Original Research Article

Health Related Quality of Life among Patients' Family Members Visiting Hospital during COVID-19

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ABSTRACT

Background: The Corona Virus Disease-19 pandemic has brought serious psychological impact among all groups of people around the globe. Nepal is not exception on it. The long effect of it (around 2 years) has affected every aspect of individual's life including the health-related quality of life (HRQOL) of the people). This study aimed to find out the HRQOL among patients' family members who were visiting hospital during COVID-19 pandemic in Nepal.

Methods: Cross-sectional analytical study was conducted among 200 family members (20 to 60 years) of patients visiting Patan Hospital, Nepal, during COVID-19 pandemic in July to August, 2021. A structured self-administered questionnaire- World Health Organization Quality of Life-Brief (WHOQOL-BREF) Version was used to measure the quality of life. Descriptive and inferential (ANOVA, Independent t-test) statistics was used for data analysis. P value was set at 0.05.

Results: Out of 200 family members, 66.0% were male and mean age was 32.68±SD-9.360 years. About 20.0% had history of COVID-19 infection. Respondents' overall QOL and satisfaction was neutral. The higher mean score (13.92±2.54) was found on social relation, followed by psychological health (13.68±1.74), physical health (13.14±1.54), and environmental health (12.53±1.74). There was significant association between education status and overall QOL and overall satisfaction (F=3.38, p=0.01; F=3.68, p=0.00, respectively). Furthermore, educational status and employment status were significantly associated with physical health domain (F=2.78, p=0.02; F=2.71, p=0.02, respectively).

Conclusion: Overall QOL and satisfaction of respondents' was neutral. The higher mean score was found on social relation, followed by psychological health, physical health and environmental health.

Keywords: COVID-19, Family members, Health related quality of life

INTRODUCTION

The Corona Virus Disease-19 (COVID-19) pandemic is a major health crisis which has brought serious psychological impact among all the group of people around the globe. [1] The speed in transmission of the virus has placed citizens and governments on tenterhooks, recognizing that this disease impacts not only the physical health of individuals, but also psychological health as it has been about two years of its outbreak.[2]

In the prevention and control of COVID-19, Nepal government has developed and implemented a wide range of measures including containment and closure (i.e. entry ban , closing schools, workplaces, public transport, and non-essential businesses, physical distancing and quarantine, as well as limiting public

events/gatherings). So, the pandemic generated impacts mainly from lockdown, self-isolation, social distancing, and quarantine have affected the overall physical, mental, spiritual, cultural, economic, and social wellbeing of the people of Nepal.[3]

With the time lag it has been affected in every aspect of individual which eventually affects the quality of life of people. In a study conducted in Italy (n=2251), it has been found that the 45.3% of people reported the little or no possibility of doing physical activity and 31.6% were not enjoying their lives during COVID-19 pandemic. [4] Similarly, in China (n=1139), about 20.0% of people reported pain/discomfort and anxiety/depression during COVID-19 pandemic. [5]

In a study done in UK, India and the UAE revealed that the feeling of being worried was most frequently reported (93.6%), followed by disturb in family activities (83.3%) feeling of frustration (81.7%), feeling sad (78.4%), sleep disturbance (68.9%) and interfere in sex life (68.1%). [6]

In Nepal, majority 404 (72.8%) of Nepalese people were stressed and majority of the respondents 353 (63.6%) were adversely affected by professional works or suffered economic loss in business or lost their job during lockdown period in pandemic. [7]

A qualitative study done among the public in Kathmandu, Kanchanpur, Bajura and Jhapa districts of Nepal revealed that many people shared the experiences of anxiety, fear of being infected, and stress due to lack of interaction during first wave of COVID-19 Pandemic. [8] The economic recessions in Nepal due to this pandemic have put significant financial pressure on many families which can effect overall health related quality of life. [1] Similarly, multidimensional impacts of lockdown have been found in society during COVID-19 pandemic, where many people lost their jobs and businesses which may directly affect quality of life. [9] Additionally, the ongoing outbreak and the social isolation could have impact on the physical, psychological, environmental health of individuals in Nepal. Quality of life (QOL) is an important component in assessing people's health. [10] HRQOL measure not only physical and psychological health but also individual's environmental health and social relation during the COVID-19 pandemic.

Thus, this study aimed to find out the health-related quality of life (HRQOL) among patients' family members during COVID-19 pandemic in Nepal.

