



## Quality of Life of Primary Healthcare Centres Physicians in BURAIDAH City 2020, a Study Using WHOQOL-BREF Questionnaire

Mohamad Fahad Alreshoudi<sup>1\*</sup> and Chandra Sekhar Kalevaru<sup>1</sup>

<sup>1</sup>Family Medicine Academy, Buraidah, Qassim Health Cluster, Ministry of Health, Qassim Province,  
Kingdom of Saudi Arabia.

### Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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### ABSTRACT

**Background:** Life of doctors puts them at a high level of challenges and stress which can affect their quality of life. Therefore, the objective of the study was to evaluate the Quality Of Life of Primary health care providers by applying a brief version of the World Health Organization questionnaire for assessing Quality of Life (WHOQOL-BREF). To find the factors which affect the QOL of PHC physicians and know the aspects where it was affecting the health and performance of the Doctors.

**Methods:** A cross-sectional study was conducted among 186 physicians working in primary health care centers in BURAIDAH city under Ministry Of Health. WHOQOL BREF validated questionnaire was used in both English and Arabic versions. Data was entered and cleaned in SPSS 21.0 version and necessary statistical tests were applied.

**Results:** In the present study, about 29.6% were females and 70.4% were males. About 66.6% of the study population were in 30-49 years age group and half (48.4%) of them were general practitioners. Mean QOL score in psychological domain (domain 2) was 63.66. In the other three domains of physical health, social relationships and environmental domain (domain 1, 3 & 4) was scoring more than 65. There was a statistically significant association observed between age and

\*Corresponding author: Email: mofara321@gmail.com;

physical ,psychological health domains. This association was also seen between marital status and psychological, social domains.

**Conclusions:** Based on the results, on the whole, the majority of primary health care doctors had a moderate quality of life score to a high quality of life score ranging from 63.66-68.06. Still, there is a scope of improvement in domain 2 (psychological domain).

*Keywords: Primary healthcare; doctors; quality of life domains; BURAIDAH.*

## 1. INTRODUCTION

Primary health care facilities serve as a patient's initial point of contact with the healthcare system as well as an ongoing point of care for all necessary medical and health services. The American Academy of Family Medicine divides the physicians who work at primary Health care Center into primary care physicians and Non-Primary Care Physicians Providing Primary Care Services [1].

Primary care physicians are defined as doctors specialized in Family Medicine, Internal Medicine, or Pediatrics who provide care to the patient at the first point of contact and providing them with continuous comprehensive care. Physicians who are not trained in primary care specialties yet provide primary care services are known as non-primary care physicians [1].

The life of doctors puts them at a high level of challenges and stress which can affect their quality of life., for instance, some studies done on doctors in the US showed that burnout is highly prevalent among US physicians, relative to the General US Population, especially in the specialties at the front line of care access (Emergency Medicine, Internal Medicine, and Family Medicine) [2].

A similar study done on Ministry of Health PHC Physicians of Jeddah, Saudi Arabia found that there was moderate to high levels of burnout among 25.2% of participating physicians, and the researchers reasoned that this was mainly as a result of patient's pressure/violence, unorganized patient flow and un cooperative colleagues [3]. Furthermore, another study conducted in the Saudi Arabia province of ASIR to investigate the magnitude and risk factors for burnout among primary health care physicians found that burnout was more common among PHC practitioners [4].

Job satisfaction was another factor that can affect the quality of life illustrated by the studies on PHC physicians. For instance in a study done

on primary healthcare nurses and physicians in AL-MADINAH AL-MUNAWARA, Saudi Arabia, showed that Job dissatisfaction was highly encountered in 52.4% of the physicians. Dissatisfaction was due to multiple encountered domains such as patient care, professional opportunities, and financial rewards [5]. In addition, another research of the factors impacting job satisfaction of primary healthcare physicians in Riyadh, Saudi Arabia, found that the workload, inadequate working hours, and a lack of incentives are the main sources of stress and dissatisfaction. It also showed that the PHC was being served by some physicians who may be without adequate training [6].

To my knowledge, there are no published studies on the quality of life of primary healthcare physicians in QASSIM region, Saudi Arabia but there was a similar study done to assess Quality of Life among Medical Students in Riyadh, Saudi Arabia using the WHO-QOL-BREF Protocol, in this study Medical students were found to have a decreased quality of life [7]. Studies in other countries, for instance, a study on Quality of life done in China on young clinical doctors working in public hospitals have reported that doctors have a poor quality of life [8]. Furthermore, another study was done in New Zealand doctors and medical students that also showed high rates of burnout in medical students and doctors [9].

