ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 03, 2021

IMPACT OF SARS COV 2 PANDEMIC ON QUALITY OF LIFE (QOL) IN AURANGABAD CITY- A CROSS-SECTIONAL STUDY

Dr. Pooja Motar 1*, Miss. Aboli Pedgaonkar 2 , Miss.. Gayatri Borde 3 , Miss.Aditi Pathak 4

1 Assistant Professor ,MGM School of Physiotherapy, Aurangabad, A Constituent Unit of MGMIHS, Navi Mumbai,Maharashtra, India. Email.id-poojamotar5@gmail.com

2 BPT, Student, MGM School of Physiotherapy, Aurangabad, a constituent unit of MGMIHS, Navi Mumbai, Maharashtra, India. Email.id – abolipedgaonkar78@gmail.com

3 BPT, Student, MGM School of Physiotherapy, Aurangabad, a constituent unit of MGMIHS, Navi Mumbai, Maharashtra, India. Email.id – gayatriborde@gmail.com

4 BPT, Student, MGM School of Physiotherapy, Aurangabad, a constituent unit of MGMIHS, Navi Mumbai, Maharashtra, India. Email.id – aditip39@gmail.com

*Corresponding e-mail: poojamotar5@gmail.com

ABSTRACT

Background: More than 1.3 billion people are at risk of SARS-CoV-2 infection in India. The number of corona virus cases in Maharashtra had exceeded 5.6 million and 11.81% of Aurangabad district's population was affected with covid19 infection. Therefore, Knowing QOL of the population during pandemic would give us a broader idea on which components of QOL has to be improve in our society.**Aim:** To know impact of COVID-19 Pandemic on Quality of Life in people of Aurangabad city using WHO QOL-BREF Scale. **Methods:** A total of 246 participants were recruited in this cross-sectional study. The patients included was with Post COVID-19 infection, Age 18 or above, both male and female. Participants with Cognitive Impairments, physical disability like Vision, Hearing, etc. was excluded. The QOL was assessed using WHO QOL-BREF Scale.**Results:** The Chi-square test showed all the domains was Significantly affected but social domain was Highly Significant in patients with post covid19 infection with p-value <0.05***. Conclusion:** The study Demonstrated that Quality Of Life was affected in post covid19 patients living in Aurangabad city.

Keywords: COVID-19, Quality of Life, WHOQOL-BREF Scale.

Introduction

Coronavirus disease (COVID-19) is an infectious disease caused by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) that was first discovered in Wuhan, China, in December 2019 (Alsayedahmed HH.et.al 2020). This pandemic has currently infected more than 15 million people in approximately 210 countries, resulting in nearly 600,000 fatalities (Pan A.et.al.2020). A pandemic of this magnitude hasn't been witnessed since the 1918 influenza pandemic.

A pandemic of this magnitude has not been witnessed since the Spanish Influenza outbreak during WWI, and it has already posed significant obstacles in terms of the economy, social connections, and individual lifestyles all around the world (Lake MA.et.al.2020). Corona viruses are one of the largest (27–34 kilo base) Positive-Stranded Non-Segmented RNA viruses, named after the envelope's 120 nm diameter (like to a solar corona) around the n nucleic acid-protein complex (Gabutti G.et.al 2020).

As of May 14, 2021, there were over 160.8 million confirmed Covid-19 infections worldwide, leading in over 3.3 million deaths (Sanyaolu A.et.al.2020). In India, more than 1.3 billion people are at danger of SARS-CoV-2 infection, with 5.6 million Corona Virus infections reported in Maharashtra. More than 90000 Covid-19 deaths have been confirmed by the state. Covid1 affects 11.81 percent of the population in the Aurangabad district. (Wilson W .et.al.2020) The virus's primary impact is on human health, including direct respiratory harm, immune system compromise, worsening of underlying medical disorders, and eventually systemic collapse and death. Thousands of patients have been hospitalized as a result of the Covid-19 incident. Thousands of patients have been admitted to hospitals as a result of the Covid-19 attack, and millions more have been forced to live in cramped quarters. Immobilization (hospitalization and bed rest), quarantine, and physical inactivity are thought to have triggered a second-wave attack on the health and well-being of the infected as well as general population (Gasmi A.et.al.2020).However, there was an indelible negative effect of isolation and

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 03, 2021

home-confinement marking mainly on Psychosocial and Mental Health, Physical, Environmental health of an individual.

