GENERIC HEALTH-RELATED QUALITY OF LIFE AMONG ADULT OUTPATIENTS IN SAUDI ARABIA

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Abstract

Background: Health-related factors differ from one culture to another based on provided health services and the prevalence of different diseases. Accordingly, identifying these factors is crucial to improve the overall quality of life. The objective of this study is to explore the factors affecting health-related quality of life among adult outpatients living in Saudi Arabia.

Methods: A cross-sectional study using a 50-item questionnaire investigated different aspects of health-related quality of life in 10 Saudi hospitals in Riyadh region between the years 2018-2019. A Linear regression analysis was performed to determine the predictors influencing health-related quality of life.

Results: A total of 806 participants from different regions of Saudi Arabia responded to this customized questionnaire. The average HRQOL score was 285.23 (27.47) out of a maximum score of 350. The highest average score was achieved in the social, environmental, and economic domain 6.99 (0.78). The lowest average score was achieved in health and activity of daily living domain 5.29 (0.70).

Conclusion: The Saudi adult patient population had an above-average level of HRQOL. This result indicates that culture does play a factor in impacting the generic outcome measurement of HRQOL.

Keywords: Health-related, Quality of Life, Saudi Arabia, Outcome measurement

1 INTRODUCTION

Quality of life can be defined as the measure of a person's or community's well-being (1). It involves an assessment of both positive and negative aspects of their daily life (2). It should be noted that people usually perceive their quality of life depending on different factors, such as their cultural, religious, and socio-economic levels, which makes perceived Quality of life highly variable among individuals (3-5). Furthermore, outcome measurement of quality of life considers the engagement of individuals into social activities as well as their psychological well-being and their satisfaction with their lives (6). Accordingly, Quality of life should be evaluated as a compound assessment that involves multiple interactions depending on people's beliefs and perspectives (7).

The most important aspect of Quality of life as a whole is that which pertains to a person's health, henceforth, health related quality of life (HRQOL). It is defined as the living values that can be improved through changing thoughts, social challenges, or different functional conditions influenced by particular health status, managed care plans, or an injury (8, 9). However, a patients' perceptions of personal HRQOL, is highly variable as it is prominently based on cultural, social, and educational backgrounds (10); and in many cases their comparison with other patients (11). Nevertheless, HRQOL should be measured to evaluate the impact of a medical condition or procedure on patients' quality of life (12). This assessment of life quality can differ from one country to another, and it has not been evaluated in Saudi Arabia. Accordingly, the present study investigates the factors affecting the HRQOL in Saudi Arabia.

2 MATERIALS AND METHODS

2.1 Study Design

This cross-sectional study was carried out in Riyadh region, Saudi Arabia between the years 2018-2019. Patients from 10 hospitals were included, representing five major government hospitals and primary care settings, two university hospitals, and three private hospitals. The participants represented a heterogeneous sample of patients comprising different age groups, gender, diseases, and relevant socio-demographic factors. Inclusion criteria were (a) receiving clinical services at a specific clinic for at least three months, (b) being 18 years or older, and (c) being capable of within normal cognitive and communication capabilities so as to understand and respond to the questionnaire.

2.2 Data Collection

A self-reporting web-based questionnaire using an iPad was distributed. The questionnaire was customized to suit the language and culture of the participants and was thus written in Arabic (13). This questionnaire was modelled after several standardized tools including WHO instrument: <https://www.who.int/toolkits/whoqol>. The four domains in measuring HRQOL were included with an added domain on communication as an integral part of physician-patient health care delivery. Items were designed to fit the Saudi Arabian culture. It is worth mentioning that this tool has been validated using Cronbach alpha testing. Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value was 0.927, with a significant Bartlett's Test of Sphericity. Face and content validity were reviewed by 4 co-researchers as well as usability was tested by 29 senior student clinicians and two clinical practitioners.

The Arabic generic health related quality of life questionnaire (AHRQOL) included 50 items to evaluate five different domains, including health and activity of daily living; emotion, religion, social, environment, and economic factors; work and study aspects; and communication (See Appendix A). Data was collected between 2018- 2019. The research clinicians supervised and checked each questionnaire for completeness of responses.

2.3 Statistical Analyses

Descriptive analysis for categorical variables was displayed as frequencies and percentiles. Numerical variables were evaluated through means and standard deviation. Univariate analysis, including the frequency distribution and percentile, was conducted for the respondents' demographic characteristics.

2.4 Ethical Considerations

Ethical approval was acquired from the Institutional Review Boards of King Saud University, College of Medicine (No. 089-37/38; No. E-17-2563). Prior to participating, senior multidisciplinary clinicians explained to each patient the study and requested written consent.

