questionnaires were collected the next day during school time. The Afghanistan Center for Epidemiological Studies Ethical Committee provided the approval to conduct the study on 20th of October 2021. The Department of Education of Herat province gave permission to conduct the study across public schools in this province. Consent was also taken from the parents and assent was taken from the participants.

Instruments

A survey comprising two sub-sections was used in the present study. The sub-sections assessed socio-demographics, and quality of life. The socio-demographic section included questions regarding age, gender, type of residency (urban or rural), class group (secondary, high school), mother and father's educational levels, and economic status (low-income, middle-income, high-income).

In order to assess participants' health-related quality of life, the SF-12v2 survey questionnaire was used. The SF-12v2 comprises two sub-scales (physical component score, and mental component score). The items of the questionnaire are scored in a Likert scale from 1 to 6. The scores of physical component score range from 6 to 20. The scores of mental component score range from 6 to 28. The scores are then converted to a 0 to 100. The standard cut-off score was used as follows: a score between 0 to 50 was

considered as poor quality of life in each of the components. Participants with a score higher than 50 were considered as having a good quality of life.

Data analysis

Data entry was carried out using Microsoft Excel 2016. The analysis was performed with the IBM SPSS version 26.0 for Windows. Analysis of quality of life scores was done according to standard methods. The scores were presented as mean with Standard Deviation. The association between the Physical component of Quality of life and demographic characteristics was done using the Chi-square test. The proportion of children with poor mental and physical quality of life were represented as proportion with 95% confidence interval. Multvariate logistic regression analysis was used to examine independent socio-demographics with a physical component score of quality of life. All of the variables with a p-value less than 0.05 were considered significant.

Results

A total of 545 adolescents participated in the present study with an age range of 11 to 19 years and a mean age of 16.66 years (SD±1.907). Less than half of the participants were male (43.5%). More than one-fourth of the participants were in the high school class group (77.4%). Less than one-fifth of the participants were living in rural areas (17.1%). **[Table 1]**

Table 1. Characteristics distribution of the study sample by gender (n=545)

Characteristic	Categories	Male		Female		Total	
		N	%	N	%	N	%
Age group	11-15-years	34	27.4	90	72.6	124	22.8
	16-19-years	203	48.2	218	51.8	421	77.2
Class group	Secondary	32	26.0	91	74.0	123	22.6
	High school	205	41.6	217	51.4	422	77.4
Residency	Urban	197	43.6	255	56.4	452	82.9
	Rural	40	43.0	53	57.0	93	17.1
Father's education level	Illiterate	70	44.9	86	55.1	156	28.6
	Primary school	31	26.7	85	73.3	116	21.3
	Secondary school	66	45.5	79	54.5	145	26.6
	High school	33	52.4	30	47.6	63	11.6
	University	37	56.9	28	43.1	65	11.9
Mother's educational level	Illiterate	122	42.4	166	57.6	288	52.8
	Primary school	44	39.3	68	60.7	112	20.6
	Secondary school	49	50.0	49	50.0	98	18.0
	High school	15	42.9	20	57.1	35	6.4
	University	7	58.3	5	41.7	12	2.2
Economic status	High-income	8	33.3	16	66.7	24	4.4
	Middle-income	174	43.0	231	57.0	405	74.3
	Low-income	55	47.4	61	52.6	116	21.3
Total		**237**	**43.5**	**308**	**56.5**	**545**	**100.0**

The quality of life of almost half of the participants was poor on the physical component score (49.2%). Two-thirds of the participants had poor quality of life on the mental component score (66.8%). The physical functioning component of quality of life among almost one-fourth of the participants was poor (24.2%). Mental health among almost four-fifth of the participants was found poor (79.3%). **[Table 2]**

Table 2. Domains of quality of life of patients (n=545)

Variable	Mean + SD	SF-12 Components	
		Poor	Good
Physical Functioning (PF)	5.169 ± 1.066	132 (24.2)	413 (75.8)
Role-Physical (RP)	2.936 ± 0.726	418 (76.7)	127 (23.3)
Bodily Pain (BP)	2.536 ± 1.235	441 (80.9)	104 (19.1)
General Health (GH)	2.749 ± 1.201	371 (68.1)	174 (31.9)
Energy/Fatigue (VT)	3.151 ± 1.609	295 (54.1)	250 (45.9)
Social Functioning (SF)	3.906 ± 1.545	178 (32.7)	367 (67.3)
Role-Emotional (RE)	2.861 ± 0.739	429 (78.7)	116 (21.3)
Mental Health (MH)	6.193 ± 1.863	432 (79.3)	113 (20.7)
Physical Component Score (PCS)	13.389 ± 1.923	268 (49.2)	277 (50.8)
Mental Component Score (MCS)	16.110 ± 3.195	364 (66.8)	181 (33.2)