The impact of Covid-19 on everyday life is currently ubiquitous and far-reaching, affecting QOL in domains such as healthcare, the workplace, and social platforms, among others. Acute Cerebrovascular Diseases, Consciousness Impairment, And Acute Stress Disorder, Exhaustion, Detachment from Others, Irritability, Insomnia, and Poor Concentration Indecisiveness, Fear, And Anxietywere among the severe neurologic symptoms reported by SARS-CoV-2 (Kruger K.et.al 2020; Kandola A.et.al 2020).

The trash generated by hospitals (e.g., Needles, Syringes, Bandage, Mask, Gloves, Used Tissue, and Discarded Medicines) is causing infection and polluting the environment, according to the literature (Rume T.et.al.2020). Knowing the population's QOL during a pandemic will give us a better sense of which aspects of QOL in our society need to be improved, so that they may be prioritized in public health policies and post-pandemic rehabilitation to improve our society's QOL. As a result, we devised this study to investigate the impact of the SARS COV 2 pandemic on the quality of life of Aurangabad city using WHO QOL-BREF Scale.

Methods

It was a cross-sectional study analyzing the the impact of COVID-19 Pandemic on Quality of Life in people of Aurangabad city using WHO QOL-BREF Scale. It was an Open-Ended study with a Convenience type of sampling. Ethical clearance was obtained from the Institutional Ethical Committee. The participants were recruited from Tertiary care hospitals of Aurangabad, Maharashtra from October 2018 to March 2019. The patients included with post COVID-19 infection, Age 18 or above, both male and female. Participants with Cognitive Impairments, Physical Disability like Vision, Hearing, etc were excluded.

Procedure

The participants of Age 18 or above with post covid 19 infection was screened according to inclusion criteria 246 participants was finally recruited in the study. Demographic data of each participant was obtained and the WHO QOL-BREF scale was explained by Telephonic method and in-person conversation due to pandemic. The filling of WHO QOL-BREF scale was done by using Google forms.

Outcome Measure

WHO QOL-BREF Scale: The WHO QOL-BREF scale was developed by Dr. John Orley in Gevena27, Switzerland under World Health Organization. The scale has 26 Questions- Questionnaire that examines Quality Of Life under 4 domains ; Physical, Psychological, Social and Environmental aspects (Cheung YB.et.al2020). Each question in the scale includes scoring from 1-5 in total which is categorized based upon severity of each domain that is affected. The scale signifies a good hallmark of Validity, Content Validity, Internal Consistency and test retest Reliability.[22]

Statistical Analysis-

The Descriptive and Quantitative Data in the study did not follow a normal distribution. Therefore, non-parametric tests was applied. The values of males and females for Age and mean BMI was done by using Independent -t test. All the four domains of WHO QOL-BREF Scale score was done using Chi Square test. Statistical significance was set at p-value <0.05.

Results

A total of 246 participants was evaluated in the Tertiary care hospitals of Aurangabad, Maharashtra, out of which 200 were males and 46 were females. The mean age of total male participants was 39.91±12.66 and females was 30.70±13.68. There was a significant difference in the mean age values for male and female participants with p value < 0.001*. (Table.no.1)

The mean BMI score was 25.86±4.73 for males and 25.15±5.11 for female participants.

