How to Cite:
Thankachan, S., Kulkarni, B. G., Dayana, H., & Devi, M. G. (2022). COVID pandemic and elderly aged people: A cross sectional study. *International Journal of Health Sciences*, *6*(S2), 4063–4072. https://doi.org/10.53730/ijhs.v6nS2.5894

COVID pandemic and elderly aged people: A cross sectional study

Shyny Thankachan
Ph.D. Scholar, Dept of RachanaShareera, Parul Institute of Ayurveda, Parul University, Vadodhara, Gujarath, India

Bhagavan G Kulkarni
Professor& H.O.D, Dept. of RachanaShareera, Parul Institute of Ayurved, Vadodhara, Gujarath, India

Dayana H
Ph.D. Scholar, Dept of RachanaShareera, Parul Institute of Ayurveda, Parul University, Vadodhara, Gujarath, India

M. Girija Devi
Associate Professor, Department of Kriya Shareera, Pankajakasthuri Ayurveda Medical College and PG Center, India

***Abstract*---**The unexpected arrival of the corona greatly disrupted the lifestyle of the people. Most groups of the population are affected with the lockdown measures put forth in some or other way. But the elderly aged population are facing its worst effects. Lockdown measures affected the younger group in meeting with their responsibilities and the children in their education. Government and local bodies are taking various measures for managing their problems. Conveniently it is assumed that the elder population are least affected by lockdown as their requirements are thought to be less compared to other group of population. Hence the problems of the elder population are least studied and they are neglected by the community and the government. At present there are 48 lakhs of people in Kerala who are aged 60yrs or more. The percentage of elderly aged people is increasing in Kerala and many of them are staying alone. But the opportunities for social interaction in the environment in which they lived were very high. In the present situation of lockdown associated with Corona pandemic, most of them have completely left alone in their houses or apartments. This has led to many physical and mental health consequences in them. The elderly group is more susceptible for the Covid-19 infection. It has also created anxiety in them. The anxiety and depression produced due to loneliness can also cause many health problems in elderly population in coming years. The

study aims to find how Covid 19 impacts the elderly population concerning their day-to-day activities and physical and mental conditions. A survey study conducted among 72 elderly aged people who are the residents of Ernakulam district, Kerala selected randomly. A uniform questionnaire prepared was given and the responses collected and analyzed statistically to find out the impact of Covid 19 in their physical, mental and social health. The study shows that the unexpected outbreak of covid -19 and associated lockdown have adversely affected the elderly aged people. It has changed their daily routine and reduced their access to medical care. Most of them restricted their outside journey and preferred to stay inside. They could not meet their friends regularly and many of them stopped their habit of morning walk. The situation has also created anxiety and depression in them. Programs and application developed specially for them can make them confident in using the technology. The active involvement of the government and local bodies in identifying and solving the problems faced by the elderly is essential in improving the physical & mental health of elderly people.

***Keywords*---**COVID, elderly, lockdown, mental, physical health.

Introduction

Healthy ageing has been defined as an ability to lead a healthy, socially inclusive lifestyle relatively free from illness or disability.[1] According to the 75th round of the NSSA majority of elderly are co-residing. 6% of elderly women and 2% of elderly men live alone in urban areas and 20% of elderly men and 12% elderly women live independently with their spouses.[2] The Average health index and life expectancy of Kerala is higher than the National health index and life expectancy. Majority of citizen between 60 years and 80 years were physically active and remain independent.

Regular physical activities, in terms of physical exercise, morning walk, day today activities and activities like attending regular health checkups, public functions, recreation clubs, spending time in public libraries, park and socializing with friends and relatives can improve the physical and mental status of a person. Such activities will also help to overcome the ill effects of chronic diseases. The Covid 19 pandemic adversely affected senior citizens especially those who were physically active. The true scantiness of a society always reflects clearly in the time of a crisis only.

Aims and Objective

The study aims to find how Covid 19 pandemic and associated lockdown impacts the elderly population concerning their day-to-day activities and physical and mental conditions.

Materials and Methods

The study followed cross sectional design and taken written informed participant's consent was obtained from the participants in their local language.

Study sample

The study population for the study was the elderly aged people who are the residents of Ernakulam district, Kerala who satisfy the inclusion and exclusion criterion is selected. Simple random sampling technique was used to select the sample. The study covered people aged more than 60 years and excluded people affected with severe illness and diseases which restrict their movements. The sample size estimated for the study was 72.

A survey study conducted among 72 elderly aged people who are the residents of Ernakulam district, Kerala selected randomly. A uniform questionnaire prepared was given and the responses collected and analyzed statistically to find out the impact of Covid 19 in their physical, mental and social health. The survey study was conducted by using Google forms.