MATERIALS AND METHODS
Study design

Cross-sectional analytical study design was used to find out the health-related quality of life (HRQOL) among patients' family members (20 to 60 years) visiting Patan hospital during COVID-19 pandemic in Nepal in July and August, 2021. Total 200 family members were selected by simple random sampling (lottery method). The person who could read and write and who gave consent for the study were selected for the study.

Setting of the study

Patan Hospital (PH) is major Teaching Hospital for Patan Academy of Health Sciences (PAHS) with modern equipment and facilities. It is recognized as the tertiary level public hospital with more than 600 beds. It provides treatment for almost 3, 20,000 outpatient and 20,000 inpatients every year. It serves people from every district of Nepal, from Kathmandu valley as well as from remote villages. [11]

There are two general clinics which open Sunday to Friday and 12 specialized clinics which open five days a week except Wednesday and Saturday. Around 800 to 1000 patients visit daily in PH, OPD with different health problems after lockdown period. Most of patients come hospital with their family members.

Data collection technique and instruments

Structured self-administered questionnaire was used for data collection tool which consist of two sections.

Section 1: Socio-demographic information

Selected socio-demographic information such as age, gender, educational status, marital status, employment status, type of family and history of COVID-19 infection were collected.

Section 2: Health related quality of life (HRQOL)

The World Health Organization Quality of Life- Brief (WHOQOL-BREF) version was used to measure health related quality of life which was developed by the WHO. [12] WHOQOL-BREF tool has been validated as standard tool to measure QOL cross culturally through field trials in many countries. [12]

The Nepali version of the WHOQOL-BREF was used to assess QOL in this study. [13] Nepali version of the WHOQOL-BREF was used in Nepal as well [14] It is a 26 items self-rating questionnaire, giving scores to overall QOL (item 1, 2) and its four dimensions: physical health (e.g., sleep quality, energy and tiredness) (item 3, 10, 16, 15, 17, 4, 18) , psychological health (e.g., positive emotion, self-esteem, personal beliefs) (item 5, 7, 19, 11, 26, 6), social relationships (e.g., social support and sexual activity) (item 20, 22, 21), and environmental health (e.g., climate, transportation, and healthcare assistance) (Item 8, 23, 12, 24, 13, 14, 9, 25). Items ask participants to rate their QOL during the last two weeks and each of them are rated on a 5-point Likert scale. In scoring, the four sub-dimension scores were calculated separately, and the higher scores indicate a higher level of life quality.

Ethical Consideration

Ethical approval was obtained from Institutional Review Committee of Patan Academy of Health sciences (IRC-PAHS) (Ref: nrs2107161556) prior to data collection. Informed verbal permission was taken from Nursing Director and OPD incharge of Patan Hospital. Informed verbal and written consent of respondents was taken before data collection. People who were willing to participate were involved in the study. Confidentiality was maintained by using the study findings for research purposes only. The participants had the right to withdraw from participation at any time in the study.

Data collection Procedure

Data collection was done when the family members were waiting for checkup of their patients in the OPD. Researchers explained about method of sample selection. Lottery method was used for sample selection. There was two lottery- 'yes' and 'no'. All those family members who picked up lottery of 'yes' was taken as sample of the study.

Written consent was obtained before data collection. Respondents were requested to fill the questionnaire by sitting in separate place of the OPD waiting area in front of the researcher and it was returned immediately to the researcher. The approximate time to complete the questionnaire was 20-25 minutes. Safety precautions were maintained by researchers as well as respondents to reduce risk of exposure of COVID-19.

Statistical Analysis

Statistical Package for the Social Science (SPSS) version 16 was used for data analysis. Data analysis was done according to WHOQOL-BREF scoring method. [12] Descriptive statistics (frequency, percentage and mean) was used to describe the demographic data. Mean and standard deviation was calculated for overall HRQOL, overall satisfaction and each domains of the QOL scale. Inferential statistics (ANOVA and independent t-test) was used to determine association between socio-demographic information (age, gender, marital status, educational status,

employment status, type of family and history of COVID-19) and HRQOL. A p-value was set at 0.05. Value less than 0.05 was considered statistically significant. Data was stored in a password-protected computer of the principal investigator.

