DOES SOCIAL DISTANCING DURING THE LOCKDOWN DUE TO COVID-19 OUTBREAK AFFECT QUALITY OF LIFE?

Hitav Someshwar[1], Prachi Sarvaiya[2], Swara Desai[2], Priya Gogri[2], Janvi Someshwar[3], Priti Mehendale[2], Geeta Bhatt[1]

[1]Department of Neuro physiotherapy, [2]Department of Musculoskeletal Rehabilitation, K J Somaiya College of Physiotherapy, Mumbai, Maharashtra, India. [3]Department of Occupational therapy, LTMMC and Sion Hospital, Mumbai, Maharashtra, India.

ABSTRACT

Background: Social distancing leads to a decrease in the spread of the novel virus, but at the same time, it shows to hurt the quality of life of the general population. **Methodology**: A cross-sectional survey study was conducted using an electronic version of the WHOQOL-BREF scale. The demographic data was collected along with the 26 questions of the scale. We distributed this survey to the general population through electronic and social media. **Results:** We received 861 responses. Excluding the incomplete responses, we analyzed 832 responses. They had a mean age of 48.33yrs, the majority being graduates (56.4%), the majority of the subjects were males (59.25%), and there was no significant age difference between both the genders. The overall quality of life was perceived to be 3.48, and the satisfaction for health was 3.77. Most affected domains were the physical and psychological domains. The lowest quality of life responses was noted for questions about financial, transportation, and sleep related. **Conclusion**: The quality of life in lockdowns due to coronavirus is affected due to social distancing. Lawmakers need to take care to avoid increasing this negative impact while enforcing lockdowns.

Keywords: COVID-19; WHOQOL-BREF; Quality of life; Mumbai; Social distancing.

INTRODUCTION

Coronavirus, also known as COVID-19, belongs to a group of pathogens that target the pulmonary system in humans. They belong to *coronaviridae* family which are seen in mammals mainly. They are primarily non-segmented positive-sense RNA viruses [1]. Severe acute respiratory syndrome (SARS), and the Middle East respiratory syndrome (MERS) were also caused due to the coronavirus group; these conditions had led to a significant outbreak in various countries in the last decade [2]. According to WHO, as of March 25th, 2020, the Novel Coronavirus has affected a total of 425,902 people worldwide. A total of 18,955 deaths and 109,225 recoveries have occurred so far. A recent study of the virus suggests that COVID-19 can spread through contact with an infected person.

Several reports have suggested that person-to-person transmission is a likely route for spreading COVID-19 infection [2].

This outbreak of COVID-19 has affected 199 countries and two international cruise ships. To control the spread of the disease, various countries have formulated their guidelines, which include isolating, quarantining, and social distancing at these times. Social distancing is the term used for separation or restriction of movement of the community during a contagious disease outbreak to

ascertain that they don't contract the same. Quarantine is the term used for separation and restriction of movement of an individual who has been in a high impact area or country or has come in contact with a positively tested patient. So, as to reduce the chances of exposure through the quarantined person and also to monitor his health for the same [3].

In general day to day conversation, quarantine and social distancing have been interchangeably used in the community. Due to a rapid increase in the cases of COVID-19, the Government of India enforced an immediate lockdown to prevent community spread of the disease. This was a sudden and unpleasant experience for the public, as they were separated from loved ones, boredom, loss of income, loss of employment & certain rumours related to the condition. These are some negative side effects of the lockdown [4].

Recent literature on the effect on the community due to other infectious disease outbreak has reported severe psychological disturbances, ranging from suicides to depression, which has led to broken marriages and homes and stress disorders. The government has taken into consideration the mental health issues while overseeing the benefits a mandatory lockdown would have due to the virus outbreak. The negative effects of national lockdown should not outweigh the positive effects of it [5,6].

Mumbai is the financial city of India and the capital of Maharashtra state. In 2018, Mumbai was the second most populated city in India, according to the

Correspondence: Dr. Hitav Someshwar, Department of Neuro physiotherapy, K J Somaiya College of Physiotherapy, Mumbai, Maharashtra, India. Email: hitav.s@somaiya.edu

United Nations, having a population of around 19.98million [7]. Mumbai generates India's 6.16% GDP. Mumbai is home to a significant number of migrants [7].

This study thus aims at understanding the effect of the corona virus outbreak lockdown on the quality of life of individuals in Mumbai, India. This will indirectly help lawmakers to make changes in policies that will help to improve the quality of life of these individuals.

MATERIAL AND METHODOLOGY

Study design: Descriptive, cross-sectional survey study

Ethical approval: All participating subjects had provided electronic informed consent after being briefed about the need and purpose of the study. Prior permission to use the WHOQOL-BREF was obtained from the World Health Organization.

Study place: Mumbai

Study duration: We collected data from March 10th to March 30th, 2020

Sample size: A total of 861 using voluntary sampling.

Inclusion criteria: A total of 861 individuals who were staying at home and maintaining social distancing to break the chain of virus spread were included.

