

Impact of COVID-19 Pandemic on Quality of Life: An Online Transverse Study

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ABSTRACT

Objective: The purpose of the study was to assess the impact of coronavirus disease-2019 (COVID-19) on quality of life of people.

Materials and methods: An online close-ended questionnaire called 6-item COVID-19 impact on quality of life (COV19-QoL) scale v1.5 was used to assess the quality of life perceived by subjects since past 7 days because of COVID-19. Descriptive and inferential statistics were computed. An independent t-test was performed to compare the differences in scores between the two groups (males and females) and the ANOVA test compared the differences in scores in relation to the educational status of subjects.

Results: About 43.2% rated that they felt more tense than before, with 36.8% agreeing upon being depressed and slightly near one-third (30.3%) perceived deterioration of their physical health and mental health because of COVID-19. However, only a quarter of subjects, 26.5%, considered that their personal safety was at risk. The marital status and level of literacy of respondents did not exert a significant influence on the quality of life affected due to COVID-19. However, there was statistically significant difference on physical health of male subjects ($p < 0.04$) when compared with female subjects.

Conclusion: COVID-19, therefore, changed the quality of life by exploring several parameters such as physical health, mental health, personal safety, and fluctuations in mood.

Keywords: Coronavirus disease-2019, Mental health, Quality of Life.

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INTRODUCTION

The outbreak of Coronavirus disease which emerged as a pandemic spreading at an exponential rate and globally reported high morbidity has tested our health and emotional well-being significantly. India's history is replete with previous records of pandemic, which our nation withstood and overcome, notable among them was the Cholera outbreak in 19th century followed by Influenza pandemic around 20th century which played havoc, though it lasted for short-interval.¹ More recent was the H1N1 flu pandemic (2009), which resulted in the loss of 18,500 people globally.

Coronavirus disease, which emerged from Wuhan, China, in 2019, received significant media coverage when WHO declared it a public health emergency of International Concern on 11th March 2020. 24 x 7 round-the-clock media coverage of coronavirus disease-2019 (COVID-19) led to fear, psychological distress, and anxiety in contracting COVID-19.² The high mortality rate and positivity rate of the disease forced governments all over the world to restrict people's movement by adopting quarantine measures.³ Although quarantine measures have been embraced previously when SARS outbreak triggered in 2003 (China) and sporadic clustering of cases during Ebola outbreak in 2014 (Africa). Quarantine measures, if continued for a long time, initiate depressive thoughts, irritability, insomnia, low mood, acute stress, fear, emotional exhaustion, anger, suicidal tendency, and posttraumatic stress.^{4,5}

Confinement at home restricts social and physical contact, and human beings are not acquainted to live in such an environment. The inability to step out of home debars people from enjoying leisure activities.⁶ The financial crunch has been experienced during earlier quarantine measures imposed during SARS and EBOLA

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outbreaks since people previously faced difficulty in purchasing basic amenities such as food, clothes, and accommodation. As a result, the economic hardships borne by people during previous outbreaks have led to the onset of depression and posttraumatic stress disorder.^{4,5}

Table 1: Mean and percentage distribution scores of COVID-19 quality of life

COV19-QoL	Mean ± SD	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree
I think my quality of life is lower than before	3.12 ± 1.22	24 (13%)	34 (18.4%)	45 (24.3%)	59 (31.9%)	23 (12.4%)
I think my mental health has deteriorated	3.12 ± 1.22	21 (11.4%)	41 (22.2%)	42 (22.7%)	56 (30.3%)	25 (15.5%)
I think my physical health may deteriorate	3.02 ± 1.22	19 (10.3%)	57 (30.8%)	31 (16.8%)	56 (30.3%)	22 (11.9%)
I feel more tensed than before	3.27 ± 1.19	17 (9.2%)	39 (21.1%)	27 (14.6%)	80 (43.2%)	22 (11.9%)
I feel more depressed than before	3.10 ± 1.20	22 (11.9%)	40 (21.6%)	37 (20%)	68 (36.8%)	18 (9.7%)
I feel that my personal safety is at risk	2.84 ± 1.26	33 (17.8%)	47 (25.4%)	38 (20.5%)	49 (26.5%)	18 (9.7%)
Total score	3.06 ± 0.97					