Quality of life is a broad concept that is influenced in a complicated way by an individual's physical health, psychological condition, personal views, social interactions, and relationship to significant characteristics of their environment [10]. In this study, we used WHOQOL-BREF which is an international validated questionnaire to assess the quality of life [11] which has been used in previous studies to assess medical students' quality of life [7,12,13].

## 2. AIMS AND OBJECTIVES

- The objective of the study is to evaluate the Quality Of Life of Primary health care

centers physicians by applying a brief version of the World Health Organization questionnaire for assessing Quality of Life (WHOQOL-BREF).

- To find the factors which affect the QOL of PHC physicians and understand the aspects affecting the health and performance of the doctors.

### 3. METHODS

BURAYDAH is the main administrative city of ALQASSIM region in the north-central part of the kingdom of Saudi Arabia with a population of more than 614,093 people living in it [14]. The city has 40 MOH Primary Health care centers and 138 doctors according to local public health officials, in addition, there were 115 Saudi board family medicine physicians 70 residents, and 45 trainers working in Primary Health care centers as per QASSIM Family Medicine Academy report. Therefore, the total number of PHC doctors was 253. Out of which, 200 doctors were asked to be part of our study by filling the survey. Out of these 200 doctors, about 186 doctors have responded and completed their questionnaire. Hence, the response rate was 93%.

**Sample Frame:** The study was conducted in the Ministry of Health primary health care centers in BURAYDAH city in the year 2020.

**Study Participants:** The study included all Doctors working in Buraidah MOH Primary health care centers who were physically present on the day of data collection.

**Study Design:** We conducted a cross-sectional study.

**Sample Size and Sampling Methods:** The sample was random sampling from all available Ministry of Health primary health care centers at the time of the COVID19 pandemic in BURAYDAH city including all the doctors working at the time of the distribution of the questionnaire regardless of their specialty or designation.

**Study Period:** Data collection was done from the period of November to December 2020 for 8 weeks. The completion of Data entry with analysis and writing the final report was done in July 2021.

**Data Collection Techniques:** Data collection was done by the principal investigator. Soft and

hard copies of a self-administered questionnaire was distributed to a random sample of PHC doctors who were working at the time of the questionnaire distribution, and the soft copy was also sent to Saudi board Family Medicine doctors and other PHC doctors in BURAYDAH city privately through social media messaging apps.

Either verbal or written explanation of the study and its purpose was explained to the participants and the participants were given suitable time to complete the questionnaire by themselves with the freedom to ask the principal investigator any questions directly.

To collect data, we used approved Arabic and English versions of the WHOQOL BREF instrument, [11,15] which is a tool developed by WHO to measure the quality of life, it is composed of 26 items. The answering options range from 1 (very dissatisfied/very poor) to 5 (very satisfied/very good). It emphasizes the subjective responses rather than the objective life conditions.

The questionnaire included four domains: Psychological health, Environment, Social relations, and Physical health. Since we were using a BREF version of WHOQOL, scores of the domains calculations were considered as raw scores and then transformed using a tool-specific transformation method to range between 0-100 [11,16].

$$\text{Transformed Scale} = \left[ \frac{\text{Actual raw score} - \text{lowest possible raw score}}{\text{Possible raw score range}} \right] \times 100$$

The scores were then moved to a linear scale between 0 and 100, with 0 being the least favorable and 100 being the most favorable.

Demographic data has been added to the survey for evaluation and comparison as follows:

Gender (male –female)  
Age group (20-29, 30-39, 40-49, >50)  
Specialty (General practitioner, Family doctor, Internal medicine, Paediatrician, Others)  
Designation (Resident or service, Specialist / Registrar, Consultant)  
Marital status (Single, Married, Divorced, Widowed)  
INCOME (5000-10000 SAR, 11000-15000 SAR, 16000-20000 SAR, >21000 SAR)

A pilot study was done to evaluate the added demographic questions.

Pilot Questioners were distributed to 30 randomly selected PHC doctors and we noted that there was no response in 50% of numerical questions (like age and income). Hence it was changed into categorical options of age and income.

**Ethical Consideration:** The content and objective of the study were explained to the participants. The survey was nameless, and the responses were confidential. Being a part of our study was not obligatory, and the participants could choose to refuse to answer specific questions or even not do the complete questionnaire. The ethical committee of QASSIM had given their approval for our study and before the collection of data from the PHC physicians, PHC directors' permission was taken.