There was no significant difference in the mean BMI values for male and female participants as the p value was > 0.372. (Table no.1)

The mean values of Physical domain for Raw score was 16.50±2.99, Transformed score 1 9.47±1.74 and Transformed score 2 34.31±10.83. There was a significant difference in the mean Physical domain values for all the scores with a p-value of 0.031*, 0.032* and 0.031* respectively. (Table no.2)

The mean values of Psychological domain for Raw score was 13.73±2.59, Transformed score 1 9.11±1.78 and Transformed score 2 -32.03±11.06. There was a significant difference in the mean Psychological domain values for all the scores with a p-value of 0.011* 0.012*and 0.011* respectively. (Table no.2)

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 03, 2021

The mean values of Social domain for Raw score was 13.51±1.72, Transformed score 1 17.8±2.32and Transformed score 2 86.73±14.55. There was a high significant difference in the mean Social domain values for all the scores with a p-value of 0.001*0.001*and 0.001*respectively. (Table no.2)
The mean values of Environmental aspects domain for Raw score was 14.47±2.58, Transformed score 1 7.48±1.31 and Transformed score 2 21.93±8.13. There was a significant difference in the mean Environmental aspects values for all the scores with a p-value of 0.032*0.021*and 0.022* respectively. (Table no.2)

Discussion

The result of the present study showed that all the four domains i.e Physical, Social, Psychological and Environmental aspect of WHOQOL-BREF Scale was significantly affected, which indicate that the Quality Of Life in patients with post covid19 infection in Aurangabad city was affected.
The physical domain showed significant difference in post covid19 patients which could be due to prolonged bed rest leading to muscle atrophy appears after only two days of inactivity , Lengthy immobilization of the muscle fibers which can significantly reduce the protein synthesis, foremost to the Muscle Mass loss. Muscle immobility disrupts Mitochondrial Homeostasis, resulting in decreased protein synthesis and increased protein breakdown, according to research. Patients with ARDS are admitted to the intensive care unit (ICU) for non-invasive or mechanical ventilation to provide appropriate oxygen replacement (Wu Cet.al 2020).
The combination of ARDS and ICU-related operations may result in a substantial muscle insult, resulting in a catabolic environment that leads to severe muscle atrophy (Herridge MS.et.al.2011). Muscle wasting affecting the diaphragmatic and lower leg muscles affects 50% of ICU patients, producing major respiratory and physical difficulties that might last for years after release (Herridge MS.et.al.2016).
ARDS survivors perform much worse on mobility tests than healthy age- and sex-matched persons, according to observational studies (Wu Cet.al 2020).

The psychological domain exhibited a substantial change in post-covid 19 individuals, which could be attributable to the virus's ability to enter the CNS via neuronal circuits via trans-synaptic pathways (Li YCet.al.2013). Patients infected with SARS-CoV-2 experienced severe neurologic symptoms such as acute cerebrovascular disorders, consciousness impairment, and acute stress disorder, as well as weariness, separation from others, irritability, insomnia, poor indecisiveness, fear, and anxiety The relatively long latency period of the virus of 5–12 days would allow the virus to significantly damage medullary neurons, and indeed, patients infected by SARS-CoV-2 reported severe neurologic symptoms manifested as acute cerebrovascular diseases, consciousness impairment and acute stress disorder, exhaustion, detachment from others, irritability, insomnia, poor concentration indecisiveness, fear, and anxiety(Li YCet.al.2013). Data suggests that depression, anxiety, and post-traumatic disorders have a major impact on the immune system, resulting in mast cell activation and increased production of cytokines such as IL-1, IL-37, TNF, IL-6, and C-reactive protein, among other things (Dowlati Y.et.al 2009).