Looking at the experience of those who contracted COVID-19 and the narrative of those who recovered propelled fear and anxiety, and affected physical health.^{7,8} Restlessness, fear, twitching of eyes, and worry were further exacerbated during the COVID-19 crisis because of heavy reliance on social media tools (WhatsApp, Twitter, Facebook, Instagram, YouTube, and traditional media channels TV and Radio) to get updated information about the viral disease.^{2,7,9,10} Excessive overload of information about COVID-19 has affected the emotional outlook and perception of people and they have surrendered their fate to God’s mercy.¹¹ Therefore, it is imperative to mitigate mental health consequences drawn because of COVID-19 by providing tailored interventions.¹² The effect of the virus and the stigma faced by family and friends also perpetuate anxiety and fear.^{7,8,11}

Previous studies have evaluated the impact of lockdown on COVID-19,^{11,12} but there have been few studies that evaluated the impact of COVID-19 on the quality of life in context to the Indian population.

MATERIALS AND METHODS

This was an online survey conducted by generating an online questionnaire on google forms. Exponential nondiscriminative snowball sampling was used to circulate the online questionnaire to as many people. The online link was shared through medium of online social networking tools such as WhatsApp, email, and Facebook. Ethical approval was obtained from the Institutional Ethical Committee bearing protocol number BDC/BHUD/T-9/6484 dated 26th September 2020, and the online link was shared from 12th October 2020 to 25th October 2020, and thereafter, the link was closed. The estimated time to complete the online survey was < 2 minutes and the anonymity of the respondents was maintained. The participants gave their voluntary informed consent to be part of the study.

Demographic covariates involved gender (male/female), marital status (single/married/divorced), and education status (postgraduate/graduate/diploma holder). Descriptive responses of the subjects included frequency (*n*) and percentage (%) for categorical variables, and continuous variables were recorded as mean and standard deviation.

A 6-item COVID-19 Impact on Quality of Life (COV19-QoL) Scale v1.5¹³ was used to assess the quality of life perceived by subjects since past 7 days due to the spread of coronavirus. The respondents

rated their responses on basis of 5-point Likert Scale, with responses ranked: 1 – completely disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, and 5 – completely agree. The (COV19-QoL) Scale v1.5 was pre-tested on a few subjects with good internal consistency (Cronbach’s alpha $\alpha = 0.86$). The scores from all items were summed and the result gained was divided by the number of items (i.e., 6). Thus, the total score was the average of all items. High scores were related to a greater impact on quality of life, and the related domains were sensed by the subjects. Descriptive and inferential statistics were computed. Independent *t*-test was pursued to compare the differences in scores between two groups (males and females), and the ANOVA test compared the differences in scores in relation to the educational status of subjects. Statistical analysis was done using Statistical Package for Social Sciences Version 21.0, Armonk, NY: IBM Corp.¹⁴

RESULTS

In total, 185 responses were obtained and the mean age of respondents was 28.07 ± 11.2 years. Two-thirds were female respondents (69.7%), and one-third were male respondents (30.3%). About 46% were graduates, 36.7% had attained secondary education and were diploma holders, and the rest 17.3% were educated up to postgraduation. Further stratification of subjects with regard to their marital status was done in which three-fifths (73.5%) were staying singly and one-fourth (26.4%) were married and resided with their spouse. About 80.6% (*n* = 160) of the respondents were in the age bracket of 17–37 years, remaining 13.5% (*n* = 25) were in their middle years, and some respondents were in the geriatric population in the age bracket of 38–79 years.

The total mean overall quality of life score was 3.06 ± 0.97. In COV19-QoL Scale, about half of the subjects, 43.2%, agreed on feeling tense due to COVID-19. About a quarter of subjects had neutral reactions regarding deterioration to their quality of life (24.5%) and mental health (22.7%). One-fifth (20.5%) neither agreed nor disagreed that their personal safety was at risk and similar feedback (20%) was obtained in relation to the onset of depression. More than one-third agreed much the same regarding the impact of COVID-19 on their quality of life, mental health, and physical health. Slightly more than one-third (36.8%) agreed they were feeling more depressed than before, and quarter of subjects (26.5%) discerned that his/her personal safety was at risk because of COVID-19 (Table 1).