**Data Analysis:** Statistical package for social science (SPSS) software for data entry and statistical analysis were used for data entry and score calculation and transformation according to the WHOQOL-BREF scoring technique and transformation method [11,16]. Count, percent, and mean, standard deviation were used to

describe the data. For continuous variables, ANOVA and the t-test were used, with the level of significance of probability (p-value) set at less than or equal to 0.05.

#### 4. RESULTS

A total of 200 soft and hard copies of the questionnaire were distributed and 186 were collected with a response rate of 93%. Table 1 showed the socio-demographic characteristics of the participating doctors. 70.4% of the participants were males. Almost two-thirds of the study population was between 30-49 years age group and only 8.1% were above 50 years of age. The maximum number of participants regarding their specialty were general practitioners and Family Medicine; they account for 48.4% and 42.5% of the sample, respectively. The majority of the doctors (84.4%) were residents or service working, 13.4% were specialists/registrar, and 2.2% were consultants. More than half of the participants (65.6%) were married, and 33.3% were singles. In regards to monthly income maximum doctors (48.4%) were earning from 5000-10000 SAR, and minimum doctors (9.1%) earning more than 21000 SAR.

**Table 1. Demographic characteristics in the study population**

DEMOGRAPHIC DATA			
VARIABLE		NUMBERS	PERCENTAGE
GENDER:	MALE	131	70.4%
	FEMALE	55	29.6%
AGE:	20-29	47	25.3%
	30-39	57	30.6%
	40-49	67	36.0%
	>50	15	8.1%
SPECIALTY	GENERAL PRACTITIONER	90	48.4%
	FAMILY DOCTOR	79	42.5%
	INTERNAL MEDICINE	1	0.5%
	PEDIATRICIAN	1	0.5%
	OTHERS	15	8.1%
DESIGNATION	RESIDENT OR SERVICE	157	84.4%
	SPECIALIST / REGISTRAR	25	13.4%
	CONSULTANT	4	2.2%
MARITAL STATUS	SINGLE	62	33.3%
	MARRIED	122	65.6%
	DIVORCED	2	1.1%
	WIDOWED	0	0%
INCOME	5000-10000	90	48.4%
	11000-15000	48	25.8%
	16000-20000	31	16.7%
	>21000	17	9.1%
<b>TOTAL</b>		<b>186</b>	<b>100%</b>

Table 2 showed the calculated mean score and standard deviation of each Quality of Life domain for all the participants, where the mean Overall Quality of Life score is  $70.96 \pm 14.13$ , Domain 1 score was  $68.0 \pm 16.8$ , Domain 2 score was  $63.66 \pm 14.10$ , Domain 3 score was  $67.92 \pm 19.98$ , and Domain 4 score was  $67.43 \pm 14.06$ .

Table 3 showed the calculated mean and standard deviation of QOL domains scores for different demographic groups.

The overall quality of life score among the males was  $71.27 \pm 13.48$  and females  $70.22 \pm 15.68$ . Moreover, regarding age groups, a less mean and standard deviation of overall quality of life score was noticed among the 30-39 years age group which is  $68.85 \pm 15.69$ . Similarly in the specialty, pediatric specialty group was noticed to have the least overall quality of life 62.5 scores.

The physical health (domain 1) score was significantly associated with the age of the doctors where doctors between 30-39 years of age group had the lowest score compared to the other age groups ( $P = 0.004$ ). In addition, age was significantly associated with psychological health (domain 2) where doctors between 30-39 and between 20-29 years of age group had the lowest score compared to the remaining age groups ( $P = 0.004$ ). Similarly, there was a statistically significant association observed between marital status of single versus other groups of marital status in psychological (domain 2) and social relationship (domain 3) scores where being single had the lowest score in both domains simultaneously ( $P = 0.0001$ ,  $P = 0.0001$ ).

## 5. DISCUSSION

The goal of our study was to assess the QOL of PHC doctors in BURAYDAH city. There were a few studies published, assessing the quality of life in Saudi Arabia's health care field example, studies done on home health care patients [17],

Medical students [7,18], nursing staff [19], and on dentists [20] but very fewer studies on primary health care physicians. Throughout the world, many researchers have used the WHOQOL-BREF questionnaire, and validity and reliability were tested in many places and it was considered an accurate tool to measure the quality of life in many studies [12,13,15,21,22]. Therefore in our study, Arabic and English versions of the WHOQOL-BREF tool [11,15] were used for better understanding.