The quality of life on the physical component score (PCS) among more than half of the participants in the 11-15 years' age group was poor (58.9%). Quality of life on PCS was poor among more than half of the female participants (53.6%). MCS of more than half of the participants who were in the secondary class group was poor (57.7). Age group, gender, class group, mother's educational level, and economic status were significantly associated with the physical component of quality of life. **[Table 3]**

Table 3. Association of physical component of quality of life with participants socio-demographic characteristics (n=545)

Characteristic	Categories	PCS - QoL				*p*-value
		Poor		Good		
		N	%	N	%	
Age group	11-15-years	73	58.9	51	41.1	**.014**
	16-19-years	195	46.3	226	53.7	
Gender	Male	103	43.5	134	56.5	**.019**
	Female	165	53.6	143	46.4	
Class group	Secondary	71	57.7	52	42.3	**.031**
	High school	197	46.7	225	53.3	
Residency	Urban	222	49.1	230	50.9	.951
	Rural	46	49.5	47	50.5	
Father's education level	Illiterate	77	44.9	86	55.1	.342
	Primary school	55	47.4	61	52.6	
	Secondary school	70	48.3	75	51.7	
	High school	36	57.1	27	42.9	
	University	37	56.9	28	43.1	
Mother's educational level	Illiterate	130	45.1	158	54.9	**.006**
	Primary school	48	42.9	64	57.1	
	Secondary school	58	59.2	40	40.8	
	High school	23	65.7	12	34.3	
	University	9	75.0	3	25.0	
Economic status	High-income	16	66.7	8	33.3	**.014**
	Middle-income	207	51.1	198	48.9	
	Low-income	45	38.8	71	61.2	
Total		**268**	**49.2**	**277**	**50.8**	

The quality of life on the mental component score (MCS) among more than two-third of the participants in the 11-15 years age group was poor (70.2%). Quality of life on MCS was poor among almost two-third of the female participants (65.9%). MCS among more than two-third of the participants who were in the secondary class group was poor (71.5).

Participant's residency was found significantly associated with MCS of quality of life. **[Table 4]**

Table 4. Association of mental component of quality of life with participants socio-demographic characteristics (n=545)

Characteristic	Categories	MCS - QoL				*p*-value
		Poor		Good		
		N	%	N	%	
Age group	11-15-years	87	70.2	37	29.8	.364
	16-19-years	277	65.8	144	34.2	
Gender	Male	161	67.9	76	32.1	.619
	Female	203	65.9	105	34.1	
Class group	Secondary	88	71.5	35	28.5	.203
	High school	276	65.4	146	34.6	
Residency	Urban	311	68.8	141	31.2	**.028**
	Rural	53	57.0	40	43.0	
Father's education level	Illiterate	109	69.9	47	30.1	.679
	Primary school	77	66.4	39	33.6	
	Secondary school	99	68.3	46	31.7	
	High school	39	61.9	24	38.1	
	University	40	61.5	25	38.5	
Mother's educational level	Illiterate	194	67.4	94	32.6	.548
	Primary school	69	61.6	43	38.4	
	Secondary school	71	72.4	27	27.6	
	High school	22	62.9	13	37.1	
	University	8	66.7	4	33.3	
Economic status	High-income	17	70.8	7	29.2	.876
	Middle-income	271	66.9	134	33.1	
	Low-income	76	65.5	40	34.5	
Total		**364**	**66.8**	**181**	**33.2**	

Multiple logistic regression was run to identify predictors of the physical component score of quality of life comprising the following variables: age group, gender, class group, economic status, and place of residency. Analysis indicated that middle-income economic status (AOR=2.289, p=0.022), and low-income economic status (AOR=1.550, p=0.044) were significantly associated with physical component score.

Multiple logistic regression was run to identify predictors of the mental component score of quality of life comprising the following variables: age group, gender, class group, economic status, and place of residency. Analysis indicated that place of residency (AOR=1.620, p=0.040) was significantly associated with physical component score. **[Table 5]**

Discussion

The present study aimed to examine the quality of life of Afghan adolescents. The impact of war on child and adolescent's quality of life and mental health is an issue that attracts attention on the global public health agenda, especially when it concerns young people living in conflict zones (11). It is essential to understand which are the factors that influence on adolescent's level of quality of life in order to propose the most effective interventions.

