Health-Related Quality of Life among University Healthcare Academics

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Authors' contributions

This work was carried out in collaboration among all authors. Authors MSI and FIA designed the study, performed the initial statistical analyses and wrote the protocol. Authors FIA and MZI wrote the first draft of the manuscript. Author MZI managed refined analyses. Authors FIA and MSI revised the manuscript. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Introduction: Having a good health-related quality of life (HRQoL) is important to ensure good job performance. However, it is subjective and it cannot be measured easily. This study aimed to evaluate HRQoL among universityhealthcare academics in public andprivate universities.
Method: In this study,a stratified random sampling approach was employed. The strata were created based on departments in the universities. A random sample from each stratum was taken in a number proportional to the stratum's size when compared to the overall target population. A validated questionnaire comprising two sections was administered online to collect the data. Descriptive and inferential statistical analysis (Mann-Whitney U test and Kruskal Wallis H test) were applied using SPSS version 22.
Results: Out of all the total 130 respondents, 57 (43.8%) were from a private university and the other 73 (56.2%) were from a public university. There were 61 (46.9%) male respondents and 69 (53.1%) female respondents. HRQoL according to the studied domains of the DUKE health profile

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> was associated with various demographic and socioeconomic variables such as type of institution, department/faculty, age, gender, number of children, and years of experience.
> **Conclusion:**The demographic and socioeconomic variables were strongly associated with the HRQoL among university healthcare academics.

Keywords: HRQoL; University academics; public; private; healthcare.

1. INTRODUCTION

According to World Health Organization (WHO), quality of life can be defined as "one's perception of their position in life in the context of cultures and values in which they live in and with standards, expectations, and concerns" [1,2]. Healthcare academics who teach health-related courses are medical doctors, dentists,and pharmacists. In addition to their professional responsibilities, they also have their family needs in terms of healthcare, socioeconomic, education, and numerousother family matters [3]. All of these multiple roles could be a significant burden that may affect their health-related quality of life (HRQoL) [3].

Some factors which may directly influence HRQoL are salary, total experience, promotion opportunities, academic position or job rank, students' and colleagues' attitude, and working environment [4-6]. Several other demographic factors such as age, gender, race, level of education, and working hours are also associated with the quality of life of university academics [7]. Safaria et al. [8] stated in their study that professors, assistant professors, and lecturers have different levels of job satisfaction [8] which may have an impact on their HRQoL.

In another study, HRQoL of employees was significantly associated with their experience and age and most experienced had a better HRQoL [9]. Besides, it is also evident that the HRQoL is directly linked with the socioeconomic factors and can be improved by improving income, security, and career growth opportunities [10]. Meanwhile, on the other side, few studies reported that low job satisfaction can affect employees' HRQoL [11].

In another study, it was stated that the quality of life associated with physical functioning, general health, and mental health dimensions [3]. These may be the reasons why males and females have a different level of quality of life and quality of life varied according to age [12]. For employees, it may cause low quality of performance, poor job satisfaction high turnover, and increase work absence. Besides, lower HRQoLis one of the main factors of job discontent, early retirement, and work-related diseases. Statistics revealed that academics claimed more medical insurances than people in other professions and also had four years shorter life expectancy than others [13].

2. MATERIALS AND METHODS

2.1 Study Design, Population and Sampling

A cross-sectional survey was done using a validated questionnaire. The target population was university healthcare academics from the selected private and public universities. University academics from medical and health-related departments, willing to give consent and a minimum of 6 months of working experience in the universities were included in this study. In this study, 130 responses were collected in the given time frame. Stratified random sampling was used in this study.

2.2 Research Tool

Duke Health Profile questionnaire was used to evaluate the health-related quality of life. This questionnaire consisted of a set of questions with 17 items related to HRQoL which measured the quality of life based on six health measures and four dysfunction measures. The social health domain was comprised of items 2, 6, 7, 15, and 16. The dysfunction measures were anxiety domainwhich comprised of items 2, 5, 7, 10, 12, and 14.The depression domain is comprised of items 4, 5, 10, 12, and 13. For health measures, a higher score indicated a better quality of life while for dysfunction measures, lower scores indicated a better quality of life [14].