RESULTS
Socio-demographic information of the family members of patients

Table no. 1 Socio-demographic information of the respondents, N=200

Socio-demographic information	Number	Percent
Age in year		
20-29	84	42.0
30-39	73	36.5
40-49	27	13.5
≥ 50	16	8.0
Mean Age=32.68, SD=9.360		
Gender		
Male	132	66.0
Female	68	34.0
Marital Status		
Married	146	73.0
Unmarried	50	25.0
Widow/Widower	3	1.5
Divorced	1	0.5
Educational status		
Can read and write	12	6.0
Primary level	14	7.0
Secondary level	107	53.5
Bachelor level	47	23.5
Master and above	20	10.0
Employment Status		
Self employed	45	22.5
Service	43	21.5
Professionals	36	18.0
House wife	25	12.5
Student	25	12.5
Unemployed	24	12.0
Retired	2	1.0
Type of family		
Joint	130	65.0
Nuclear	65	32.5
Extended	5	2.5
History of COVID-19 infection		
Yes	33	16.5
No	167	83.5

Out of 200 respondents, 66.0% were male and 34.0% were female. The mean age of the respondents was 32.68±SD-9.360 years. However, 42.0% were in between the age of 20 to 29 years. About two third (73.0%) were married. Regarding educational status, 54.0% had secondary level education. About one third (23.0%) were self-employed. Majority (65.0%) of the respondents belonged from joint family.

About 20.0% had history of COVID-19 infection. (Table 1)

Health Related Quality of Life of family members of patients attending in hospital

Overall QOL and satisfaction was neutral (mean±SD=3.14±0.65, 3.37±0.80, respectively) as respondents reported neither poor nor good and neither satisfied nor dissatisfied with their own health. Regarding four domains, the higher mean score (13.92±2.54) was found on social relation, followed by psychological health (13.68±1.74), physical health (13.14±1.54), and environmental health (12.53±1.74). (Table 2)

Table no. 2 Mean score of overall QOL and overall satisfaction with health and various domain of health related quality of life of respondents, N=200

Variables	Items	Mean	Standard deviation
Overall QOL	Q1	3.14	0.65
Overall satisfaction with health	Q2	3.37	0.80
Physical health	Q3, Q4, Q10, Q15, Q16, Q17, Q18	13.14	1.54
Psychological health	Q5, Q6, Q7, Q11, Q19, Q26	13.68	1.74
Environmental health	Q8, Q9, Q12, Q13, Q14, Q23, Q24, Q25	12.53	1.74
Social relations	Q20, Q21, Q22	13.92	2.54

Association between socio-demographic variables and overall quality of life and satisfaction on own health

There was significant association between education status and overall QOL and overall satisfaction (F=3.38, p=0.01; F=3.68,p=0.00, respectively) where higher mean score was found among the people who had higher education level both in overall quality of life and satisfaction. Other variables were not significantly associated with overall quality of life and satisfaction. Regarding satisfaction, housewife showed low satisfaction (mean=3.00±0.8) and unemployed showed highest satisfaction (mean=3.54±0.93) though employment status was not significantly associated with it. (Table no.3)

Table no. 3 Association between demographic variables (age, gender, marital status, education, employment status, type of family and history of COVID-19 infection) and respondents' overall quality of life and satisfaction with own health, N=200

Variables	Overall quality of life Means ± SD	F (P- Value)	Overall satisfaction with own health Means ± SD	F (P-Value)
Age in year				
20-29	3.19±0.66	0.46 (0.70)	3.46±0.73	2.48 (0.06)
30-39	3.08±0.64		3.25±0.84	
40-49	3.19±0.73		3.59±0.88	
≥ 50	3.06±0.57		3.06±0.68	
Gender*				
Male	3.13±0.69	0.33 (0.73)	3.43±0.75	-1.52 (0.13)
Female	3.16±0.58		3.25±0.88	
Marital Status				
Married	3.12±0.67	0.35 (0.70)	3.34±0.81	0.44 (0.64)
Unmarried	3.20±0.60		3.46±0.78	
Widow/Widower/Divorced	3.25±0.95		3.25±0.50	
Educational status				
Can read and write	2.83±0.71	3.38 (0.01)	2.75±1.13	3.68 (0.00)
Primary level	2.79±0.57		2.93±1.07	
Secondary level	3.10±0.67		3.41±0.77	
Bachelor level	3.36±0.60		3.47±0.58	
Master and above	3.26±0.55		3.60±0.75	
Employment Status				
Professionals/service	3.13±0.58	0.48 (0.74)	3.47±0.67	2.18 (0.07)
Self employed	3.04±0.73		3.27±0.98	
Housewife	3.24±0.52		3.00±0.81	
Unemployed	3.21±0.88		3.54±0.93	
Students/Retired	3.19±0.62		3.44±0.57	
Type of family*				
Nuclear	3.09±0.74	-0.71 (0.47)	3.34±0.95	-0.38 (0.70)
Joint/Extended	3.16±0.61		3.39±0.72	
History of COVID-19 infection*				
Yes	3.21±0.69	0.68 (0.49)	3.21±0.85	-1.23 (0.21)
No	3.13±0.65		3.40±0.79	