Acute malnutrition, physical abuse, drug usage, and a lack of healthcare services are all problems that affect children in Afghanistan and are indirectly linked to the long-standing armed conflict in the country (12). In our study the quality of life of 49.2% of all the participants was poor on the physical component score and this was more distinctive among the female respondents (53.6%).

Table 5. Logistic regression analysis for the association between physical and Mental component of quality of life and socio-demographics of study participants (N= 545)

	Physical Component		*Mental Component*	
Variable	AOR [95% CI]	*p*-value	AOR [95% CI]	*p*-value
Age of participants (Reference: 16-19 years)				
11-15 years	1.371 [0.759, 2.476]	.295	1.022 [0.548, 1.907]	.946
Gender (Reference: Female)				
Male	0.724 [0.510, 1.029]	.071	1.148 [0.793, 1.661]	.465
Class group (Reference: Secondary)				
High school	1.118 [0.618, 2.023]	.712	1.308 [0.696, 2.457]	.405
Economic status (Reference: High income)				
Middle-income	2.989 [1.172, 7.622]	**.022**	1.180 [0.449, 3.106]	.737
Low-income	1.550 [1.011, 2.376]	**.044**	1.022 [0.657, 1.591]	.922
Place of residency (Reference: Rural)				
Urban	0.926 [0.587, 1.459]	.739	1.620 [1.023, 2.565]	**.040**
	Reference category: good physical component of quality of life		Reference category: good mental component of quality of life	

Moreover, the age group 11-15 years, female gender and economic status were significantly associated with lower score on the physical component of quality of life. Most citizens in Afghanistan are unable to meet basic needs and other vital necessities which can result in low physical health of the Afghan adolescents. The lower QoL among the female gender reported in our survey is consistent with other studies from Europe (13-14). In our study respondents in the age group of 11-15 years old reported low scores in the physical component of QoL and this is consistent with a study from Germany in which 43.1% of adolescents in the age between 11-13 years of age reported low QoL (15).

Afghanistan has traditionally been considered as one of the planet's most dangerous locations for children, according to Hageman et al studies (16). Children from countries with active conflicts exhibit more signs of post-traumatic stress disorder (PTSD), anxiety disorders, depression, and other mental health problems than children from safer nations (17). Substance abuse among Afghan adults is highly prevalent, which leads to unsupervised drug use by kids, raising the danger of drug overdose in the pediatric population. Due to the lack of support services, such as child protection, these circumstances significantly negative impact on adolescent's mental health (18). Furthermore, less than 1% of all active medical facilities in Afghanistan provide mental health services.

In our study two-thirds (70.2%) of the respondents in the age group 11-15 years old. reported poor mental quality of life. During challenging times children are more vulnerable due to the lack of independence (12). Research on children and adolescents' mental health during the COVID-19 epidemic is currently gaining more and more attention. Zhou et al. (19) found that 44% of 12- to 18-year-olds demonstrated depressive symptoms, 37% showed anxiety, and 31% had both types of symptoms, Xie et al. (20) observed that 23% of 2nd- to 6th-grade children had depression symptoms and 19% had anxiety symptoms during the pandemic. Overall recent reports are showing a decrease in the psychological well-being and behavioural health of children and adolescents compared to the time before the pandemic (21-22) and this can be an explanation to some extent of the results in our study as the adolescents in Afghanistan are affected by the pandemic on one hand and the ongoing was conflict on the other.

Conclusion

This study found that QoL of school students are low in both the physical and mental components. It is important to identify children and adolescents who are at risk of developing mental health problems at an early age. To help young people who are struggling with mental health issues and their access to medical treatments, targeted early preventative and intervention are required.

Ethical approval and consent to participate

The study received ethical approval from the Ethical Committee of the Afghanistan Center for Epidemiological Studies (#21.072). Participants were provided with a comprehensive explanation of the study during the initial contact. Written or verbal consent was obtained from their parents. Participants were informed of their right to withdraw or choose not to participate in the study at any stage. All procedures adhered to pertinent ethical guidelines and regulations.

Consent for publication

Not applicable.

Author contributions

All authors contributed equally to the manuscript.

Availability of data and materials

The datasets utilized and/or analyzed in the present study can be obtained from the corresponding author upon a reasonable request.

Conflict of interest

The authors assert that there are no conflicts of interest.

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