ORIGINAL ARTICLE

HEALTH RELATED QUALITY OF LIFE IN SCHOOL GOING ADOLESCENTS OF KHYBER PAKHTUN-KHWA PAKISTAN

Muhammad Siddique, Ayaz Ayub, Hamid Hussain
Institute of Public Health and Social Sciences, Khyber Medical University, Peshawar-Pakistan

Background: In several countries health related quality of life (HRQoL) scales have been used for adolescents, to assess the impact of disease. Health related quality of life scales are used on a range of different domains: physical, psychological, social and spiritual focusing on personal life including the concept of the World Health Organization definition of health. **Methods:** Health related quality of life in adolescent going to schools in the cantonment area of Peshawar garrison was assessed in a cross sectional descriptive study. Data was gathered by using a self-administered questionnaire (Kiddo-KINDL-R Questionnaire), previously tested to assess quality of life across six dimensions of health i.e. Physical and emotional well-being, self-esteem, family, social and school. **Results:** A total of 300 students of average age 13.41±1.34 years, with 145 (48.3%) females. Mean (SD) of total QoL score was 86.98 (12.86). The mean total scores were 86.28±12.34 and 87.64±13.34 for girls and boys, respectively. **Conclusion:** On the whole quality of life scores of the adolescent are good in the four dimensions. Special attention is needed towards the school environment, as majority of the participants are not satisfied with their schools. Similarly self-esteem scores are also low in the majority. However it is encouraging that most of the participants have scored highest scales in dimensions of family and physical health. Any effort to assess quality of life of the adolescents at the national level will give better view of quality of life of our youth.
Keywords: Health Related Quality of Life (HRQoL), Adolescents, Kiddo-KINDL[R], Pakistan

INTRODUCTION

In several countries health related quality of life (HRQoL) scales have been used for adolescents, to assess the impact of disease.[1] HRQoL scales are used on a range of different domains: physical, psychological, social and spiritual focusing on personal life including the concept of the World Health Organization (WHO) definition of health.[2,3]

In Pakistan the adolescent (10–19 years) are facing multiple emotional, physical and psychological problems due to several factors associated with environment (physical, social and biological).[4] Apart from physical wellbeing, the social and emotional health of an adolescent could be directly influenced by their home environment (quarrels with parents), school environment or in more severe cases, in the form different social evils like theft, robberies or occasional suicide incidences.[5] All these problems are the tip of the iceberg and point towards the underlying dissatisfaction of the adolescents from their life. Hence the perceived quality of life, valued by each individual varies from person to person.[4]

Unfortunately, we have no data to assess how our young generation perceives their life. In such circumstances the knowledge regarding HRQoL is of particular importance in the public health sector since Quality of Life (QoL) at this age serves as a springboard for QoL in their future life.

Health related quality of life is used to measure state of health at individual or community level.[5] HRQoL idea includes the perception of the individual with regard to his/her physical working and psychological well-being, which is of thoughtfulness in many areas.[5] HRQoL is multidimensional model consisting of different constituents of well-being and functionality from the subjective perspective of the individual. In this way, HRQoL describes the self-perceived health state or the 'experienced health'.[6] The QoL assessments comprise the physical, mental, emotional and social dimensions[7], which are useful in the assessment of physical, mental and social well-being and are useful for informing healthcare decision making.[8,9] However, QoL assessments in Asian populations have been limited due to the absence of a properly developed questionnaires with established validity and reliability.

We conducted this study to appraise the psychometric properties of KINDL[®] – a generic children's QoL questionnaire developed for English-speaking Singaporeans.[10] English was chosen because it is a universally accepted language with potentially wide application in Asia. The aim of the study was to assess HRQoL in school going adolescent of cantonment area of Peshawar garrison.

MATERIAL AND METHODS

This was a cross-sectional descriptive study conducted in the Armed forces schools of Peshawar cantonment. Using the Epi-info version 6 /WHO software; the calculated sample size was; n=317 by considering: Population size from which

sample was selected; anticipated population proportion (p=50%) of physical well-being, absolute precision (d=5.5%), and level of confidence of 95%. Anticipated population proportion is taken as 50% because estimate of the population is not available.