*t-test value

Association between socio-demographic variables and each domain of quality of life

Educational status and employment status were significantly associated with physical health domain (F=2.78, p=0.02; F=2.71, p=0.02, respectively) where higher mean score was found among people who had bachelor and higher education and self-employed. Age and educational status were significantly associated with environmental health domain (F=3.40, p=0.01; F=2.60, p=0.03, respectively) where, people of age group 20-29 years and people who had higher education had higher mean score on environmental health domain. Gender, marital status, employment status, and types of family were significantly associated with social relation domain (F=-2.07, p = 0.04; F=11.11, p =<.001; F=2.49, p=0.04; F=-3.14, p=<.001). Male, married, who had higher education, who were self-employed, who were living in joint/extended family and who had COVID-19 history had higher mean score on social relations domain. None of the variables were significantly associated with psychological domain. (Table 4)

Table no. 4 Association between demographic variables (age, gender, marital status, education, employment status, type of family and history of COVID-19 infection) and different domain of HRQOL of respondents, N=200

Variables	Physical health Means ±SD	F (P-Value)	Psychological health Means ±SD	F (P-Value)	Environmental health Means ± SD	F (P-Value)	Social relations Means ±SD	F (P-Value)
Age in year								
20-29	13.18±1.45	0.49 (0.68)	13.98±1.63	1.82 (0.14)	12.85±1.61	3.40 (0.01)	13.09±2.80	1.79 (0.15)
30-39	13.21±1.76		13.52±1.87		12.37±1.86		14.17±2.30	
40-49	13.07±1.50		13.58±1.78		12.62±1.76		14.12±2.48	
≥ 50	12.71±1.01		13.04±1.26		11.43±1.34		12.58±2.00	
Gender*								
Male	13.20±1.59	0.82 (0.40)	13.78±1.75	-1.09 (0.27)	12.48±1.74	0.59 (0.55)	14.19±2.43	-2.07 (0.04)
Female	13.01±1.45		13.50±1.70		12.63±1.75		13.41±2.68	

Table 4 Continued…								
Marital Status								
Married	13.21±1.54	0.65	13.78±1.70	1.05	12.42±1.75	1.21	14.41±2.16	11.11
Unmarried	12.92±1.58	(0.51)	13.48±1.86	(0.35)	12.87±1.72	(0.29)	12.69±3.00	(0.00)
Widow/Widower/Divorced	13.28±1.35		12.83±0.63		12.50±1.68		11.66±3.67	
Educational status								
Can read and write	12.66±1.51		12.88±1.40		11.58±1.88		12.88±2.56	
Primary level	12.48±1.18	2.78	13.23±1.00	1.60(0.17)	11.96±1.13	2.60	13.42±2.79	0.89
Secondary level	13.09±1.48	(0.02)	13.88±1.65		12.45±1.79	(0.03)	13.91±2.62	(0.46)
Bachelor level	13.17±1.37		13.44±1.81		12.84±1.52		14.29±2.11	
Master and above	14.0±2.11		13.96±2.30		13.25±1.94		14.06±2.88	
Employment Status								
Professionals/service	13.33±1.53		13.73±1.54		12.53±1.78		14.24±2.23	
Self employed	13.51±1.52	2.71	14.23±1.91	2.11	12.90±1.84	2.10	14.54±2.35	2.49
Housewife	12.84±1.37	(0.03)	13.36±1.19	(0.08)	12.14±1.38	(0.08)	13.33±2.85	(0.04)
Unemployed	12.42±1.80		13.27±2.11		11.85±1.87		13.16±2.92	
Students/Retired	12.88±1.32		13.28±1.83		12.92±1.47		13.18±2.77	
Type of family*								
Nuclear	12.91±1.71	-1.45	13.45±1.90	-1.42	12.27±1.87	-1.46	13.12±2.70	-3.14
Joint/Extended	13.25±1.45	(0.14)	13.80±1.64	(0.15)	12.66±1.67	(0.14)	14.31±2.38	(0.00)
History of COVID-19 infection*								
Yes	13.31±1.63	0.70	13.53±2.01	-0.54	12.34±1.58	-0.68	13.53±2.79	-0.96
No	13.10±1.53	(0.48)	13.71±1.68	(0.58)	12.57±1.77	(0.49)	14.00±2.49	(0.33)

*t-test value

DISCUSSION

This study was conducted during the period of the COVID-19 pandemic in Nepal to find out the various domains of HRQOL among patients' family members visiting hospital.