Table 2: Gender association with COVID-19

COV19-QoL	Gender	Mean ± SD	f-value	t-value	p-value (two-sided)
I think my quality of life is lower than before	Male (n = 56) 30.3%	3.26 ± 1.27	0.325	1.046	0.29
	Female (n = 129) 69.7%	3.06 ± 1.21			
I think my mental health has deteriorated	Male	3.08 ± 1.21	0.174	-0.255	0.79
	Female	3.13 ± 1.24			
I think my physical health may deteriorate	Male	3.30 ± 1.15	0.557	2.038	0.04
	Female	2.90 ± 1.24			
I feel more tensed than before	Male	3.44 ± 1.07	2.065	1.287	0.20
	Female	3.20 ± 1.23			
I feel more depressed than before	Male	3.17 ± 1.08	1.589	0.524	0.60
	Female	3.07 ± 1.25			
I feel that my personal safety is at risk	Male	2.91 ± 1.29	0.436	0.438	0.66
	Female	2.82 ± 1.25			

Table 3: Marital status association with COVID-19 impact on quality of life using independent t-test at (95% confidence interval)

COV19-QoL	Marital status	Mean ± SD	f-value	t-value	p-value (two-sided)
I think my quality of life is lower than before	Single (n = 136)	3.16 ± 1.22	0.189	0.825	0.41
	Married (n = 49)	3.00 ± 1.25			
I think my mental health has deteriorated	Single	3.19 ± 1.25	0.158	1.234	0.21
	Married	2.93 ± 1.14			
I think my physical health may deteriorate	Single	3.00 ± 1.25	0.024	-0.498	0.61
	Married	3.10 ± 1.15			
I feel more tensed than before	Single	3.21 ± 1.24	3.802	-1.189	0.23
	Married	3.44 ± 1.02			
I feel more depressed than before	Single	3.08 ± 1.23	0.957	-0.374	0.70
	Married	3.16 ± 1.12			
I feel that my personal safety is at risk	Single	2.91 ± 1.27	0.004	1.262	0.20
	Married	2.65 ± 1.23			

From the above study, we found that COVID-19 made an impact on the physical health of male subjects with a statistically significant effect ($p < 0.04$) in comparison to female subjects. Similarly, gender differences were apparently visible since male respondents felt more tensed, more depressed, and sensed a threat to their personal safety in contrast to female respondents (Table 2).

Marital status also determined the impact of COVID-19 on quality of life. The aftermath of COVID-19 led to lowered quality of life, generated tension, influenced mental health, and affected the personal safety of those who stayed single (Table 3). Additionally, the level of education influenced the quality of life. Diploma holders thought their quality had lowered due to COVID-19, and this had repercussions on their mental health and personal safety. However, the ramifications of COVID-19 were more pronounced in postgraduates. COVID-19 instilled depressive thoughts, made them tense, and consequently affected the physical health of postgraduates (Table 4).

DISCUSSION

The above study assessed the brunt of COVID-19 borne by people. The strength of our study was that this was one of the earliest studies that evaluated the effect of COVID-19 on physical health and how the respondents felt that their personal safety was at risk. Thus, there could be limited data pertaining to the impact of COVID-19 on physical health. Overall, people were strained

by the continuation of COVID-19, and the devastation imposed by it affected them physically and mentally; their quality of life was hampered, which was analogous to previous research.^{7,8,12} About one-third considered COVID-19 responsible for lowering their quality of life, and this had a consequential effect on their physical and mental health. Job insecurity, dwindling income, social isolation, and increased viewing of COVID-related news were the factors that accounted for the impact of COVID-19 on the quality of life.^{2,4}

The majority of the participants were reportedly young, and their coping ability to deal with this unprecedented crisis was reflected with display of their emotional behavior through our findings, and these were in concordance with earlier findings.^{7,8,12,15-17} We observed there were nonsignificant differences when the impact of COVID-19 on quality of life was judged in relation to the education status of individuals, which differed from previous study results.¹⁵ There were insignificant gender differences noted in response to impact of COVID-19 on their quality of life except for the effect on physical health perceived by males, which could be related to physical inactivity and physical restriction because of COVID-19. Male respondents were more anxious, depressed, and worried when compared to females, which could be because, in Indian society, females heavily rely on males for materialistic needs, which is in sharp contrast to results obtained from the western world.^{7,15,17,18} Females tend to have an advantage over males, they find ways for social support and, as a result, exhibit resilience in