Statistical analysis

The effect of the restriction on the mental and physical health was assessed using Wilcoxon signed rank test of the pre-covid and during covid responses. The assessment was done for all the questions related to mental and physical health.

Results

Summary tables of the mental and physical health variable before and during lockdown are provided in Table 1.

Table 1: Summary tables comparison before and during lockdown

Levels	Before Lockdown	During Lockdown	Z (Wilcoxon Rank Test)	P Value
How often did you go outside a week				
Frequently 1-2 times a week Very rarely Never	47.1 % (33) 25.7% (18) 25.7% (18) 1.4% (1)	7.1% (5) 20.0% (14) 72.9% (51) -	-5.555	<0.001
Did you enjoy journey outside				
Yes No	91.4% (64) 8.6% (6)	8.6% (6) 91.4% (64)	-7.616	<0.001
Have you had long journey				
Yes No	70.0 % (49) 30.0% (21)	2.9% (2) 97.1% (68)	-6.856	<0.001
Did you visit a temple/ church / mosque regularly				
Yes No	70.0% (49) 30.0% (21)	4.3% (3) 95.7% (67)	-6.640	<0.001
Do you go for morning walk				

Levels	Before Lockdown	During Lockdown	Z (Wilcoxon Rank Test)	P Value
Yes No	57.1% (40) 42.9% (30)	15.7% (11) 84.3% (59)	-5.209	<0.001
Did you often meet your friends				
Yes No	80% (56) 20% (14)	4.3% (3) 95.7% (67)	-7.280	<0.001
How often do you visit children				
Once in a week Once in a month Once in 2-3 months Once in 6 months More than 6 months / Not Visiting	30.0% (21) 20.0% (14) 30.0% (21) 12.9% (9) 7.1% (5)	7.1% (5) 5.7% (4) 22.9% (16) 30.0 % (21) 34.3% (24)	-5.753	<0.001
Did you enjoy public functions				
Yes No	87.1% (61) 12.9% (9)	10.0% (7) 90.0% (63)	-7.348	<0.001
How often did you attend public functions				
Once in a week Once in a month Once in 2-3 months Once in 6 months More than 6 months / Not attending	12.9% (9) 41.4% (29) 24.3% (17) 15.7% (4) 5.7% (4)	4.3% (3) 1.4% (1) 12.9% (9) 20.0% (14) 61.4%(43)	-6764	<0.001
Do you practice yoga or meditation regularly				
Yes No	37.1% (26) 62.9% (44)	34.3% (24) 65.7%(46)	-1.000	0.317
Where do you practice Yoga or meditation				
Outside the house Inside the house No Yoga	18.6% (13) 18.6% (13) 62.9% (44)	1.4% (1) 32.9% (23) 65.7% (46)	-2.949	0.003
Did you have regular health checkups				
Yes No	82.9% (58) 17.1% (12)	30.0% (21) 70.0% (49)	-5.642	<0.001
Do you take regular medication				
Yes No	88.6% (62) 11.4% (8)	34.3% (24) 65.7% (46)	-6.164	<0.001
How was your mental health				
Happy Disturbed Depressed	94.3% (66) 1.4% (1) 4.3% (3)	30.0% (21) 34.3% (24) 35.7% (25)	-5.957	<0.001

Wilcoxon signed-rank test showed that the number of people going outside in a week showed a statistically significant change before and during the pandemic with a Z = -5.555 and p-value <0.001. From table 1, we can infer that the share of people who go out frequently during pandemic have drastically declined 40%, indicating that people prefer to stay indoors and venture out only in case of need. Almost 91% of participants indicated changing their preference of going out during Covid compared to prior Covid situations. Aged people prefer to avoid

outside journeys and venture out only in case of necessity. More than 95% of the participants didn't travel or visit temples, Church or mosques during Covid. Participants stopped going for morning walks, meeting friends and prolonging the time between visits to children who stay away from home. Aged preferred to avoid public meetings and gatherings. Yoga was continued by most, though people stopped performing yoga outside the house. Covid and its restrictions have impacted the mental health of participants. 60% of the aged moving from being happy before Covid to either depressed or disturbed during the pandemic. The change in the mental state was statistically significant (P value less than 0.001).