Quota sampling approach was used to collect the data from the students of different classes of armed force schools according to the number of students in the school. All students who were of age 10–17 years and willing to participate were enrolled in the study. Data was gathered by using a modified self-administered questionnaire previously tested, available from www.kindl.org/english/questionnaires/(KidKINDL_children_7-13y_English.pdf).
If the student was unable to fill the questionnaire independently then research assistance by a trained school teacher was provided to fill the questionnaire. Questionnaire was distributed and collected in the same time after taking the written consent from school principal and participants.

The KINDLR questionnaire contains 24 Likert-scaled questions linked with six dimensions: "physical and emotional well-being, self-esteem, family, friends and everyday school life functioning" e.g., school, nursery school/kindergarten). The sub-scales of these six dimensions can be combined to produce a total score.

Data was entered according to the international protocol of KINDL^R protocol using SPSS-16 and MS Excel. Results of quantitative variables were expressed as mean±standard deviation, and categorical data was presented as frequencies and percentages.

RESULTS

The response rate was 94%. Of the 300 participants who were selected in the project, 155 (51.7%) were males and 145 (48.3%) were females.

The mean age of the participants was 13.41±1.34 years, ranging 10–17 years (boys and girls, 13.53±1.38, 13.30±1.30 years respectively). The participants consisted of 3 students in 10 years age group, 15 students in 11 years age group, 54 in 12 years, 100 in 13 years, 64 in 14 years, 43 students in 15 years, 18 in 16 years group, 3 students in 17 years age group.

Quality of Life score was calculated by summarizing all the sub-scale points. HRQoL Score was acquired by transforming the sum score on the scale of 0-100, so that advanced score correspond to higher quality of life. The results of the perceptions of their health and well-being across six dimensions of health are presented.

Physical well-being measurement discovers the level of physical activity of different persons regarding their fitness and energy. The physical activity is scrutinized with reference to their vitality. In addition, the extent to which a student does not feel well and complains of poor health is also observed. Participants were asked four questions relating to their physical well-being.

In first three questions were 'never' 176 (58.7%), 128 (42.7%), 92 (30.7%) respectively and in fourth question 'felt strong and full of energy' was answered only 19 (6.3%). Mean score of Physical well-being was 86.39±25.55

The question regarding emotional well-being specifically reveals feeling such as loneliness, sadness etc. furthermore this dimension takes into account how distressing these feeling are perceived to be. This dimension shows a high score HRQoL if the negative feelings are rare. Participants were asked 4 questions relating to their mood.

In the first question "I had fun and laughed a lot" 115 (38.3%) responded sometimes. One hundred and 84 (61.3%) responded "I felt alone". I felt scared or was unsure of myself, and 177 (59%) responded never.

The dimension of self-esteem: "the awareness of the absolute value of one's own personality or dignity" or how secure and satisfied adolescents feel about themselves or "the satisfaction or dissatisfaction with oneself". Participants were asked to respond to four questions relating to their self-perception. The mean score of Self-esteem was 77.81±26.83. Results are shown in figure-1.

The affiliation of the respondents with their parents was observed. It explores the quality of communication between the participants and the parents, as well as the feelings of the participants towards the parents. Participants were asked four questions relating to parent relations and home life shown in table-1.

The variable regarding friends (school functioning) explores the nature of the participants' social relationships with other students. It also explored, the extent to which the respondent experiences, positive group feelings and how much he/she feels part of a group. Participants were asked four questions relating to peer relationship. The participants 159 (53%) reported that they have 'often' or 'always' done things together with their friends. Of the total, 179 (59.7%) stated that they were 'often' or 'always,' success with their friends. Mean score of social functioning was 82.75±23.88.

In the dimension of school function, learning and concentration and their feelings about school were explored. Participants were asked four questions about

their school setting as experienced. Mean score of school functioning was 82.75±23.88 shown in figure-2.