Table 4: Literacy status association with COVID-19 impact on quality of life using ANNOVA

COV19-QoL	Literacy status	Mean ± SD	f-value	p-value (two-sided)
I think my quality of life is lower than before	Postgraduate (n = 32)	3.21 ± 1.31	0.804	0.44
	Graduate (n = 85)	3.00 ± 1.19		
	Intermediate/Diploma (n = 68)	3.23 ± 1.23		
I think my mental health has deteriorated	Postgraduate	3.00 ± 1.19	1.334	0.55
	Graduate	3.07 ± 1.22		
	Intermediate/Diploma	3.25 ± 1.26		
I think my physical health may deteriorate	Postgraduate	3.31 ± 1.20	0.557	0.32
	Graduate	3.00 ± 1.20		
	Intermediate/Diploma	2.92 ± 1.26		
I feel more tensed than before	Postgraduate	3.40 ± 1.24	2.065	0.78
	Graduate	3.25 ± 1.21		
	Intermediate/Diploma	3.23 ± 1.28		
I feel more depressed than before	Postgraduate	3.25 ± 1.21	1.589	0.51
	Graduate	3.00 ± 1.20		
	Intermediate/Diploma	3.17 ± 1.19		
I feel that my personal safety is at risk	Postgraduate	2.87 ± 1.26	0.436	0.26
	Graduate	2.69 ± 1.28		
	Intermediate/Diploma	3.12 ± 0.94		
Total score	Postgraduate	3.18 ± 1.09	0.734	0.48
	Graduate	2.97 ± 0.94		
	Intermediate/Diploma	3.12 ± 0.94		

dealing with stressful events, unlike males.¹⁹ However, there was an exception from a preliminary finding where females' overall health suffered owing to COVID-19.²⁰

Marital status also shapes the quality of life since, in the above study, married individuals perceived less fear from COVID-19 in comparison to those staying single, which was supported by prior findings.²¹ We believe a large family size and having children does result in more social interaction and is helpful in alleviating fear and anxiety.¹⁷

Greater than one-third reported depression because of COVID-19, which could be attributed to the uncertainty of disease and fear of infection, but the extent and severity of depression was not evaluated, unlike earlier findings exploring the psychological impact during lockdown period.^{12,16,17,22}

Some of the limitations of this study were that those who were educated and possessed smart phone device responded to the online link, which restricts the generalization of findings with general population. No attempt was made to translate the questionnaire into the native language, which would have definitely contributed in yielding more responses. The use of nondiscriminative snowball sampling also restricts the generalization of findings with general population. We did not ask the participants whether they had been previously infected with COVID-19 and what impact it would have made on their quality of life.

RECOMMENDATIONS

Requisite preparedness by health authorities is required to mitigate the health consequences faced by people due to COVID-19. A Toll-free medical helpline number should be instituted by taking the help of psychiatrists and psychologists to offer medical help and

reach out to those who are emotionally disturbed and helpless in dealing with current global health problems.⁴

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REFERENCES

- Swetha G, Eashwar AVM, Gopalakrishnan S. Epidemics and pandemics in India throughout history: A review article. *Indian J Public Health Res Dev* 2019;10(8):1570–1576. DOI: 10.5958/0976-5506.2019.02328.3.
- Bazán PR, Azevedo Neto RM, Dias JA, et al. COVID-19 information exposure in digital media and implications for employees in the health care sector: Findings from an online survey. *Einstein (Sao Paulo)* 2020;18:eAO6127:1–9. DOI: 10.31744/einstein_journal/2020AO6127.
- COVID-19PandemicinIndia-Wikipedia. Available from: https://en.wikipedia.org/wiki/COVID-19_pandemic_in_India (Last accessed on August 11, 2020).
- Brooks SK, Webster RK, Smith LE, et al. The psychological impact of quarantine and how to reduce it: Rapid review of the evidence. *Lancet* 2020;395:912–920. DOI: 10.1016/S0140-6736(20)30460-8.
- Rabacal JS, Oducado RMF, Tamdang KA. COVID-19 impact on the quality of life of teachers: A cross-sectional study. *Asian J Public Opin Res* 2020;8(4):478–492. DOI: 10.15206/ajpor.2020.8.4.478.
- Gopalkrishnan N. Cultural diversity and mental health: Considerations for policy and practice. *Front Public Health* 2018;6:179. DOI: 10.3389/fpubh.2018.00179.
- Zhang Y, Zheng FM. Impact of the COVID-19 pandemic on mental health and quality of life among local residents in Liaoning Province, China: A cross-sectional study. *Int J Environ Res Public Health* 2020;17(2381):1–12. DOI: 10.3390/ijerph17072381.
- Samlani Z, Lemfadli Y, Errami AA, et al. The impact of COVID-19 on quality of life and well-being in Morocco. *Arch Community Med Public Health* 2020;6(2):130–134. DOI: 10.17352/2455-5479.000091.