Methodology: Maharashtra during the period of the coronavirus (COVID-19) outbreak when the lockdown was issued, which lead to the school, colleges, and workplaces being shut down.

In this survey, an electronic version of the WHOQOL-BREF was circulated through emails, messages, and social media platforms for maximum recruitment of subjects. For compliance and accurate answers, all subjects were informed that responses from them will be anonymous and will also remain confidential. The brief version of the scale was taken from the original World health organization quality of life 100 scales.

According to the scale, the first two questions pertain to the individual's perception of the quality of life and general health, and there are four domains like Physical health which has seven questions (domain 1), Psychological domain which has six questions (domain 2), social relationships have three questions (domain 3). Environmental health has seven questions (domain 4). Each of the 26 questions on the scale is to be answered on a 5-point Likert scale. The scale has raw domain scores, which can be calculated as explained in the guidelines of the world health organization [8].

The score interpretation is higher than the score, better the quality of life. The raw domain scores can be converted to a 0-100 scale score using a conversion table provided in the guidelines [9]. In our study, the twenty-six questions of the WHOQOL- BREF questionnaire forming the four domains were considered as dependent variables. The demographics collected (age, duration of social distancing, qualification) were considered as independent variables. The subject's age was represented in groups of 18-23, 24-29, 30-36 etc.; qualifications were based on till secondary school, primary school, graduation, and post-graduation.

Statistical analysis: Data collected from this survey was analyzed using Graph pad instat software, version 3.0. Descriptive statistics, including mean, standard deviation, and percentages, were used to describe the participants' characteristics, perceived level of quality of life. The level of significance was set at 5%. To determine the level of agreement between the four domains of the questionnaire, Pearson's correlation coefficient was used.

RESULTS

We received a total of 861 responses of the survey questionnaire, which were filled by the residents of Mumbai during the coronavirus outbreak lockdown. Twentynine forms had to be rejected due to wrong and blank entries. A descriptive analysis was conducted on the 832 responses.

Table 1: Demographics of the sample population

Total Sample (N)	832
Age (years)	48.33 ± 7.53 years
Males: 493	Females: 339
Mean age:47.3±8.3 years	Mean age:49.4±6.8 years
Average duration of lockdown:	8 days
Graduates (56.4%), Post graduates (39%), secondary school (4.6%)	

Table 1 represents the demographic data of the study population. The Mean age of the population was 48.33 ±7.53 years; there were a total of 339 (40.7%) females with a mean age of 49.37 ± 6.77 years and 493 males (59.2%) with a mean age of 47.31± 8.29years. There was no significant difference seen in the age of both genders. The majority of the population were graduates (56.4%), followed by Postgraduates (39%).

Table 2: Raw scores of all 4 domains of the WHOQOL- BREF questionnaire

Domains	Raw score	4-20	0-100
1: Physical health	24.6	14	63
2: Psychological	21.2	14	64
3: Social relationship	10.7	15	69
4: Environmental health	29.3	15	69

Table 2 shows the raw scores of all four domains along with their transformed score on scale 4-20 and 0-100 as well, the most affected being physical and psychological domains.

Table 3 shows the Pearson correlations between question 1, question 2, and four domains of WHOQOL-BREF; there was a strong positive correlation which statistically significant between all domains.

Table 4 shows the responses of the subjects for each of the 26 questions in the WHOQOL-BREF questionnaire. The lowest quality of life responses were noted for the money, transportation, and sleep question.

**Table 3: Pearson's correlation coefficient scores (r)
of questions 1 & 2 and all four domains.**

	Q1	Q2	1	2	3	4
			Domains			
Q1	1	0.3	0.43	0.68	0.53	0.59
Q2		1	0.45	0.56	0.47	0.52
Domain 1			1	0.68	0.78	0.72
Domain 2				1	0.65	0.65
Domain 3					1	0.6
Domain 4						1

DISCUSSION

Mumbai is a metropolitan city with huge skyscrapers and luscious malls but also with the largest slums in Asia. There is a vast difference when it comes to the spending capacity of the population. People of various Diasporas reside in Mumbai, with a population in the younger generations. So, lack of movement, financial constraints, fear of loss of employment, boredom, reduction in speed of life are a few factors that will affect the people of Mumbai.

This survey was conducted to understand the quality of life of people of Mumbai, maintaining social distancing due to the coronavirus outbreak in 2020 using the World Health Organization quality of life- BREF questionnaire. To our knowledge, this is one of the first