Other associated factors were also includedin the questionnaire to measure the socio-demographical outcomes of the study. The associated factors were determined through the relevant literature from Pakistan and other countries. This questionnaire had been revalidated and necessary changes or modifications had been incorporated to cater the study objectives. All information collected was strictly confidential.

2.3 Statistical Analysis

For statistical analysis, the software used was a Statistical Package for the Social Sciences (SPSS) version 22.0. A descriptive analysis was performed for the respondents' demographic information. Duke Health Profile measured the quality of life according to the scoring, interquartile-range were calculated to define the healthy and unhealthy score. Mann-Whitney U test and Kruskal Wallis H test were used to compare the difference of the groups of independent variables. These tests were used as the data was not normally distributed. A value of $p< 0.05$ was considered statistically significant.

3. RESULTS

3.1 Demographic Characteristics

Table 1 illustrated the demographic information of the study respondents. There were more respondents from the public university compared to the private university. A total of 44 participants (33.8%) were from the pharmacy faculty. More female participants involved in this study. 58.5% of the participants were in the range of age <35 years old.Pashto or other races made up to 52 (40.0%) of the respondents.Around 68.5% of the respondents were married.About 85 out of 130 respondents were having no children or dependent. 73.8% of the respondents were Pakistani Certified Practitioners (PCPs) and 70.8% of the participants were lecturers. 61.5% were having a duration of working less than 3 years in the current setting. For other tasks related to their job, 31.5% were involved in administration, 54.6% were involved in a research study, 41.5% perform counseling for other healthcare allies and 33.8% perform clinical services. For monthly income, 67.7% of the respondents were having monthly income in the range of USD<1000.

Table 1. Demographic characteristics of study participants (N=130)

Participants' Characteristics	N(%)
Institution	
Private university	57 (43.8%)
Public university	73 (56.2%)
School/College/Faculty/Department	
Pharmacy	44 (33.8%)
Dentistry	20 (15.4%)
Medicine	38 (29.2%)
Nursing	22 (16.9%)
Psychology	1 (0.8%)
Nutrition & Dietetics	4 (3.1%)
Others	1 (0.8%)
Gender	
Male	61 (46.9%)
Female	69 (53.1%)
Age (Years)	
<35	76 (58.5%)
>35	54 (41.5%)
Mother Tongue	
Urdu	39 (30.0%)
Punjabi	39 (30.0%)
Pashto / Sindhi / Others	52 (40.0%)
Marital Status	
Single	41 (31.5%)
Married	89 (68.5%)
Children/Dependents	
None	85 (65.4%)
<3	43 (33.1%)
>3	2 (1.5%)

Participants' Characteristics	N(%)
Years of Experience	
<10	91 (70.0%)
>10	39 (30.0%)
PCPs	
Yes	96 (73.8%)
No	34 (26.2%)
Advanced training/Credentialing/Certification received	
Yes	58 (44.6%)
No	72 (55.4%)
Continuing Professional Development (CPD) attended	
<3	62 (47.7%)
>3	68 (52.3%)
Current Job Position/Title	
Dean	2 (1.5%)
Deputy Dean	4 (3.1%)
Director	1 (0.8%)
Head of Department	5 (3.8%)
Professor	3 (2.3%)
Associate Professor	23 (17.7%)
Assistant Professor/Lecturer	92 (70.8%)
Years of working in the current setting	
<3	80 (61.5%)
>3	50 (38.5%)
Involve in administration/managerial job	
Yes	41 (31.5%)
No	89 (68.5%)
Involve in any research study	
Yes	71 (54.6%)
No	59 (45.4%)
Perform counseling for other healthcare allies	
Yes	54 (41.5%)
No	76 (58.5%)
Perform any clinical services (part-time practice, health screening)	
Yes	44 (33.8%)
No	86 (66.2%)
Monthly Income (USD)	
<1000	88 (67.7%)
1001 – 1500	31 (23.8%)
>1500	11 (8.5%)