9. Garfin DR, Silver RC, Holman AE. The novel coronavirus (COVID-2019) outbreak: Amplification of public health consequences by media exposure. *Health Psychol* 2020;39(5):355–357. DOI: 10.1037/hea0000875.
10. Avasthi A, Kalra T, Suri N, et al. Assessment of impact of media, perceived knowledge, fear, and preventive measures associated with coronavirus disease-19 among dental undergraduates. *Dent Med Res* 2020;8(2):43–48. DOI: 10.4103/dmr.dmr_39_20.
11. Lima CKT, Carvalho PMdM, Lima IdAAS, et al. The emotional impact of Coronavirus 2019-nCoV (new Coronavirus disease. *Psychiatry Res* 2020;287:112915. DOI: 10.1016/j.psychres.2020.112915.
12. Grover S, Sahoo S, Mehra A, et al. Psychological impact of COVID-19 lockdown: An online survey from India. *Indian J Psychiatry* 2020;62(4):354–362. DOI: 10.4103/psychiatry.Indian JPsychiatry_427_20.
13. Repišti S, Jovanović N, Rojnić Kuzman M, et al. How to measure the impact of the COVID-19 pandemic on quality of life: COV19-QoL – the development, reliability and validity of a new scale. *Global Psychiatry Archives* 2020;3(2):201–210. DOI: 10.52095/gpa.2020.1377.
14. IBM Corp. IBM SPSS Statistics for Windows. Ver. 21.0. Armonk, NY: IBM Corp; 2012. Available from: <https://www.ibm.com/support/pages/spss-statistics-210-a> Last accessed on June 5, 2020.
15. Rodríguez S, Valle A, Piñero I, et al. Sociodemographic characteristics and stress of people from Spain confined by COVID-19. *Eur J Investig Health Psychol Educ* 2020;10(4):1095–1105. DOI: 10.3390/ejihpe10040077.
16. Huang Y, Zhao N. Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: A web-based cross-sectional survey. *Psychiatry Res* 2020;288(112954):1–6. DOI: 10.1016/j.psychres.2020.112954.
17. Hansel TC, Saltzman LY, Melton PA, et al. COVID-19 behavioral health and quality of life. *Sci Rep* 2022;12:961. DOI: 10.1038/s41598-022-05042-z.
18. Cortés-Álvarez NY, Piñero-Lamas R, Vuelvas-Olmos CR. Psychological effects and associated factors of COVID-19 in a Mexican sample. *Disaster Med Public Health Prep* 2020;14(3):413–424. DOI: 10.1017/dmp.2020.215.
19. Siedentopf NY, Pichler T, Welte AS, et al. Sex matters: Stress perception and the relevance of resilience and perceived social support in emerging adults. *Arch Womens Ment Health* 2020;24(3):403–411. DOI: 10.1007/s00737-020-01076-2.
20. Rodríguez-Rey R, Garrido-Hernansaiz H, Collado S. Psychological impact of COVID-19 in Spain: Early data report. *Psychol Trauma* 2020;12(5):550–552. DOI: 10.1037/tra0000943.
21. Wang C, Tee M, Roy AE, et al. The impact of COVID-19 pandemic on physical and mental health of Asians: A study of seven middle-income countries in Asia. *PLoS One* 2021;16(2):e0246824. DOI: 10.1371/journal.pone.02468242021.
22. Giuntella O, Hyde K, Saccardo S, et al. Lifestyle and mental health disruptions during COVID-19. *Proc Natl Acad Sci USA* 2021;118(9):1–9. DOI: 10.1073/pnas.2016632118.