The highest HRQoL mean score, for both males and females, is for family dimension (98.17%). It is followed by the scores of emotional well-being (96.67%) and physical well-being (86.39%). On the other hand, the lowest mean score was for school environment (82.75%), followed closely by self-esteem (77.81%).
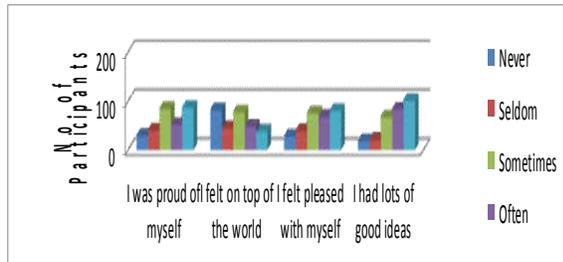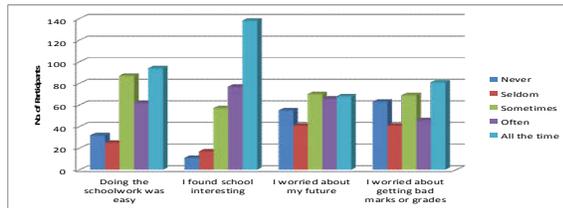

Figure-1: Self-esteem scale

Figure-2: School function

Table-1: Family Functioning scale

	Never	Seldom	Sometimes	Often	all the time
I got on well with my parents	10 (3.3%)	7 (2.3%)	26 (8.7%)	45 (15.0%)	212 (70.7%)
I felt fine at home	14 (4.7%)	18 (6.0%)	50 (16.7%)	56 (18.7%)	162 (54.0%)
We quarreled at home	115 (38.3%)	80 (26.7%)	80 (26.7%)	17 (5.7%)	8 (2.7%)
I felt restricted by my parents	83 (27.7%)	46 (15.3%)	86 (28.7%)	39 (13.0%)	46 (15.3%)

Table-2: Mean percentage score of Kiddo-KINDL

	Singapore 2007	Japan 2010	India 2012	Pakistan 2013
Physical Health	61.4	57.4	78.4	86.4
Emotional Health	66.8	62.6	67.3	96.7
Self-esteem	39.7	55.8	74.2	77.8
Family Functioning	68.3	71.5	-	98.2
Social Functioning	62.2	63.2	82.1	82.7
School Functioning	41.4	56.1	73.4	80.1
Total Scores	56.6	61.1	75.3	86.9
About disease	-	=	=	92.7

DISCUSSION

The result of our study show that highest HRQoL mean score is for family dimension (98.17). It is followed by the scores of emotional well-being (96.67) and physical well-being (86.39). This may be the reflection of strong family system of our society and the support we get from closely knit family relations. Also the figures in our study are coming from families of high ranking army officers' schools where the parents are highly educated. The comparing figures from India and Singapore are coming from families of general population. Therefore there are discrepancies in the results. (Table-2)

In our study on the other hand, the lowest mean score was of self-esteem followed closely by school environment. This is of great concern that our youth is dissatisfied with their school environments. Further research needs to be done to explore the reasons of dissatisfaction from the schools as these are the nurseries where our future for further research

The studies conducted in Singapore, Japan and India shows the almost same order of the lowest and highest scored dimensions i.e. Family and Emotional well-being are the highest scored dimensions whereas Self-esteem and School environment are the lowest. Same is the case with in our study. However, the scores in other countries are lower than ours in all the dimensions. This difference is mainly due to difference in the sociocultural difference in our population and those of other countries.

Mean HRQoL scores of our study population are higher than those of the studies conducted in Singapore, Japan and India.[11–13] in all the six dimensions. The difference is more marked in the dimensions of Emotional and Family dimensions. However scores of social functioning of our population are almost equal to the scores reported in the Indian study. This indicates that phenomenon of low self-esteem and dissatisfaction from school is not peculiar to our youth only and should be studied as the problem of the adolescents' age group at large. Self-esteem can be improved if administrative staff of schools, adolescents and parents work together in identified areas and try to create better environment outside the home where children feel believed. In such cases, public health nurses and school nurses can supplement the role of parents by providing encouragement and information to children in regard to their future.