Our cross-sectional study of the Quality Of Life of Primary Healthcare Physicians using the WHOQOL-BREF Questionnaire showed that the age group and marital status were important indicators for the assessment of the Quality Of Life for doctors. The scores for QOL of doctors based on their different demographic groups were found to be different in overall QOL, physical health, psychological health, social relationships, and environment domains. However, only scores of physical health, psychological health, and social relationship domains based on age group and marital status were found to be statistically significant ( $p < 0.05$ ).

In the current study, physicians in the ages between 30-39 years, had a physical health domain score of  $62.7 \pm 16.7$  which was the lowest among all age groups where the older age group >50 years scored the highest  $78.5 \pm 12.5$  among all age groups which was an interesting fact. In addition to the above, age played an important role in the psychological health domain. Different scores secured by age group by doctors between 20-29 years and between 30-39 years of age as  $60.3 \pm 13.22$ ,  $61.03 \pm 13.85$  respectively and doctors >50 had the highest score  $73.05 \pm 11.77$ . In the present study, age was found to be a significant factor affecting the QOL of the doctor where another study was done using a similar tool to measure the QOL of dentists in Riyadh Saudi Arabia. Age deference wasn't considered significant in all domains scores [20].

**Table 2. Mean quality of life scores in the study population**

	Quality of Life score	
	Mean	Std. Deviation
Overall Quality of Life	70.967742	14.137511
Domain 1	68.087558	16.852483
Domain 2	63.664875	14.109790
Domain 3	67.921147	19.982960
Domain 4	67.439516	14.068205

*Domain 1 (Physical health), Domain 2 (Psychological health), Domain 3 (Social relationships) and Domain 4 (Environmental health)*

**Table 3. Mean Overall quality of life and all 4 domains versus socio-demographic factors associations**

VARIABLE		Overall Quality of Life			DOMAIN 1			DOMAIN 2			DOMAIN 3			DOMAIN 4		
		Mean	Std. Deviation	P-VALUE	Mean	Std. Deviation	P-VALUE	Mean	Std. Deviation	P-VALUE	Mean	Std. Deviation	P-VALUE	Mean	Std. Deviation	P-VALUE
<b>Gender</b>	<b>Male</b>	71.278626	13.489192	0.393	70.910578	15.549348	0.238	64.790076	13.508601	0.337	66.348601	20.133226	0.583	69.131679	14.130567	0.112
	<b>Female</b>	70.227273	15.681086		61.363636	18.042568		60.984848	15.243304		71.666667	19.285061		63.409091	13.185387	
<b>AGE</b>	<b>20-29</b>	70.212766	13.927508	0.350	67.781155	17.440629	0.004	60.372340	13.229679	0.004	67.021277	14.637059	0.087	66.821809	15.591720	0.253
	<b>30-39</b>	68.859649	15.691431		62.781955	16.750769		61.038012	13.852684		63.157895	23.567457		65.350877	12.888504	
	<b>40-49</b>	72.388060	12.787844		70.469083	16.039315		66.106965	14.285294		71.268657	20.427027		68.376866	14.180611	
	<b>&gt;50</b>	75.000000	14.173668		78.571429	12.590778		73.055556	11.771075		73.888889	14.038873		73.125000	12.091541	
<b>SPECIALTY</b>	<b>General practitioner</b>	71.805556	14.582330	0.879	68.2937	16.74145	0.384	64.953704	14.739922	0.781	68.7037	20.270914	0.367	67.673611	14.156103	0.711
	<b>Family doctor</b>	69.936709	14.505606		66.817360	17.062463		62.130802	13.757766		67.721519	18.118747		66.534810	14.417717	
	<b>Internal medicine</b>	75.000000	.		64.285714	.		66.666667	.		100.000000	.		62.500000	.	
	<b>Paediatrician</b>	62.500000	.		50.000000	.		66.666667	.		75.000000	.		59.375000	.	
	<b>Others</b>	71.666667	9.985108		75.000000	16.254625		63.6111	13.031048		61.666667	26.688979		71.666667	12.357822	
<b>DESIGNATION</b>	<b>Resident or service</b>	71.735669	13.512407	0.119	68.767061	16.579300	0.397	63.588110	13.900741	0.673	67.6221	19.174751	0.152	67.595541	14.105999	0.908
	<b>Specialist / Registrar</b>	68.000000	15.761900		65.000000	16.463472		65.000000	13.339842		72.333333	21.478887		66.875000	14.149039	
	<b>Consultant</b>	59.375000	23.662118		60.714286	29.594769		58.333333	27.428358		52.0833	36.244412		64.843750	15.598937	
<b>MARITAL STATUS</b>	<b>Single</b>	70.967742	14.452826	0.921	66.935484	18.697280	0.099	57.392473	14.540224	0.000	58.870968	19.781995	0.000	68.346774	15.387372	0.291
	<b>Married</b>	70.901639	14.142375		68.266979	15.720434		66.598361	12.845139		72.267760	18.662910		66.752049	13.385871	
	<b>Divorced</b>	75.000000	0.000000		92.857143	0.000000		79.166667	0.000000		83.333333	0.000000		81.250000	0.000000	
<b>INCOME</b>	<b>5000-10000</b>	72.777778	13.969491	0.172	69.841270	15.737899	0.251	65.740741	13.794938	0.202	69.814815	20.396268	0.617	68.715278	14.026322	0.568
	<b>11000-15000</b>	69.010417	13.145459		67.633929	17.672392		62.934028	13.154822		65.798611	17.801737		66.406250	15.464602	
	<b>16000-20000</b>	67.338710	16.670027		67.626728	17.855607		59.946237	15.652380		67.473118	23.506780		67.237903	13.007184	
	<b>&gt;21000</b>	73.529412	11.594005		60.924370	17.833493		61.519608	14.770335		64.705882	17.060303		63.970588	12.209398	

