



Self-Perception of Quality of Life and Its Association with Lifestyle Behaviours of Young Iranian Women

**Asiyeh SALEHI¹, Neil HARRIS¹, Bernadette SEBAR¹, Elisabeth COYNE²*

1. School of Medicine, Menzies Health Institute Queensland, Griffith University, Australia

2. School of Nursing and Midwifery, Menzies Health Institute Queensland, Griffith University, Australia

***Corresponding Author:** Email: nasim.salehi@griffithuni.edu.au

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Abstract

Background: Limited studies have examined the relationship between quality of life and lifestyle behaviors. The purpose of this study is to examine the perceptions of quality of life among young Iranian women and its association with lifestyle behaviors.

Methods: This cross-sectional study was conducted among 391 young women selected through a cluster convenience sampling strategy in Shiraz, Iran. WHOQoL-BREF and satisfaction with life scales were used to measure subjective well-being. The International Health and Behavior survey was used for measuring lifestyle behaviors.

Results: Young Iranian women were averagely dissatisfied with their life circumstances. The score of psychological quality of life, and social quality of life were below average. According to the findings, higher quality of life is positively related to healthier lifestyle behaviors. Multiple regression analysis showed that smoking and physical activity are the main predictors of quality of life. Findings also demonstrate that diminished quality of life was significantly associated with older age, low income, being single, low level of religiosity, smoking and low levels of physical activity.

Conclusion: In order to improve the situation of young Iranian women, the findings that should be sources of concern to policy makers include the average dissatisfaction with circumstances of life particularly in terms of psychological, social and environmental quality of life. While the health system focus is often upon addressing unhealthy lifestyle behaviors, policy initiatives aimed at improving these circumstances of life for young Iranian women would be of substantial medium to long-term benefit to their wellbeing.

Keywords: Quality of life, Satisfaction with life, Lifestyle behaviors, Young women, Iran

Introduction

The term quality of life (QoL) has been used in a variety of different ways to characterize our daily life. Quality of life is a crucial expression of individual wellbeing and a valuable goal for societies. It is a multidimensional concept, affected in complex ways by a person's physical health, psychological health, personal views, social and environmental relationships (1). According to WHO, quality of life is determined by how individuals view their own position in life. An individual's perception is under the influence of the value sys-

tem they relate to, their culture and goals they follow in life as well as the standards of their society (2).

Since the late 1990s, research on QoL has gained more attention in different health related disciplines such as medicine, social sciences, health services and health promotion (3). The study of quality of life is the examination of factors that contribute to the goodness and well-being of life, as well as people's happiness. It explores the inter-relationships among these factors. The ideological

thrust of studying quality of life is to understand and promote the means for people, within their environments, to live in ways that are best for them (4).

A review of the literature suggests that the usefulness of QoL as an outcome measure associated with medical interventions has facilitated its acceptance as worthy of periodic national surveillance (5) and it has been used increasingly in clinical research to measure improvement in perceived well-being (6). QoL should be linked with not only clinical variables (6), but also lifestyle behaviors. Such linkage would offer opportunity for broader interpretations of the role of QoL, which would be of potential value to policy makers. However, to date there have been few studies that have examined the link between quality of life and engagement in lifestyle behaviors.

Most of the studies oriented on the connection between lifestyle behaviors and quality of life have been conducted in highly industrialized capitalist societies (7, 8). In contrast, very limited work has been done in transitional countries. Therefore, in countries like Iran in the Middle East, where social systems mean women may experience reduced opportunities (9), understanding how their QoL links with lifestyle behaviors could be important in securing social changes. The specific objectives of this study are to: a) describe QoL and life satisfaction of young Iranian women; b) examine the associations between QoL including identified QoL domains, with socio-demographic variables, satisfaction with life (SWL) and lifestyle behaviors and; c) examine the predictive role of lifestyle behavior variables such as drinking, smoking and physical activity for quality of life.

Methods

Participants, sampling and data collection

A two-stage cluster convenience sampling technique was used to recruit 391 participants. Locations in Shiraz, Iran were selected in 2014 from public and private universities, public and private workplaces, religious communities, health care centers, hospitals and public places. The re-

searcher administered the paper-based survey. To encourage completion of the surveys, a researcher who had the same language as the participants was available to answer questions and provide assistance (10).