Table 2. Overall health status of the respondents

Domains	Total (N)	Healthy N (%)	Unhealthy N (%)
Physical health	130	114 (87.7%)	16 (12.3%)
Mental health	130	100 (76.9%)	30 (23.1%)
Social health	130	113 (86.9%)	17 (13.1%)
General health	130	123 (94.6%)	7 (5.4%)
Perceived health	130	124 (95.4%)	6 (4.6%)
Self esteem	130	108 (83.1%)	22 (16.9%)
Anxiety	130	84 (64.6%)	46 (35.4%)
Depression	130	66 (50.8%)	64 (49.2%)
Pain	130	85 (65.4%)	45 (34.6%)
Disability	130	118 (90.8%)	12 (9.2%)

Table 3. Comparisons of each variable for social health domain

Participants' characteristics	Percentiles			Mean Rank	P-value
	25th	50th (Median)	75th		
Institution*					
Private university	40.00	60.00	70.00	93.54	0.0001
Public university				43.61	
Gender*					
Male	40.00	60.00	70.00	68.75	0.351
Female				62.63	
Age (Years)*					
<35	40.00	60.00	70.00	59.78	0.038
>35				73.56	
Marital Status*					
Single	40.00	60.00	70.00	59.05	0.181
Married				68.47	
Years of Experience*					
<10	40.00	60.00	70.00	59.98	0.010
>10				78.38	
PCPs*					
Yes	40.00	60.00	70.00	59.10	0.001
No				83.56	
Advanced training/ Credentialing/Certification received*					
Yes	40.00	60.00	70.00	61.38	0.259
No				68.82	
Continuing Professional Development (CPD) attended*					
<3	40.00	60.00	70.00	48.46	0.0001
>3				81.04	
Years of working in current setting*					
<3	40.00	60.00	70.00	63.92	0.541
>3				68.03	
Involve in administration/managerial job*					
Yes	40.00	60.00	70.00	94.99	0.0001
No				51.92	
Involve in any research study*					
Yes	40.00	60.00	70.00	80.35	0.0001
No				47.64	
Perform counseling for other health care allies*					
Yes	40.00	60.00	70.00	64.20	0.739
No				66.42	
Perform any clinical services (part-time practice, health screening)*					
Yes	40.00	60.00	70.00	73.90	0.067
No				61.20	
School/College/Faculty/Department**					
Pharmacy	40.00	60.00	70.00	75.09	0.011
Dentistry				43.30	
Medicine				69.54	
Nursing				52.43	
Psychology				106.00	
Nutrition &Dietetics				93.63	

Participants' characteristics	Percentiles			Mean Rank	P-value
	25th	50th (Median)	75th		
Other				68.50	
Mother Tongue**					
Urdu	40.00	60.00	70.00	46.12	0.0001
Punjabi				70.12	
Pashto / Sindhi / Others				76.58	
Children/Dependents**					
None	40.00	60.00	70.00	57.39	0.814
<3				80.03	
>3				97.75	
Current Job Position/Title**					
Dean	40.00	60.00	70.00	66.25	0.465
Deputy Dean				68.25	
Director				118.00	
Head of Department				95.80	
Professor				68.17	
Associate Professor				64.28	
Assistant Professor/Lecturer				63.36	
Monthly Income (USD)**					
<1000	40.00	60.00	70.00	68.37	0.082
1001 – 1500				65.81	
>1500				41.68	

*Mann-Whitney U Test **Kruskal Wallis H Test*

Table 4. Comparisons of each variable for anxiety domain

Participants' characteristics	Percentiles			Mean Rank	P-value
	25th	50th (Median)	75th		
Institution*					
Private university	16.67	33.33	41.67	41.07	0.0001
Public university				84.58	
Gender*					
Male	16.67	33.33	41.67	57.20	0.017
Female				72.83	
Age (Years)*					
<35	16.67	33.33	41.67	70.05	0.100
>35				59.10	
Marital Status*					
Single	16.67	33.33	41.67	69.46	0.412
Married				63.67	
Years of Experience*					
<10	16.67	33.33	41.67	72.45	0.001
>10				49.28	
PCPs*					
Yes	16.67	33.33	41.67	71.96	0.001
No				47.25	
Advanced training /Credentialing/Certification received*					
Yes	16.67	33.33	41.67	65.67	0.962
No				65.36	
Continuing Professional Development (CPD) attended*					
<3	16.67	33.33	41.67	79.51	0.0001
>3				52.73	