The Social domain showed high significant difference in post covid 19 patients which could be due to intensive efforts to keep up social distancing have invariably been accompanied by social isolation ; in addition, negative perceptions and fears associated with disease have increased several mental health disorders it is known that psychological factors and personal beliefs are related with public health action to curtail the transmission ; low social , financial and mental support from family and a high perception of risk appear to be associated with psychological symptoms (Passavanti M.et.al.2021).According to the scientific literature, it might be also related with different factors, like temperament and attachment style, social support, inadequate information, coping strategies , rumours in social media and precautionary measures such as face mask use and social distance. As lockdown had limited outdoor activities ,physical activity and exercises of the individuals directed to staying home at the prolonged time might lead to sedentary behaviours , such as spending more time on sitting activities, playing games, Watching television causing less social interaction (Dubey S.et.al.2020).
The Environmental domain showed significant difference in post covid19 patients which could be due to the medical waste generation , which is a major threat to public health and environment .According to the recent published literature, it is reported that the SARS-CoV-2 virus can exist a day on cardboard, and up to 3 days on plastics and stainless steel. So, waste generated from the hospitals (e.g., needles, syringes, bandage, mask, gloves, used tissue, and discarded medicines etc.) should be managed properly, to reduce further infection and environmental pollution (Zambrano-Monserrate MA.et.al.2020). However, due to lack of knowledge about infectious waste management, most people

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 03, 2021

dump these (e.g., face mask, hand gloves etc.) in open places and in some cases with household wastes .Such haphazard dumping of these trashes creates clogging in water ways , worsens environmental pollution and affects patients environment(Zambrano-Monserrate MAet.al.2020)
The limitation of the present study, we did not consider the gender which could have showed impact of quality of life in males and females with post covid 19 infection of Aurangabad city separately.
Future Scope: Multi cantered intervention studies are recommended to improve quality of life in patients with post covid 19 infection.

Conclusion

The present study showed that quality of life was significantly affected in physical, social, psychological and environmental aspect of postcovid 19 patients. But out of all the domain social aspect was more significantly affected.

Abbreviations:

WHOQOL-BREF- World Health Organization Quality of Life scale
QOL-Quality of Life

Acknowledgment: The authors thank all the participants of the study for their co-operation.
Source of Funding: None

Conflict of Interest: The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

1. Alsayedahmed, H. H. (2020). COVID-19 Pandemic's precautionary measures had hit the reset button of the quality of life at different aspects. The Journal of Infection in Developing Countries, 14(08), 812-816.
2. Cheung, Y. B., Yeo, K. K., Chong, K. J., Khoo, E. Y., & Wee, H. L. (2017). Reliability and validity of the English-, Chinese-and Malay-language versions of the World Health Organization quality of life (WHOQOL-BREF) questionnaire in Singapore. Ann Acad Med Singap, 46(12), 461-9.
3. Dubey, S., Biswas, P., Ghosh, R., Chatterjee, S., Dubey, M. J., Chatterjee, S., ... & Lavie, C. J. (2020). Psychosocial impact of COVID-19. Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 14(5), 779-788.
4. Dowlati, Y., Herrmann, N., Swardfager, W., Liu, H., Sham, L., Reim, E. K., & Lanctôt, K. L. (2010). A meta-analysis of cytokines in major depression. Biological psychiatry, 67(5), 446-457.
5. Gabutti, G., d'Anchera, E., Sandri, F., Savio, M., & Stefanati, A. (2020). Coronavirus: update related to the current outbreak of COVID-19. Infectious diseases and therapy, 9(2), 241-253.
6. Gasmi, A., Noor, S., Tippairote, T., Dadar, M., Menzel, A., & Bjørklund, G. (2020). Individual risk management strategy and potential therapeutic options for the COVID-19 pandemic. Clinical Immunology, 215, 108409.
7. Herridge, M. S., Tansey, C. M., & Matte, A. (2011). To mlinson G, Diaz-Granados N, Cooper A, Guest CB, Mazer CD, Mehta S, Stewart TE, Kudlow P, Cook D, Slutsky AS, Cheung AM. Canadian Critical Care Trials Group. Functional disability 5 years after acute respiratory distress syndrome. N Engl J Med, 17, 1293-1304.
8. Herridge, M. S., Moss, M., Hough, C. L., Hopkins, R. O., Rice, T. W., Bienvenu, O. J., & Azoulay, E. (2016). Recovery and outcomes after the acute respiratory distress syndrome (ARDS) in patients and their family caregivers. Intensive care medicine, 42(5), 725-738.
9. Krüger, K., Mooren, F.C., & Pilat, C. (2016). The immunomodulatory effects of physical activity. Current pharmaceutical design, 22(24),3730-3748.
10. Lake, M. A. (2020). What we know so far: COVID-19 current clinical knowledge and research. Clinical Medicine, 20(2),124.