Discussion

Compared to any other state in India, Kerala has high standards of living and highest life expectancy. The standard of living in Kerala is often compared to that of the developed foreign countries. Kerala is ageing faster than the rest of India like western countries. The descendants of the majority elder stay away from them for the purpose of job or higher studies. Hence most of the elderly people are staying alone. They were adapted to these circumstances and many were self-sufficient. By doing regular medical check-ups and follow up they maintained their health. They were engaged in recreational activities to maintain their physical, mental and social health. They were used to go for morning walk, visit public parks and clubs, practice yoga etc for maintaining their socialization. Going out to buy goods and getting shopping experience had enhanced their mental well-being too. *Kudumbasree* units and residence associations were set up in various parts of Kerala to assist in this. Even though a small section is an exception to this, most of the elderly perfectly enjoyed their last decades of life.

The unexpected arrival of the corona greatly disrupted the lifestyle of elderly people. In the early stages of corona, they didn't know how to adjust with the situation. Slowly they began to adapt with the situation through the intervention of new technologies with the help of their children and others. But the next step was to move on to the subsequent phase.

Goods and groceries began to be available through tele-shopping or online shopping. Recreation Club, residential Associations and *Kudumbasree* Units had to end their mergers during lock down. In these circumstances elderly aged people were compelled to stay indoors. Strict restrictions by relatives and children, as well as the closure of parks, beaches and introduction of online purchase system, eliminated the chance for exit. The proficiency and access to use the modern technology were found to be lower in elderly compared to younger population.[3,4] Hence even though these changes were welcomed by the elderly, it created a little stress.

The majority of seniors relied on morning walks as a means of exercise, utilizing open places, parks or roads. Morning walks and friendly conversations were forcefully avoided during lockdown period. It was also a means for many of them to see and communicate with each other. The lack of exercise and lack of exposure to sunlight can end up with many lifestyle disorders and vitamin-D deficiency.

The regular health care is most important in older population compared to other groups. But the elderly people were reluctant to go for their regular checkup due to the fear of getting the disease. This can exacerbate the current lifestyle diseases of the elderly or can lead to new health problems. Similarly, before pandemic, on weekends they would go to places of worship as a routine. It also provided a situation for social interactions and communication. They lost the peace of mind which they experienced by visiting the places of worship. They also lost the peace and joy that they experienced while associating with friends. All these circumstances have left the elderly with a lot of stress.

In the first phase, the weekend/month end visit of children and grandchildren began to decline. The lockdown limited chance of their children to visit their parents. The arrival of children who often visited their parents on month end or a weekend stopped. They could interact with children or grandchildren only through online media. But it was very difficult for the elderly people to cope-up with the situation. The absence of physical presence and support of the family members often put pressure on the elderly. Use of modern technologies and smartphones were promoted. But hey were not able to adapt to such technologies quickly and had less comfort.

Opportunities for socialization is reduced as the number of attendees in public functions itself is limited. More over the elderly people also do not wish to participate in such functions due to the fear of getting affected with the Covid-19
The present situation of Covid-19 pandemic and the lockdown associated with it has creates a sort of anxiety and stress in them. The uncertainty, fear of death, death of their loved ones, and fear of being a carrier, all these have created anxiety in them. Anxiety and stress are more pronounced in those staying alone.
Absence of Reunions and social interactions made elderly stressful and their lifestyles become out of tune overall. Studies have yet to be completed on the psychological impact of loneliness during this period on the elderly. Various studies suggest that the prolonged lockdown can lead to many psychological problems in elderly people like anxiety, stress and depression[5-10]. Researches also warn that there can be a spike in suicide rates also.[11] It is actually the social isolation which lead the older population into depression.[12] Hence extended lockdowns can increase the anxiety and depression in general population.[13,14]. This can affect more in elderly as before lockdown itself they had relatively higher rates of depression.[15,16]

At the same time, the increased use of social media and modern information technology has forced them to view and remember a variety of terrible messages. It also increased the stress in them. This type of stress can also lead to many mental health problems, such as irritability, insomnia and memory loss etc. Some of the studies say that depression in elderly can lead to cognitive decline and subsequent risk of Alzheimer's disease.[17,18]

Most of the hospitals in high pandemic areas are converted into Covid care hospitals. Thus, created difficulty to obtain proper health care for non-covid related diseases.[19], this increased the risk and complications in people affected with other diseases.[20] It also interrupted the access for severe patients affected

with other diseases to get hospitalized for emergency treatment as hospitals are filled with covid patients.[21]

Now a days health care is changing into digital solution, so that physical and mental health care is commonly available in online. This is fairly thriving to balance the reduced health care due to covid pandemic.[22-28] Govt of Kerala has lounged the tele medicine platform called *e-Sanjeevani* for non-covid patient care. But it is doubtful, how far such tele medicine and online consultation facilities can help the older individuals in their health care. A recent study suggests that 40% of the elderly population were unprepared to use such technologies effectively.[29] Even for those who had the access to use such technologies it couldn't give expected results. Because there is a limitation in both expressing and evaluating the actual problems through such consultation. Hence, they do not find it convenient or affective in managing their physical and mental health problems.