Participants' characteristics	Percentiles			Mean Rank	P-value
	25th	50th (Median)	75th		
Years of working in current setting*					
<3	16.67	33.33	41.67	64.11	0.591
>3				67.73	
Involve in administration/managerial job*					
Yes	16.67	33.33	41.67	39.49	0.0001
No				77.48	
Involve in any research study*					
Yes	16.67	33.33	41.67	50.46	0.0001
No				83.59	
Perform counseling for other health care allies*					
Yes	16.67	33.33	41.67	65.94	0.911
No				65.19	
Perform any clinical services (part-time practice, health screening)*					
Yes	16.67	33.33	41.67	63.39	0.645
No				66.58	
School/College/Faculty/Department**					
Pharmacy	16.67	33.33	41.67	57.33	0.003
Dentistry				85.53	
Medicine				56.78	
Nursing				85.55	
Psychology				18.00	
Nutrition &Dietetics				40.75	
Other				61.50	
Mother Tongue**					
Urdu	16.67	33.33	41.67	82.50	0.003
Punjabi				60.65	
Pashto / Sindhi / Others				56.38	
Children/Dependents**					
None	16.67	33.33	41.67	74.26	0.0001
<3				50.67	
>3				11.75	
Current Job Position/Title**					
Dean	16.67	33.33	41.67	39.50	0.202
Deputy Dean				39.00	
Director				18.00	
Head of Department				46.80	
Professor				88.33	
Associate Professor				59.74	
Assistant Professor/Lecturer				69.45	
Monthly Income (USD)**					
<1000	16.67	33.33	41.67	64.34	0.134
1001 – 1500				61.27	
>1500				86.73	

*Mann-Whitney U Test **Kruskal Wallis H Test*

4. DISCUSSION

This study reveals that overall there was a high percentage of healthy respondents. Male respondents were having a better quality of life compared to female proven by the mean rank value from the statistical tests. The finding was supported by Jafari et al. and Zhang et al. [3,15]. Male had a higher quality of life in physical and emotional aspects compared tofemales. This is maybe due to the high amount of household tasks, commitment to family, and lack of time for

entertainment for females [3,7,8]. Besides, Maarof et al. [16] stated in their study that female academics hada lower HRQoL compared to male academics [16]. Other factors affecting the social health domain were the type of institution, marital status, PCPs, Continuing Professional Development (CPD) courses attended, and involved in the research study.

Table 5. Comparisons of each variable for depression domain

Participants' characteristics	Percentiles			Mean Rank	P-value
	25th	50th (Median)	75th		
Institution*					
Private university	20.00	30.00	40.00	44.65	0.0001
Public university				81.78	
Gender*					
Male	20.00	30.00	40.00	53.04	0.0001
Female				76.51	
Age (Years)*					
<35	20.00	30.00	40.00	68.99	0.202
>35				60.58	
Marital Status*					
Single	20.00	30.00	40.00	69.74	0.375
Married				63.54	
Years of Experience*					
<10	20.00	30.00	40.00	73.04	0.0001
>10				47.90	
PCPs*					
Yes	20.00	30.00	40.00	73.63	0.0001
No				42.56	
Advanced training/ Credentialing/Certification received*					
Yes	20.00	30.00	40.00	68.31	0.438
No				63.24	
Continuing Professional Development (CPD) attended*					
<3	20.00	30.00	40.00	75.98	0.002
>3				55.95	
Years of working in current setting*					
<3	20.00	30.00	40.00	64.00	0.559
>3				67.90	
Involve in administration/managerial job*					
Yes	20.00	30.00	40.00	42.91	0.0001
No				75.90	
Involve in any research study*					
Yes	20.00	30.00	40.00	53.96	0.0001
No				79.39	
Perform counseling for other health care allies*					
Yes	20.00	30.00	40.00	63.04	0.523
No				67.25	
Perform any clinical services (part-time practice, health screening)*					
Yes	20.00	30.00	40.00	70.88	0.237
No				62.75	
School/College/Faculty/ Department**					
Pharmacy	20.00	30.00	40.00	56.93	0.013

