

Chapter 37

Mental Well-Being of Older Adults and Access to Healthcare During the COVID-19 Pandemic in Karnataka, India



Divya Sussana Patil, Ajay Bailey, and Sobin George

Abstract Introduction: While older adults face inequalities and discrimination based on their age in everyday lives, COVID-19 pandemic has further multiplied their sufferings. They are at higher risk of morbidity and mortality due to not only COVID-19 but also other chronic underlying health conditions. It is possible that healthcare seeking of older adults can be delayed with imposition of restrictions on their movement on one hand and diversion of healthcare system's focus on COVID-19 management on the other. We attempt to understand how COVID-19 restrictions affected the mental well-being and access to healthcare of older adults in Karnataka, India. **Methods:** A unique online survey was conducted in Karnataka, India during June 2020. The survey was open to older adults above 50 years. A total of 300 older adults participated in the online survey. The survey was circulated through personal and professional contacts, and social media applications. **Results and Conclusion:** The findings show that nearly 81% older adults reported a poor quality of life and 20% suffered from depression. Nearest healthcare facility for nearly half the respondents was more than one-kilometre away from home, making them dependent on transportation to access healthcare facility. Experience of COVID-19 restrictions among older adults varied based on interactions with other factors such as gender, working status, and living arrangements. The chapter argues that blanket strategies followed

D. S. Patil

Transdisciplinary Centre for Qualitative Methods (TCQM), Department of Health Information, Prasanna School of Public Health (PSPH), Manipal Academy of Higher Education (MAHE), Manipal, India

e-mail: divya.patil@manipal.edu

A. Bailey (✉)

Chair Social Urban Transitions, International Development Studies, Department of Human Geography and Spatial Planning, Faculty of Geosciences, Utrecht University, Utrecht. Dr. T. M.

A. Pai Endowed Chair in Qualitative Methods and Coordinator, TCQM, Department of Health Information, PSPH, MAHE, Manipal, India

e-mail: a.bailey@uu.nl

S. George

Centre for Study of Social Change and Development, Institute for Social and Economic Change, Bengaluru, Karnataka, India

e-mail: sobin@isec.ac.in

currently increased the vulnerability of older adults and it is important to ensure that tailored strategies are developed based on the current pandemic experience to prepare for future.

Keywords Healthcare · Older adults · Access · Mental health · COVID-19

Background

An outbreak of COVID-19 infection in Wuhan, China towards the end of December 2019 led to clusters of cases in different parts of the world. On 11 March 2020, the World Health Organization (WHO) declared COVID-19 as a pandemic. By then COVID-19 had spread all over the globe and countries have been facing numerous challenges due to the restrictions posed in order to contain the transmission of infection. At the same time, there was an increased demand for access to goods and services, of which one of the important services accessed was healthcare. India's index case was first identified in Kerala on 30 January 2020. The state took extraordinary measures to ensure containment of the virus. However, the country witnessed a slow rise in the number of cases at different regions during the following months. In order to contain and slow down the spread of virus, the nationwide complete lockdown came into effect from 25 March 2020, which was extended until 31 May 2020 (Government of India, 2020a, 2020b). Individuals had to embrace the new way of living with mobility restrictions without being sufficiently prepared for it. This would have had an impact on every individual's life, more commonly the vulnerable populations such as the older adults who have been facing inequalities in their lives even before the COVID-19 situation. A nationwide survey conducted in June 2020 reported that the livelihoods of nearly 65% older adults in India were impacted due to the pandemic (HelpAge India, 2020a, 2020b). Reports from the government of India as of August 2020 showed that a majority of cases (40.2%) cases were among those who were between 60–74 years of age (Keelery, 2020) and about 51% deaths (as on 30 April 2020) due to COVID-19 was among individuals above 60 years of age (D'cruz & Banerjee, 2020). Globally too the case fatality rate due to COVID-19 was higher in older age groups in comparison with other age groups (Lloyd-Sherlock et al., 2020; Mazumder et al., 2020). Thereafter, since June 2020, unlock of restrictions has begun in a very phased manner across different states in India including Karnataka, where our study was conducted. By mid-September 2020, Karnataka reported more than four lakh COVID-19 cases. Bruhat Bengaluru Mahanagara Palike (BBMP) report released by the government of Karnataka in August 2020 indicated that highest number of deaths reported in Bengaluru, Karnataka was among older adults (Bruhat Bengaluru Mahanagara Palike, 2020). Figure 37.1 provides the age wise distribution of deaths due to COVID-19 in Karnataka during wave 1 and 2. Currently Karnataka is one among the top five states (other states are Maharashtra, Tamil Nadu, Andhra Pradesh and Uttar Pradesh) in India, which are most affected by the pandemic. By the end of August 2020, most of the restrictions on travel