ISSN: 0975-3583, 0976-2833 VOL 12, ISSUE 03, 2021

11. Li, Y. C., Bai, W. Z., Hirano, N., Hayashida, T., Taniguchi, T., Sugita, Y. & Hashikawa, T. (2013). Neurotropic virus tracing suggests a membranous-coating-mediated mechanism for transsynaptic communication. Journal of Comparative Neurology, 521(1), 203-212.

12. Passavanti, M., Argentieri, A., Barbieri, D. M., Lou, B., Wijayaratna, K., Mirhosseini, A. S. F., ... & Ho, C. H. (2021). The psychological impact of COVID-19 and restrictive measures in the world. Journal of affective disorders, 283, 36-51.

13. Radak, Z., Taylor, A. W., Ohno, H., & Goto, S. (2001). Adaptation to exercise-induced oxidative stress: from muscle to brain. Exercise immunology review, 7, 90-107.

14. Sanyaolu, A., Okorie, C., Hosein, Z., Patidar, R., Desai, P., Prakash, S., ... & Marinkovic, A. (2021). Global Pandemicity of COVID-19: Situation Report as of June 9, 2020. Infectious Diseases: Research and Treatment, 14, 1178633721991260.

15. Rume, T., & Islam, S. D. U. (2020). Environmental effects of COVID-19 pandemic and potential strategies of sustainability. Heliyon, e04965.

16. Saple, P., Gosavi, S., Pawar, T., Chaudhari, G., Mahale, H., Deshmukh, P., ... & Thakare, S. (2021). Seroprevalence of anti-SARS-CoV-2 of IgG antibody by ELISA: Community-based, cross-sectional study from urban area of Malegaon, Maharashtra. Journal of Family Medicine and Primary Care, 10(3), 1453.

17. Wang, C., Liu, L., Hao, X., Guo, H., Wang, Q., & Huang, J. & Wei, S.(2020). Evolving epidemiology and impact of non-pharmaceutical interventions on the outbreak of Coronavirus disease 2019 in Wuhan, China. JAMA, 323(19), 1915-1923.

18. Wilson, W., Raj, J. P., Rao, S., Ghiya, M., Nedungalaparambil, N. M., Mundra, H., & Mathew, R. (2020). Prevalence and predictors of stress, anxiety, and depression among healthcare workers managing COVID-19 pandemic in India: a nationwide observational study. Indian Journal of Psychological Medicine, 42(4), 353-358.

19. Wu, C., Chen, X., Cai, Y., Zhou, X., Xu, S., & Huang, H. (2020). Chunling Du, and Yuye Zhang. 2020."Risk Factors Associated With Acute Respiratory Distress Syndrome and Death in Patients With Coronavirus Disease 2019 Pneumonia in Wuhan, China.". JAMA Internal Medicine.

20. Zambrano-Monserrate, M. A., Ruano, M. A., & Sanchez-Alcalde, L. (2020). Indirect effects of COVID-19 on the environment. Science of the total environment, 728, 138813.

21. Zambrano-Monserrate, M. A., & Ruano, M. A. (2020). Has air quality improved in Ecuador during the COVID-19 pandemic? A parametric analysis. Air Quality, Atmosphere & Health, 13(8), 929-938.