Marital status was another factor affecting QOL, in our study, single doctors scored the lowest in psychological and social relationships domains  $58.8 \pm 19.7$ ,  $68.3 \pm 15.3$  respectively compared to married doctors, consistent with a similar study done in Jajan region, Saudi Arabia on quality of work-life among primary health care nurses. Marital status plays a significant role in QOL in that study [23]. Therefore we reasoned that being married status than single marital status has better QOL. This is due to the ability to get support and love from family members and have a stable home life. On the contrary Doctors who were single may lack the supportive home environment which is needed for better QOL.

Even though we conducted our study at the time of the COVID 19 pandemic which resulted in multiple factors controlling its spread example lockdowns, quarantines, and isolation measures, primary health care doctors in BURAYDAH city generally scored higher scores  $>60$  in all four QOL domains showed in Table 2 where physical health was the highest score followed by social relationships, environment, and lowest for the psychological domain, compared to a study using WHOQOL-BREF questionnaire conducted on one Indian medical college students stated that the mean quality of life and standard deviation score was more in environmental health domain  $72.10 \pm 13.0$ , followed by physical domain  $67.23 \pm 13.74$ , social relationships domain  $57.13 \pm 20.1$ , and the lowest score was the psychological domain  $52.10 \pm 17.45$  was noticed [24].

In the present study, the response rate was 93%. A study conducted in China among clinical doctors had a response rate of 84.6% [8] and another study in India among Medical students mentioned a response rate of 77% [24]. Therefore, we reason our good response rate to the simplified way of showing the questionnaire online and contacting participants in social media messaging apps privately which encouraged them to complete the survey.

In our study, results revealed that there was no association between overall quality of life to education, physicians' income, and specialties of the doctors. This is in contrast to the study conducted in China stating that there was a statistically significant association observed with the overall quality of life and level of education, the income of doctors, and specialties of doctors [8].

There are many studies conducted on the quality of life, job satisfaction, and burnout among health

care workers, where WHOQOL - BREF was not used and quality of life parameters taken as working hours, pay, shift duties, patient turnover per day, appreciation, awards, professional opportunities and other responsibilities taken among health care workers [9,8,19,25]. But in our study, we used the WHOQOL-BREF questionnaire which proved to be a suitable tool for the assessment of the quality of life of health care workers [7,18,20,22,24].

Some of the limitations in our present study were due to COVID 19 pandemic regulations. We faced some difficulty with the survey distribution and had to rely on online methods for most of the data collection part. In this process, participants' interaction was lacking which may have affected the understanding of some questions.

## **6. CONCLUSION**

Based on the results of our study, the overall quality of life is more or less the same in both genders. Quality of life among primary health care physicians was good in all the four domains compared to similar studies and there was a statistically significant association observed between different age groups in physical and psychological domains where doctors 30-39 years of age had the lowest physical score and doctors between 20-29 years of age had the lowest psychological score and doctors over 50 had the highest score of all domains. Similarly marital status was a significant factor affecting QOL where singles had lower scores than married doctors in psychological and social domains.

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## **CONSENT**

As per international standard or university standard, respondents' written consent has been collected and preserved by the authors.

## **ETHICAL COMMITTEE APPROVAL**

Ethical committee approval was taken before initiation of the study from Regional ethics Committee, Qassim Province with approval number 1442-2223087.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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