Participants' characteristics	Percentiles			Mean Rank	P-value
	25th	50th (Median)	75th		
Dentistry				73.58	
Medicine				59.54	
Nursing				89.50	
Psychology				7.50	
Nutrition &Dietetics				60.88	
Other				56.00	
Mother Tongue**					
Urdu	20.00	30.00	40.00	76.56	0.011
Punjabi				69.88	
Pashto / Sindhi / Others				53.91	
Children/Dependents**					
None	20.00	30.00	40.00	72.63	0.002
<3				54.10	
>3				7.50	
Current Job Position/Title**					
Dean	20.00	30.00	40.00	45.50	0.434
Deputy Dean				33.63	
Director				22.00	
Head of Department				62.10	
Professor				84.00	
Associate Professor				67.50	
Assistant Professor/Lecturer				66.88	
Monthly Income (USD)**					
<1000	20.00	30.00	40.00	63.88	0.135
1001 – 1500				62.53	
>1500				86.82	

*Mann-Whitney U Test **Kruskal Wallis H Test

The anxietydomain showed significant association among numerous demographic factors i.e.the type of institution, no of children/dependents, years of experience, PCPs, CPD courses attended, involvement in administration and research, age, and mother tongue. The finding was consistent with the result reported by Salahuddin et al. [7], there was a significant difference in respondents' race [7]. Pashto respondents tend to experience higher anxiety level which could be related to a minimum association in their workplace when compared to other races because they were the minority group [7]. From this study, married respondents were having a better quality of life compared to single respondents. Studies showed that marital status was not always a negative factor, happy marriages and supportive spouse lead to a successful and less stressful life [2]. Senioruniversity academics havea higher quality of life compared to junioruniversity academics and this is supported by the study done by Salahuddin et al. [7]. The respondents who were 40 years old and above experienced the lowest level of stress maybe because they were already comfortable and happy with their jobs [7].

According to Darmody et al. [17], as they got older and their career progressed, the satisfaction level increased which ultimately reflected in their HRQoL [17].

Depression domain is mainly linked to the level of psychological factors. Khurshid et al. [18] observed that public university academics experienceda lower level of stress compared to academics from a private university which is a similar finding in this study [18]. The different amount of workload and job complexity between private and public universities may lead to a different level of quality of life experienced by university academics [8]. Excessive work hours and deficiency of sleep can lead to depression and also impaired emotional interactions with family members and friends. The consequences of such depressionresult in frustration, compromised performance, and deteriorated interpersonal relationships at work and home [11]. Subsequently, these will negatively affect the quality of life. The working environment also plays an important role in overall HRQoL. Opposite to our findings, some studies concluded that private universities usually have a better

working environment and facilities which may affect the quality of life of their academics [9].

According to a study done on the faculty members of University Stanford, there were significant differencesobserved in the distribution of times spent at the workplace [19]. Apart from that, they also hada different proportion of workloads which can affect theirHRQoL [16]. Jafari et al. [3] stated that there wasa statistically significant difference observed between males and females in all of the domains [3]. Besides, there was also a significant difference observed in anxiety and depression domainsfor the institution type, no of children/dependent, CPD courses attended, duration of work, involvement in an administration job, performing clinical services, and age.

5. CONCLUSION

From the results, it can be concluded that there was a strong association between the socioeconomic and demographic factors of the social, anxiety, and depression domains with the HRQoL of the healthcare university academics. These socioeconomic and demographic factors i.e. gender, age, years of experience, marital status and academic positions, facilities and resources, salary, and support from senior management are directly related to the HRQoL of healthcare academics.

6. LIMITATION AND RECOMMENDATION

One of the limitations of this study was that this study only conducted in an urban area. Hence, the results of this study may not represent the academics of all universities in the country.Further study is needed to determine the factors associated with the health-related quality of life since this study only focuses on university academics. A larger sample size may improve the accuracy and generalizability of the results. As the DUKE health profile questionnaire is a quite lengthy but useful tool to study HRQoL, and in this study, only three domains were reported, which is another limitation of the study.

CONSENT

University academics from medical and health-related colleges, schools, faculties, or departments who gave written consent were included in the study.

ETHICAL APPROVAL

It is not applicable.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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