Social or government bodies can introduce a general media, preferably visual media to teach them about the simple physical exercises that can be done in a timely manner. Similarly, the government can also make use of behavioral and cognitive therapies to reduce the stress and strain of the elderly through modern technology. Such therapies can enhance the mental and social wellbeing by reducing their loneliness. Opportunities for social gatherings provided through online media may also lesser the loneliness. Local Boards should intervene and actively involve the elderly in such gatherings.

Conclusion

Before the outbreak of Covid-19 and associated lockdown, elderly people were living a healthy life by regular exercise, heath checkups and they were happy in attending public functions, meeting their friends etc. Thereby their mental health was also maintained. The sudden outbreak of Covid- 19 and associated lockdown deranged the lifestyle of the elderly. The study shows that they are mentally disturbed and many are even depressed as they are totally left indoor. The lack of health care checkups and medical care have also worsened their present illness. Even though aging is a natural process, regular exercise and maintenance of psychological health are essential factors in healthy aging. The present situation can lead to serious health issues of elderly aged people in coming years**.**

Suggestions

What we need to learn now is not to live without the corona but to live with the corona. In that case, the elderly should be given special care. To this end, the Local Government Departments and the concerned Government Missionaries should be vigilant and take steps to think about how they can implement the facilities or provide facilities required to address the most pressing health problems provide facilities for telemedicine or develop the app to see doctors and perform regular check-ups to solve health problems. Also, to make them aware of how to use these online platforms for regular medical check-up easily by providing pamphlets or by online training programs. It is imperative to convince people of the need to use smart technologies. Provide education to confiscate the

reluctance to use new technology. Similarly, other technical assistance should be made available to the elderly if required

Acknowledgments

Statistical support was provided by Kadiroo Jayaraman and Praveen Venugopal, Biostatisticians of AyurData, Thrissur, Kerala. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

1. (Age UK 2010), Age UK (2015) A practical guide to healthy ageing. http://www.england.nhs.uk/wp-content/uploads/2015/01/pract-guid-hlthy-age.pdf. Accessed 08 July 2015.
2. http://mospi.nic.in/sites/default/files/publication reports/KI Health 75th Final.pdf
3. 35. Friemel TN. The digital divide has grown old: determinants of a digital divide among seniors. *N. Media Soc.* (2016) 18:313–31. doi: 10.1177/1461444814538648
4. Pearce KE, Rice RE. Digital divides from access to activities: comparing mobile and personal computer internet users. *J. Commun.* (2013) 63:721–44. doi: 10.1111/jcom.12045
5. Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, et al. The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatr. Res.* (2020) 287:112934. doi: 10.1016/j.psychres.2020.112934
6. Hao F, Tan W, Jiang L, Zhang L, Zhao X, Zou Y, et al. Do psychiatric patients experience more psychiatric symptoms during COVID-19 pandemic and lockdown? A case-control study with service and research implications for immunopsychiatry. *Brain Behav. Immun.* (2020) 87:100–6. doi: 10.1016/j.bbi.2020.04.069
7. Montemurro N. The emotional impact of COVID-19: from medical staff to common people. *Brain Behav. Immun.* (2020) 87:23–4. doi: 10.1016/j.bbi.2020.03.032
8. Qiu J, Shen B, Zhao M, Wang Z, Xie B, Xu Y. A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *Gen. Psychiatr.* (2020) 33:e100213. doi: 10.1136/gpsych-2020-100213
9. Rajkumar RP. COVID-19 and mental health: a review of the existing literature. *Asian J. Psychiatr.* (2020) 52:102066. doi: 10.1016/j.ajp.2020.102066
10. Sigdel A, Bista A, Bhattarai N, Poon BC, Giri G, Marqusee H, et al. Depression, anxiety and depression-anxiety comorbidity amid covid-19 pandemic: an online survey conducted during lockdown in Nepal. *MedRxiv:2020.04.30.20086926*. (2020). doi: 10.1101/2020.04.30.20086926
11. Reger MA, Stanley IH, Joiner TE. Suicide mortality and coronavirus disease 2019—a perfect storm? *JAMA Psychiatr.* (2020). doi: 10.1001/jamapsychiatry.2020.1060