3 RESULTS

The socio-demographics of 806 responders are shown in Table 1. Out of 806 participants, 59.3% of the responders were females. Age was subcategorized into four age groups, starting from <30 years to > 60. Of those, 49.4% were in the age group between 31 to 45 years old. Additionally, 86.1% of the responses were from the central region in Saudi Arabia, where 60.8% had a university degree or above, and 61.5% had a family income between SAR9000 and SAR21000, and 44% were employed (Table 1).

3.1 Evaluation of different subscales of the AHRQOL

Item responses were evaluated and scored based on the five subscales of the questionnaire, including health and activity of daily living, emotion and spiritual domain, work-study domain, social, environmental,

economic domain, and communication domain to a total score for all domains. The total score was given by adding the item score of AHRQOL and dividing the total by the number of items in the AHRQOL.

Results show that the average total AHRQOL was 285.23 (27.47) out of a maximum score of 350. The highest average score was achieved in the social, environmental, and economic domains 6.99 (0.78), while the least average score was achieved in health and activity of daily living domain 5.29 (0.70) (Table 2).

3.2 Factors predicting the health-related quality of life for adults in Saudi Arabia

Multivariate linear regression analysis over the five subscales demonstrated that educational level is a significant predictor for all the AHRQOL subscales, while place of residency was a predictor for all the domains except for the health and active daily living. Gender recorded a higher beta value ($\beta = -1.90$, $p=0.007$) than other predictors for both the Communication domain and Health and Activities of Daily living domain (Table 3).

4 DISCUSSION

Health related quality of life has been proposed as the most essential component to measure the overall quality of life of the individual (3). Multiple factors, not only pathological, can influence HRQOL, but social and demographic factors also play a significant role (14). Accordingly, figures of HRQOL for one country cannot be simply applied to another. Although HRQOL has been evaluated in different Western countries, there is a scarcity of data in the medical literature about HRQOL in the Arabic world, particularly Saudi Arabia (15).

Consequently, the present study evaluated the HRQOL among adults living in different regions of Saudi Arabia across ten hospitals. Through a customized questionnaire to suit the Arabic culture and features, it has been revealed that the HRQOL in Saudi Arabia is above average levels. It is important to note that this customized format is expected to provide more accurate information about the Saudi community rather than using standard questionnaires for the evaluation of HRQOL.

HRQOL has been evaluated in different contexts. Al-Aboudi et al. (16) evaluated the HRQOL among diabetic patients in Riyadh, Saudi Arabia. Through a cross-sectional, single-centered study, he demonstrated that patients with type 2 diabetes had a significantly low HRQOL level. He recommended that clinicians consider this low HRQOL when treating this patient population.

On the other hand, the present study did not restrict subjects' inclusion on a specific chronic condition. Any patient who presented for a clinical service for more than three months was eligible for inclusion. The present study was also a multi-center study that recruited almost eight folds the sample size included in Al-Aboudi et al. (16), which suggests higher reliability of the present findings.

Other Saudi studies also evaluated the HRQOL among Saudi population. Al Hayek et al (17) demonstrated that the most significant factors influencing HRQOL in diabetic Saudi patients are economic status, diabetic complications, and gender. Also, Alshehri et al. (18) illustrated that the mode of delivery in Saudi females can significantly affect their HRQoL level. Furthermore, Alshayban et al (19) showed that uncontrolled blood pressure is significantly correlated to reduced quality of life among Saudi hypertensive patients. These findings from Alshayban et al (19) are consistent with Alshayban et al (20) in diabetic patients and support the findings of the present study.

Another systematic review carried out by Wu et al. (21) examined the effect of physical activity on the HRQOL in adolescents. Wu et al. (21) included 31 studies in their review, yet it should be noted that all of them were from western countries. Wu et al. (21) demonstrated an improved HRQOL with increasing physical activity.

The present study demonstrated that the average score for the health and active daily living section was considered the least among all the five included domains (5.29 (0.7)), indicating poor physical activity. Despite this fact, the overall HRQOL in Saudi Arabia adults was generally above average level, with social, environmental, and economic domain showing to be the major contributor for this level. This difference between the present study and Wu et al. (21) confirms HRQOL dependence on different cultural and demographic variables.

A recent study in China by Ping et al. (22) evaluated the HRQOL among the general population during the COVID-19 pandemic. Ping et al. (22) illustrated a reduced HRQOL attributed to an increased prevalence of pain, anxiety, and depression during the pandemic. Ping et al. (22) also showed that other factors contributing to this low HRQOL were aging, lower-income, chronic disease, and worry about getting COVID-19.