Measures

Dependent variable

The WHOQoL-BREF as the instrument to measure the dependent variable of QoL was of interest to the present study for the following reasons. First, it has been developed and validated across diverse cultures, thus overcoming the difficulties associated with using an instrument created for a particular cultural group or country (11). Second, the WHOQoL-BREF consists of three parts. The first part, which is the general facet on health & QoL, represents the issues of subjective well-being, general life satisfaction and global QoL. The general facet on health & QoL is the scale that forms the first level of deconstruction of the WHOQoL-BREF construct of life quality (12). The second part of the WHOQoL-BREF concerns health related quality of life issues (HRQoL) and consists of the physical health and psychological health domains. The third part of the questionnaire, which deals with contextual issues, is constituted by the social relations and environment domains. From the point of view of QoL quality of life theory, it would be interesting to see how the scores differ in these three parts of the questionnaire (11). The third reason for choosing the WHOQoL-BREF is that its Persian/Farsi version has strong validity and reliability indices (13, 14).

The WHOQoL-BREF comprises 26 items with 24 items across the four domains of physical (seven items), psychological (six items), social (three items) and environmental (eight items) QoL (15). Response options range from 1 (very dissatisfied/very poor) to 5 (very satisfied/very good). Two additional items on "overall rating of QoL" (OQoL) and subjective satisfaction with health are used to represent the general facet on health & QoL (11). The domain scores of the WHOQoL-BREF can be worked out using three calculation methods. The first is a simple summation of the

raw scores of items under each of the four domains. The second and third methods require the raw scores to be transformed. In the second method, the raw scores are converted into scores that range from 4 to 20. The third method is a standardized conversion of Likert scale data onto a 0-100 scale. In this study both methods of scoring were used (4-20 scale, and 0-100% score). Guidelines for these conversions are provided by the WHOQoL-BREF group (16).

Independent variables

Socio-demographic and socio-economic variables

There are a number of demographic and personal characteristics measured in this study that may influence one's level of quality of life. Socio demographic variables examined included age, ethnicity, level of religiosity, marital status, parental status, and number of children. Socio economic variables measured were education, education of partner, occupation and income. Level of religiosity was measured through a single question about how religious participants consider themselves to be with response options ranging from 1 (not religious at all; never following religious practices) to 4 (very religious; following religious practices very often/often) (17).

Satisfaction with life scale

The SWL scale is a widely used and respected instrument to measure subjective wellbeing. This five item self-report scale uses a 7 point response format (strongly disagree to strongly agree) to measure whether the person is content with their life. Total scores range from 5 (low satisfaction) to 35 (high satisfaction) (18). The reliability and validity of this scale has been confirmed with an Iranian population (19).

Lifestyle behaviors – The International Health and Behavior Survey was used for measuring lifestyle behaviors such as smoking, alcohol consumption and physical activity (20). The response options of smoking range from 1 (never smoke) to 8 (usually smoke more than 20 cigarettes per day). For drinking the response options range from 1 (a non-drinker) to 4 (a regular-drinker) and for phys-

ical activity the response options range from 1 (never) to 5 (every day) (20).

In preparing the questionnaire for the current study, a process of item review through a panel of Australian and Iranian public health experts was conducted to assess the face and content validity of questions. In addition, a pilot study was conducted in order to ensure that the instrument was population appropriate.

Data analysis

Data analysis was completed using the Statistical Package for the Social Sciences (SPSS) version 20.0. QoL domain scores (range: 4-20 and 0-100%) were calculated using the methodology stipulated by the WHOQoL-BREF study group (16). Mean scores between-groups were compared using t-test and ANOVA with pairwise comparisons based on Tukey's method. Correlations between the QoL, SWL, lifestyle behaviors, income and age were calculated using Pearson's correlation coefficients. Multiple regression analysis was used to measure the predictive strength of lifestyle behaviors indicator scores and socio-demographic factors (independent variables) on QoL (with scores on the general facet on health & QoL, and each of the domains).