In this study, overall QOL and satisfaction was neutral (mean±SD= 3.14±0.65, 3.37±0.80, respectively) as respondents reported neither poor nor good and neither satisfied nor dissatisfied with their own health.

This finding was supported with the study of Malaysia where the respondents had overall QOL and satisfaction with health score were 3.7±0.87 and 3.9±0.82, respectively. [15]

In India, (n=305), mean score of the Brunnsviken brief quality of life scale (BBQ, 12 item) was 33.91±10.158 among adult people above 18 years. [2]A contrast finding revealed in a study of China where the majority of respondents (93.8%) had a perfect score of "1.000" for QOL (EQ-5D). [16]

Regarding four domains, the higher mean score (13.92±2.54) was found on social relation, followed by psychological health (13.68±1.74), physical health (13.14±1.54), and environmental health (12.53±1.74). During the period of the study, there was no lockdown in Kathmandu valley but Nepal Government set rules to prevent big gatherings. People started to visit their friends and relatives taking safety precautions such as wearing mask and social distancing. These findings are supported with the study of Malaysia, where respondents' WHOQOL-BREF scores were high in domain of social relation (69.4±18.08), followed by environmental health (66.4±15.00), physical health (65.3±14.18) and psychological health (59.5±15.90). [15] In contrast, a study finding of Hong Kong revealed that higher mean score was found on physical health (14.07±2.63) then social relationships (12.90±2.54), psychological health (12.72±2.87), and the environment health (12.24±2.81) among women during the COVID-19 Pandemic. [17] Similarly, mean score of physical domain was higher also among general people of Hong Kong. [18]

Similar finding was revealed in the study done in Morocco (n=279), where all respondents obtained a physical health score (PCS) of 36.10±5.82 and mental health score (MCS) of 34.49±6.44 based on the SF12 algorithm. [19] The QOL of university students of Malaysia was higher in physical health (75.31±15.11) than other domain. [20]

In this study, there was significant association between education status and

overall QOL and overall satisfaction (F=3.38, p=0.01; F=3.68,p=0.00, respectively) where higher mean score was found among the people who had higher education level both in overall quality of life and satisfaction. It might be because accessibility of information about updates of COVID-19 pandemic as well as health maintenance measures to prevent infection by educated people. Regarding satisfaction, housewife showed low satisfaction (mean=3.00±0.8). Likewise, COVID-19 induced significant psychological and quality of life impacts on females in Hong Kong. [17] But unemployed showed highest satisfaction (mean=3.54±0.93) in this study though employment status was not significantly associated with it. But a study finding of Japan showed that respondents who experienced job loss during COVID-19 had a poor HRQOL. [21] Similarly, demographic variables (education level, age, gender) did not influence QOL (F=1.25, p=0.26) among people of India during COVID-19. [2]

In current study, educational status and employment status were significantly associated with physical health domain (F=2.78, p=0.02; F=2.71, p=0.02, respectively). Age and educational status were significantly associated with environmental health domain (F=3.40, p= 0.01; F=2.60, p = 0.03, respectively) where, people of age group 20-29 years and people who had higher education had higher mean score on environmental health domain.

A study finding of Hong Kong showed that age was significantly associated with all four domains of HRQOL and education level were significantly associated with physical, psychological and environmental health domain (p=<0.05), whereas marital status was not significantly associated with QOL. [17]

In this study, gender, marital status, employment status, and types of family were significantly associated with social relation domain (F=-2.07, p = 0.04; F=11.11, p =<.001; F=2.49, p=0.04; F=-3.14, p=<.001). None of the variables were significantly associated with psychological domain. This finding was supported by a study done by Shah et al. (2021), which showed the impact on sex life (social relation) was experienced significantly more by males than females (p≤0.001). But females were experiencing more impact on everyday travel (p≤0.01) (environment health). [6] But no gender or age difference was observed in total QOL (EQ-5D) score and five domains of QOL among enterprise workers of China. [16]

CONCLUSION

The findings of this study demonstrated that overall QOL and satisfaction of respondents' was neutral. Despite the impact of COVID-19, Nepalese people were maintaining their social relation with the reference of higher mean score. However, low score was found on environmental health. Higher the education status, higher the overall quality of life and satisfaction during this pandemic situation was found. Likewise, educational status and employment status were significantly associated with physical health domain; and age and educational status were significantly associated with environmental health domain. Thus, our results suggest the need to pay attention for physical, psychological and environmental health of people during the pandemic situation for the quality of life of people.

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Conflict Of Interest

The authors declare no competing interest.

Ethical Approval: Approved

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