Although the present study was performed before the COVID-19 pandemic, HRQOL showed a better level in the Saudi population than the Chinese population. This difference could be attributed to the difference in religious beliefs and attitudes towards life between the two populations.

5 CONCLUSION

The health-related quality of life among adults living in Saudi Arabia is above average. Accordingly, these outcomes should be taken into consideration by clinicians treating patients with chronic conditions and public health decision-makers in Saudi Arabia to improve the patients' HRQOL. Future studies should consider a tailored questionnaire to suit the nature of the tested population, which proved to be effective in the present study. This is the first study to evaluate the generic HRQOL among adults with different medical conditions in Saudi Arabia.

Conflict of Interest

The authors declare no conflict of interest.

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Table 1. The socio-demographic data of the responders

Characteristic	N	%
Age		
Less than 30	232	28.8
31 – 45	398	49.4
46 – 60	107	13.3
60 and above	69	8.5
Gender		
Male	328	40.7
Female	478	59.3
Region		
Central	694	86.1

Western	11	1.4
Southern	48	6.0
Eastern	31	3.8
Northern	22	2.7
Marital Status		
Single	292	36.2
Married	514	63.8
Education		
Non-educated	11	1.3
Primary	12	1.5
Secondary	89	11.0
Tertiary	205	25.4
University and above	489	60.8
Family income		
Less than 9000	236	29.2
9000 – 21000	496	61.5
21000 and above	74	9.3
Work		
Unemployed	325	40.4
Employed	355	44
Student	126	15.6

Table 2. Scores for subscales and total scale of AHRQOL

Scale	No. of items	Mean (SD)	Min	Max
AHRQoL-G scale	50	285.23 (27.47)	118	350
Health and Activity of Daily Living Domain	12	5.29 (0.70)	2	7
Emotion and Spiritual Domain	10	6.03 (0.67)	2	7

Social, environmental, Economic Domain	10	6.99 (0.78)	1.8	7
Work-Study Domain	4	5.40 (1.18)	1	7
Communication Domain	12	5.80 (0.67)	1.8	7

Table 3. Factors predictive of health related quality of life among adult patients in Saudi Arabia using multivariate linear regression analysis

	Health and Activity of Daily Living Domain		Emotion and Spiritual Domain		Social, environmental, Economic Domain		Work-Study Domain		Communication Domain	
	B (95%CI)	p-value	B (95%CI)	p-value	B (95%CI)	p-value	B (95%CI)	p-value	B (95%CI)	p-value
Age	-0.88 (-1.68 - -0.81)	0.031	-0.42 (-1.07 - 0.21)	0.191	-0.19 (0.92 - 0.52)	0.593	-0.43 (-0.60 - -0.26)	0.001	-0.28 (-0.62 - 0.06)	0.116
Gender	-1.95 (-3.24 - -0.66)	0.003	0.02 (-1.01 - 1.05)	0.964	0.31 (-1.47 - 0.85)	0.598	-0.65 (-1.28 - -0.03)	0.040	1.54 (0.18 - 2.80)	0.001
Region	0.46 (-0.12 - 1.05)	0.124	0.67 (0.20 - 1.15)	0.006	1.44 (0.85 - 1.95)	0.001	0.38 (0.11 - -0.65)	0.005	1.49 (0.98 - 2.10)	0.026
Marital Status	-0.70 (-1.66 - 0.25)	0.922	0.99 (-0.11 - 2.10)	0.079	0.21 (-1.96 - 0.43)	0.001	0.06 (-0.37 - 0.49)	0.783	0.06 (-0.83 - 0.97)	0.880
Educational attainment	0.70 (0.21 - 0.78)	0.001	0.70 (0.33 - 1.07)	0.001	0.60 (0.14 - 1.05)	0.009	0.67 (0.45 - 0.89)	0.001	0.77 (0.31 - 1.24)	0.001
Family income	1.33 (0.28 - 2.38)	0.013	0.71 (-0.12 - 1.55)	0.096	0.60 (0.23 - 0.96)	0.001	0.15 (-0.01 - -0.33)	0.079	0.27 (-0.09 - 0.64)	0.148
Employment status	0.11 (-0.83 - 1.06)	0.816	-0.30 (-1.06 - 0.46)	0.441	-0.40 (-0.73 - 0.07)	0.018	-0.91 (-1.07 - 0.75)	0.001	-0.52 (-0.86 - 0.18)	0.002