Missing data was dealt with by a mean imputation process. This technique has been utilized in similar studies particularly when there is only a few missing data like the present study (21).

Ethical approval for this study was granted by the researchers' home university human research Ethics Committee and a partnering local university human research ethics committee.

Results

The response rate was 93% (n = 391 out of 420). The average age of responders was 27 (SD: 4.8), with 78% of Fars ethnicity. The majority of participants were Muslim (96%) of which 40.4% had an average level of religiosity. Most of the participants (76.4%) had tertiary level education. About half of the participants were single (49.1%) with the large majority of the remainder being

married (45.4%). The socio-demographic characteristics are summarized in Table 1.

Table 1: Sociodemographic and socio economic variables of participants

		Frequency	%
Ethnicity	Fars	305	78
	Tork	39	10
	Lor	40	12
	Other	5	1.3
	Missing	2	0.6
Level of religiosity	Very religious (following religious practices very often/often)	18	4.6
	Moderately religious (following religious practices occasionally)	158	40.4
	Not very religious (following religious practices rarely)	136	34.8
	Not religious at all (never following religious practices)	71	18.2
	NA	8	2
Education	Postgraduate	60	15.3
	Degree	239	61.1
	Diploma/Certificate	73	18.7
	Secondary school	14	3.6
	Primary school	4	1
	NA	1	0.3
Occupation	Managerial	37	8.8
	Professional	51	13.7
	Clerical	85	21.7
	Manual labor	6	1.5
	Home duty	68	17.4
	Unemployed	36	7.7
	Student	96	24
	Missing	18	4.6
Type of occupation	Government	61	15.6
	Private	132	33.8
	NA	198	50.6
Marital status	Single	192	49.1
	Married	178	45.5
	Divorced	7	1.8
	Widow	5	1.3
	NA	9	2.3
Education of partner	Postgraduate	20	5.1
	Degree	88	22.5
	Diploma/Certificate	56	14.3
	Secondary school	9	2.3
	Primary school	10	2.6
	NA	208	53.2
Parental status	No children	87	22.3
	Children	127	32.5
	NA	177	45.3

Table 2 shows the level of satisfaction with all 26 items of QoL. According to this table, just one item in the physical QoL domain was categorized in the highest satisfaction category ($\geq 75\%$ subjects). In addition, there was moderate satisfaction (66%–74%) for only five items out of 26, which all related to physical QoL. In terms of psycholog-

ical QoL, social and environmental QoL, participants were either dissatisfied ($< 50\%$) with most of the items or barely satisfied with a few of them (50%–65%).

The domain mean scores for physical QoL (75.7%) and environmental QoL (60.5%) fall within the average range indicated by the WHO 23-

Country Report (15). While psychological QoL (60%), social QoL (50.7%), and the general facet on health & QoL score (71.6%) were below the

average range of the WHO 23-Country Report (15). The data shows that physical QoL is significantly higher than all other domains (Table 3).

Table 2: Level of group satisfaction with QOL items: WHOQOL-Bref (n=391)

Highest satisfaction (≥75% subjects)	Moderate satisfaction (66–74% subjects)	Bare satisfaction (50–65% subjects)	Dissatisfied (<50% subjects)
Need for medical treatment (83.2%)	Health satisfaction (65.5%)	Energy (52.2%)	Overall QOL (45.8%)
	Ability to get around (69.3%)	Bodily appearance (52.2%)	Enjoy life (31.4%)
		Work capacity (60.6%)	Life meaningful (32.2%)
	Activities of daily living (68.6%)	Self-satisfaction (55.2 %)	Ability to concentrate (33%)
	Physical pain prevents activities (71.6%)	Personal relations (58%)	Feeling safe (34.8%)
		Access to health service (52.9%)	Environment (28.4%)
		Satisfaction with sleep (62.6%)	Money (33.2%)
			Information available for daily needs (36.8%)
			Leisure activities opportunity (21%)
			Satisfaction with sex (37.8%)
			Support from friends (45%)
			Living place (47.1%);
			Transport (48%)
			Negative feelings (38.3%)

Group satisfaction defined as ≥50% of subjects rated the item as: good/very good. Group dissatisfaction: <50% of subjects rated the item as: good/very good (11)