12. Adams KB, Sanders S, Auth EA. Loneliness and depression in independent living retirement communities: risk and resilience factors. *Aging Ment. Health.* (2004) 8:475–85. doi: 10.1080/13607860410001725054
13. Ahmed MZ, Ahmed O, Aibao Z, Hanbin S, Siyu L, Ahmad A. Epidemic of COVID-19 in China and associated psychological problems. *Asian J. Psychiatr.* (2020) 51:102092. doi: 10.1016/j.ajp.2020.102092
14. Meda N, Pardini S, Slongo I, Bodini L, Rigobello P, Visioli F, et al. COVID-19 and depressive symptoms in students before and during lockdown. *MedRxiv [Preprint].* (2020). doi: 10.1101/2020.04.27.20081695
15. Djernes JK. Prevalence and predictors of depression in populations of elderly: a review. *Acta Psychiatr. Scand.* (2006) 113:372–87. doi: 10.1111/j.1600-0447.2006.00770.x
16. Li D, Zhang D, Shao J, Qi X, Tian L. A meta-analysis of the prevalence of depressive symptoms in chinese older adults. *Arch. Gerontol. Geriatr.* (2014) 58:1–9. doi: 10.1016/j.archger.2013.07.016
17. Geerlings MI, Schoevers RA, Beekman ATF, Jonker C, Deeg DJH, Schmand B, et al. Depression and risk of cognitive decline and Alzheimer's disease. *Br. J. Psychiatr.* (2000) 176:568–75. doi: 10.1192/bjp.176.6.568
18. Sachs-Ericsson N, Joiner T, Plant EA, Blazer DG. The influence of depression on cognitive decline in community-dwelling elderly persons. *Am. J. Geriatr. Psychiatr.* (2005) 13:402–8. doi: 10.1097/00019442-200505000-00009
19. Heath S. *How Will Coronavirus Impede Patient Access to Care?* Patient Engagement Hit (2020). https://patientengagementhit.com/news/how-will-coronavirus-impede-patient-access-to-care (accessed June 29, 2020).
20. Tam CCF, Cheung KS, Lam S, Wong A, Yung A, Sze M, et al. Impact of coronavirus disease 2019 (COVID-19) outbreak on ST-segment-elevation myocardial infarction care in Hong Kong, China. *Circ. Cardiovasc. Qual. Outcomes.* (2020) 13:e006631. doi: 10.1161/CIRCOUTCOMES.120.006631
21. Lazzerini M, Barbi E, Apicella A, Marchetti F, Cardinale F, Trobia G. Delayed access or provision of care in Italy resulting from fear of COVID-19. *Lancet Child Adolesc. Health.* (2020) 4:e10–11. doi: 10.1016/S2352-4642(20)30108-5
22. Hollander JE, Carr BG. Virtually perfect? Telemedicine for Covid-19. *N. Engl. J. Med.* (2020) 382:1679–81. doi: 10.1056/NEJMp2003539
23. Liu S, Yang L, Zhang C, Xiang YT, Liu Z, Hu S, et al. Online mental health services in China during the COVID-19 outbreak. *Lancet Psychiatr.* (2020) 7:e17–18. doi: 10.1016/S2215-0366(20)30077-8
24. Mehrotra A, Ray K, Brockmeyer DM, Barnett ML, Bender JA. Rapidly converting to "virtual practices": outpatient care in the era of covid-19. *NEJM Catalyst.* (2020) 1:1–5.
25. Moazzami B, Razavi-Khorasani N, Dooghaie Moghadam A, Farokhi E, Rezaei N. COVID-19 and telemedicine: immediate action required for maintaining healthcare providers well-being. *J. Clin. Virol.* (2020) 126:104345. doi: 10.1016/j.jcv.2020.104345
26. Webster P. Virtual health care in the era of COVID-19. *Lancet.* (2020) 395:1180–81. doi: 10.1016/S0140-6736(20)30818-7
27. Yao H, Chen JH, Xu YF. Rethinking online mental health services in China during the COVID-19 epidemic. *Asian J. Psychiatr.* (2020) 50:102015. doi: 10.1016/j.ajp.2020.102015

28. Zhou X, Snoswell CL, Harding LE, Bambling M, Edirippulige S, Bai X, et al. The role of telehealth in reducing the mental health burden from COVID-19. *Telemed. E Health.* (2020) 26:377–9. doi: 10.1089/tmj.2020.0068
29. Lam K, Lu AD, Shi Y, Covinsky KE. Assessing telemedicine unreadiness among older adults in the united states during the COVID-19 pandemic. *JAMA Inter. Med.* (2020) 180:1389–91. doi: 10.1001/jamainternmed.2020.2671