Table 4: Scoring of 832 responses for all 26 questions

Questions	1	2	3	4	5
1. How would you rate your quality of life?	16(1.9)	44 (5.2)	348(41.8)	388 (46.6)	40 (4.8)
2. How satisfied are you with your health?	3 (0.3)	49 (5.8)	247 (29.6)	366(43.9)	167 (20.1)
3. To what extent do you feel that the situation prevents you from doing what you need to do?	57 (6.8)	95 (11.4)	317 (38.1)	283 (34.0)	84 (10.1)
4. How much do you need any medical treatment to function in your daily life?	245 (29)	361(43.3)	166 (19.9)	46 (5.5)	14 (1.6)
5. How much do you enjoy life?	45 (5.4)	91 (10.9)	263 (31.6)	367 (44.1)	66(7.9)
6. To what extent do you feel your life to be meaningful?	27 (3.2)	63 (7.5)	265 (31.8)	323 (38.8)	154 (18.5)
7. How well are you able to concentrate?	33 (3.9)	95 (11.4)	263 (31.6)	357 (42.9)	84 (10.09)
8. How safe do you feel in your daily life?	45 (5.4)	103(12.3)	254 (30.5)	321 (38.5)	109 (13.1)
9. How healthy is your physical environment?	11 (1.3)	106(12.7)	239 (28.7)	381 (45.7)	95 (11.4)
10. Do you have enough energy for everyday life?	5 (0.6)	38 (4.5)	184 (22.1)	336 (40.3)	269 (32.3)
11. Are you able to accept your bodily appearance?	13 (1.5)	97 (11.6)	211 (25.3)	357 (42.9)	154 (18.5)
12. Have you enough money to meet your needs?	35 (4.2)	41 (4.9)	232 (27.8)	301 (36.1)	223 (26.8)
13. How available to you is the information that you need in your day-to-day life?	4 (0.4)	27 (3.2)	93 (11.1)	412 (49.5)	296 (35.5)
14. To what extent do you have the opportunity for leisure activities?	37 (4.4)	123 (14.7)	302 (36.2)	263 (31.6)	107 (12.8)
15. How well are you able to get around?	84(10.1)	143(17.1)	253 (30.4)	261 (31.3)	91 (10.9)
16. How satisfied are you with your sleep?	28 (3.3)	63 (7.5)	141 (16.9)	296 (32.3)	304 (36.5)
17. How satisfied are you with your ability to perform your daily living activities?	32 (3.8)	61 (7.3)	218 (26.6)	337 (40.5)	184 (22.1)
18. How satisfied are you with your capacity for work?	28 (3.3)	96 (11.5)	241 (28.9)	351 (42.1)	116 (13.9)
19. How satisfied are you with yourself?	32 (3.8)	52 (6.2)	284 (34.1)	332 (39.9)	132 (15.8)
20. How satisfied are you with your personal relationships?	42(5.04)	87 (10.4)	207 (24.8)	339 (40.7)	157 (18.8)
21. How satisfied are you with your sex life?	35 (4.2)	41 (4.9)	232 (27.8)	301 (36.1)	223 (26.8)
22. How satisfied are you with the support you get from your friends?	28 (3.3)	24 (2.8)	204 (24.5)	404 (48.5)	171 (20.5)
23. How satisfied are you with the conditions of your living place?	9 (1.1)	44 (5.2)	180 (21.6)	375 (45.1)	227 (27.2)
24. How satisfied are you with your access to health services?	5 (0.6)	42 (5.04)	179 (21.5)	355 (42.6)	251 (30.1)
25. How satisfied are you with your transport?	48 (5.7)	109(13.1)	233 (28)	296 (32.3)	146 (17.5)
26. How often do you have negative feelings such as blue mood, despair, anxiety, depression?	140(17)	284(34.1)	288 (34.6)	68 (8.1)	52 (6.25)

Data presented ( ) is in %

studies assessing QOL among the general population during this outbreak of the corona virus in India.

This survey can identify people with health problems, both mental and physical; this can be a medium to intervene and improve the said problems of the population by policymakers for the population [10]. As mentioned earlier, the scale had four domains, out of which the physical health domain was the most affected, followed by the psychological health domain, implying poor ADLs, more dependence on the medical substance, poor mobility, more discomfort, insufficient sleep, and no work capacity. It was observed in Mazaheri's study that means scores of four domains were different. The responses of DOM1 and DOM4 showed the most difference [11].

The perceived quality of life of the population was at a mean of 3.48, which shows a moderate level of quality of life in the last two weeks. The population was moderately satisfied with their quality of health in the past two weeks, with a mean of 3.77. The leading cause for this moderate level of quality of life in the subjects may be attributed to in order of priority monetary problems, lack of space for mobility, education, fear of employment, domestic violence, no availability of substance of abuse like alcohol, cigarettes. We would like to suggest taking care of these needs of the population at times of lockdown to prevent the negative effects occurring secondary to it.

CONCLUSION

The quality of life impact of social distancing is vast, of considerable importance and can continue well after the lockdown has been lifted. This, in no way, means that social distancing should not be enforced due to these impacts and allowing the outbreak to become worse. Our results suggest that the government needs to take into consideration the over populous nature of the city, monetary needs, and also the employment of its people and make policies while applying the lockdown. Providing essential commodities and ensuring the supply of basic needs and, at the same time, developing a positive attitude should be the main concerns of the lawmakers.

Limitations: This is a small study conducted in a city in India; with a bigger sample size, studies with multiple cities and rural areas may also be conducted would give a clearer picture of the quality of life.

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