The results indicate the general trends of the population perceived health in the six dimensions of KINDL. This study can be regarded as window to larger level studies for assessment of HRQoL of our youth.

CONCLUSIONS

On the whole quality of life scores of the adolescents are good in the four dimensions. Special attention is needed towards the school environment, as majority of the participants are not satisfied with their schools.

Similarly self-esteem scores are also low in the majority. However it is encouraging that most of the participants have scored highest scales in dimensions of family and physical health. Any effort to assess quality of life of the children and adolescents at national level will give better view of quality of life of our adolescents.

AUTHOR'S CONTRIBUTION

MS: contributed in the study design, questionnaire development, data collection, data analysis and report writing. AA: contributed in study design, questionnaire development and ethical consideration. HH: contributed in study design, data collection, data management and analysis

REFERENCES

1. Bullinger M, Ravens-Sieberer U. Health related quality of life Assessment in children: A review of the literature. Eur Rev Appl Psychol.1995;45(4):245–56.
2. The World Health Organization Quality of Life Assessment (WHOQOL): Position paper from the World Health Organization. Soc Sci Med 1995;41(10):1403–9.
3. Saracci R. The World Health Organization needs to reconsider its definition of health. BMJ 1997;314(7091):1409–10.
4. Bisegger C, Cloetta B, von Rueden U, Abel T, Ravens-Sieberer U. Health related quality of life: gender differences in childhood and adolescence. Soz Praventimed 2005;50(5):281–91.
5. Bullinger, M. Assessing health related quality of life in medicine: an overview over concepts, methods and applications in international res earch. Restor Neurol Neurosci 2002;20(3-4):93–101.
6. Schumacher J, Klaiberg A, Bra'hier E. Diagnostik von Lebensqualita't and Wohlbefinden-Eine Einfuh rung. In: Schumacher J, Klaiberg A, Bra'hier E edu. Diagnostische Verfahren zu Lebensqualita't und Wohlbefinden. Gottingen: Hogrefe 2003;9–24.
7. Ravens-Sieberer U, Torsheim T, Hetland J, Volleberg W, Cavallo F, Jericek H, *et al*. Subjective health symptom-load and quality of life of children and adolescents in Europe. Int J Public Health 2009;54:151–9.
8. Neumann PJ, Goldie SJ, Weinstein MC. Preference-based measures in economic evaluation in health care. Annu Rev Public Health 2000;21**:**587–611.
9. Hyland ME**.** Quality-of-life measures as providers of information on value-for-money of health interventions. Comparison and recommendations for practice. Pharmacoeconomics 1997;11(1):19–31.
10. Wee HL, Lee WW, Ravens-Sieberer U, Erhart M, Li SC**.** Validation of the English version of the KINDL generic children's health-related quality of life instrument for an Asian population–results from a pilot test. Qual Life Res 2005;14(4):1193–1200.
11. Wee HL, Ravens-Sieberer U, Erhart M, Li SC. Factor structure of the Singapore English version of the KINDL® children quality of life questionnaire. Health Qual Life Outcomes 2007;5:4.
12. Yamaguchi N, Poudel KC, Poudel-Tandukar K, Shakya D, Ravens-Sieberer U, Jimba M. Reliability and validity of a Nepalese version of the Kiddo-KINDL in adolescents. Biosci Trends 2010;4(4):178–85.
13. Awasthi S, Agnihotri K, Chandra H, Singh U, Thakur S. Assessment of Health-Related Quality of Life in school-going adolescents: validation of PedsQL instrument and comparison with WHOQOL-BREF. Natl Med J India 2012;25(2):74–9.

Address for Correspondence:
Dr Muhammad Siddique, Institute of Public Health & Social Sciences (IPH&SS). Khyber Medical University, Peshawar-Pakistan
Cell: +92 333 226 6090
Email: drayaz.iph@kmu.edu.pk