Table 3: Bivariate correlations, means and standard deviations

	Physical QoL	Psychological QoL	Social QoL	Environmental QoL	General facet on health & QoL
Physical QoL	-	0.55***	0.39***	0.49***	0.47***
Psychological QoL	0.55***	-	0.57***	0.69***	0.66***
Social QoL	0.4***	0.57***	-	0.49***	0.40***
Environmental QoL	0.48***	0.66***	0.49***	-	0.62***
SWL	0.379***	0.65***	0.43***	0.68***	0.69***
Age		-0.1**			-0.15**
Income per household			0.15*		
Level of religiosity	-	0.17**	-	-	0.11*
Smoking	-0.102*	-0.184***			-0.18***
Physical activity	0.165**	0.238***		0.133**	
0-100 % scale	75.7%	60% (14.2)	50.7% (14)	60.5% (13.7)	63.6% (18)
Mean (SD)	(11.7)				
4-20 scale	16 (1.8)	13.5 (2.3)	12 (2.2)	13.6 (2.1)	14 (2.8)
Mean (SD)					
WHOQoL-BREF domain scores in 23- countries (n = 11,830)	16.2 (2.9)	15 (2.8)	14.3 (3.2)	13.5 (2.6)	-

* $P<0.05$; ** $P<0.01$; *** $P<0.001$

With regard to correlations, as Table 3 shows there are positive correlations between all domains of QoL and SWL. Physical, psychological and environmental QoL have a positive correlation with physical activity. In addition, a positive correlation was found between social QoL and income per household. However there were negative correlations between physical QoL, psychological QoL, and the general facet on health & QoL with smoking. Furthermore, negative correlations were found between psychological QoL, and the general facet on health & QoL with age, and positive correlations were found between psychological QoL, and the general facet on health & QoL with level of religiosity.

Analysis by T-test and ANOVA indicates that there is a significant difference between some domains of quality of life with ethnicity, marital and parental status. Greater psychological QoL was

found among participants without children (vs. women with children). Greater social QoL was found among married women. In addition greater environmental QoL was found among participants with Turkish ethnicity.

Multiple regression analysis was used to assess the predictors of QoL and SWL (with scores on different domains of QoL as dependent variables) by including lifestyle behavior scores and socio-demographic factors as independent variables. Table 4 displays the final model of relationships between domains of QoL, SWL, lifestyle behaviors, and socio-demographic factors such as age, education, and income. According to the findings, lifestyle behaviors such as smoking, and physical activity were the main predictors of QoL. Among socio-demographic factors, age and income per household had a contribution in predicting QoL.

Table 4: Predictors of quality of life in regression analyses: SWL and domains of QOL as dependent variables

Dependent variables	Predictors	b	Pvalue	R ²
General facet on health & QoL	Constant (14.34)			5.1
	Smoking	-0.31	0.001	
	Age	-0.87	0.005	
Physical QoL	Constant (15.34)			3.9
	Physical activity	0.27	0.030	
Psychological QoL	Constant (12.16)			10.3
	Physical activity	0.47	0.000	
	Smoking	-0.24	0.001	
	Age	-0.05	0.020	
Social QoL	Constant (11.51)			2.2
	Income per household	4.30	0.032	
Environmental QoL	Constant (11.68)			1.6
	Physical activity	0.23	0.01	
SWL	Constant (19.31)			3.8
	Smoking	-0.47	0.02	
	Physical activity	0.57	0.02	
	Age	-0.15	0.04	

Discussion

This study was the first to be conducted on QoL among healthy young Iranian women. The investigation of quality of life of young women in Iran has provided insights into the perceived quality of life in this age group including how lifestyle behaviors influence their QoL. Much of the previous studies on quality of life have oriented on under-

standing the factors that contribute to self-perceptions of well-being among patient population (6). In contrast, the present study evidenced a strong link between QoL, SWL and lifestyle behaviors in a population, which does not identify with a health adversity. Therefore, this study adds to our understanding of the relationship between QoL and lifestyle behaviors. This finding has po-

tential to be used to broaden interpretations of QoL and its application in policymaking.

The present study shows that young Iranian women are averagely dissatisfied with life circumstances particularly social, psychological and environmental domains of QoL. The connection between QoL and higher physical health was expected given the age range of the women. Ohaeri and colleagues' study, conducted among 3303 general participants from both genders (16–87 years), also identified concern regarding self-reported QoL in Kuwait (11). Considered together, the current study and Ohaeri's study suggest that QoL could be an issue in Middle East countries such as Iran and Kuwait and may affect or be associated with other aspects of life.

According to the current study, lifestyle behaviors predict QoL with healthy lifestyle behaviors such as not smoking and regular physical activity predicting a higher quality of life. The findings in the current study are interesting as they relate to a socially restricted population with the chosen lifestyle behaviors potentially representing self-expression of lifestyle control and choice. Yet, the identified link between lifestyle behaviors and self-reported QoL is consistent with studies conducted in other less restricted societies (8, 22). For example, the positive association between QoL and physical activity (22) and negative associations between quality of life and smoking (7) and alcohol consumption (8).

Socio-demographic and socio-economic variables influenced the QoL domains in the present study. In terms of the socio-demographic variables, findings show that with increasing age the psychological QoL, and the general facet on health & QoL decreases. This finding is in line with other studies which all found that QoL diminishes with age (11, 23, 24). In addition, the current study found married women report higher social QoL than single women. Interestingly, Ohaeri's study showed no significant difference in terms of marital status and QoL (11). The possible reason for significant difference in the current study in terms of marital status and social QoL could be related to the cultural restrictions on social participation of young Iranian women. The finding suggests that married

Iranian women have increased access to social groups, events and social opportunities and consequently have better social QoL.

A significant positive association was found between the level of religiosity, psychological QoL, and the general facet on health & QoL. Empirical evidence confirms the protective role of spirituality and religious involvement for psychological and mental health (25, 26). Practicing a religion and having strong religious beliefs improves both cognitive and affective perceptions of QoL (27). With respect to psychological health, religiosity protects against tensions, stresses and uncertainties in life (28). Hence, in an Islamic society like Iran, religious/spiritual beliefs and practices contribute to psychological quality of life and coping for religious Iranian women both day-to-day and during adversity and challenging situations.

In terms of socio-economic variables, findings of the present study demonstrate a positive correlation between social QoL and household income. This shows that socioeconomic status affects social participation of young Iranian women. This finding contrasts with other studies. For example, research by Kenny (23) and Stewart (29) reported that in middle-income countries and across 15 European countries, there was little evidence of a connection between economic growth and GDP per capita and subjective well-being (SWB). In addition, the relatively high socio-economic indices in Kuwait may not be reflected in a high level of subjective wellbeing in the general population (11). The association identified in the present study is likely to be linked with the focus on young women and this population's particular social circumstances in Iran. Young women who are part of wealthier families in Iran may have greater access to social facilities/services that enhance their social participation and consequently their social QoL.

There were no correlations or significant differences between other socio-economic factors such as education, education of partner, employment and QoL domains. In terms of employment and QoL, this is consistent with the Asadi Sadeghi Azar (2008) and Saravi and colleagues (2012) stud-

ies in Iran, which showed no significant differences between employed women and housewives. The current study was conducted in one of the biggest cities of Iran (Shiraz) in 10 different areas. However, the sample may not have been representative of other cities in Iran and should be extrapolated to other cities and locations with caution.

Conclusion

Quality of life was found to have a strong link with lifestyle behaviors. This shows that higher levels of healthier lifestyle behaviors lead to improved QoL among young Iranian women. In order to improve the situation of young Iranian women, the findings that should be of particular interest to policy makers include the average dissatisfaction with circumstances of life particularly in terms of psychological and social QoL. Policy makers need to consider how restrictions on lifestyle affect QoL, highlighting the need for interventions to increase opportunities for women to engage in positive lifestyle behaviors. QoL measurements for women in less industrialized societies have to be considered by researchers and become a routine part of understanding health and wellbeing. The health policy-makers may also consider QoL measurements in their national health data systems as part of population level health surveillance.

Ethical considerations

Ethical issues (including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

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