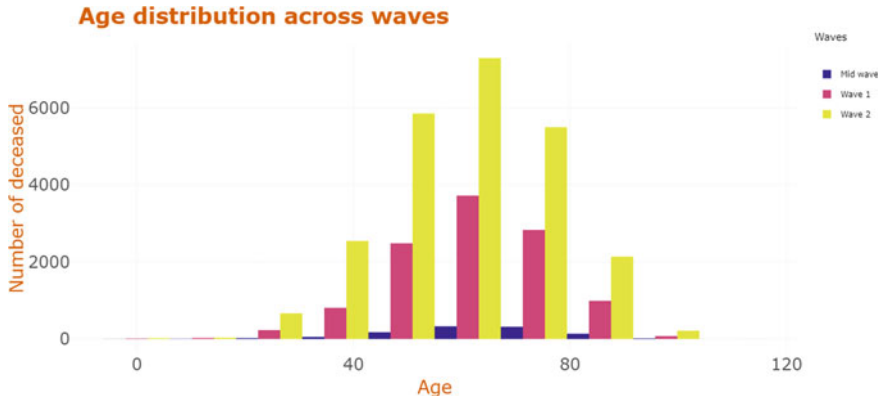


Fig. 37.1 Age wise distribution of death cases in Karnataka during waves 1 and 2. Source <https://www.isibang.ac.in/~athreya/incovid19/plotlyfiguresdec/ageAcrossWaves.html>

movements were lifted in Karnataka, but the sense of fear of contracting infection while visiting a healthcare setting or while using any mode of transport to reach a healthcare facility could make the older adults remain confined to their homes and not reach out for help (Hospital Management, 2020). In addition, older adults have still been informed to stay indoors and not go out unless it is very important (GoI, 2020; Grills & Goli, 2020). The restrictions posed to take special care of older adults might in fact protect them from being exposed to the virus, but it may increase other health related issues. Misinformation and restrictions of movement have added to the disruption of healthcare delivery for essential health services too. There is a likelihood that the needs of older adults are neglected during this particularly challenging situation (Grills & Goli, 2020).

Mobility is one of the basic activities that help individuals to go about their routine work and transportation being an essential part of urban infrastructure enables individuals to access services and other social activities. Various studies have shown that transport infrastructures have an impact on the quality of life of older adults (Bajada et al., 2016; Boniface et al., 2015; Lee & Sener, 2016). Older adults are more vulnerable than other groups while using transportation to access services (Gorman et al., 2019). Prevailing inequalities and discrimination against older adults have always been an important but a less discussed issue, which has visibly surfaced during this pandemic. Ageing affects the physical and psychological health of older adults in different ways. Some of them may experience physical and psychological decline, while others may not or may experience these at a different rate (Charles & Carstensen, 2010). The primary concern in old age is to remain healthy and active. Advancing age may increase morbidities, which would require older adults to visit the health facility more often. Additionally, older adults with disabilities have access issues to transport and healthcare and it is likely that they will face more challenges during the COVID-19 pandemic. Older adults with disabilities require to use the healthcare facilities more often than others in order to keep their functional status

intact, which otherwise may result in stressful situations affecting their quality of life (Drum et al., 2020; Grills & Goli, 2020). Transportation barriers in general and restriction of mobility in situations like the present pandemic in particular can result in delay in receiving care, which can further lead to inadequate treatment and adverse health outcomes. Available evidences show that some of the most difficult challenges faced by older adults in India during the lockdown were access to medicines, healthcare, goods and banking (HelpAge India, 2020a, 2020b).

Access to Healthcare During COVID-19

Studies conducted globally show that increasing age and lifestyle changes result in an increase in chronic diseases among older adults. The current restrictions due to COVID-19 have limited the activities of older adults within their homes reducing their other outdoor activities like walking for exercise, adding to the burden of lifestyle related diseases. It has been estimated that about 90% older adults in the USA and UK suffer from at least one chronic disease condition (Delgado-Ortiz et al., 2020; Mitchell, 2014). In India too, it is known that chronic disease is the leading cause for disability and mortality (Patel et al., 2011). Individuals having chronic diseases normally require a long-term treatment, continued care, and regular consultation at the healthcare facility. Delaying treatment options could lead to adverse health outcomes. A study conducted in Spain reported that 40% heart attacks went untreated during the first week of lockdown (Delgado-Ortiz et al., 2020). Shortage of healthcare personnel at the hospitals and reorganization of healthcare facilities with priority to treat COVID-19 cases might be one of the reasons for delay in seeking care for older adults. In addition, the fear of contracting COVID-19 may have been another important factor hindering the older adults from visiting healthcare setting for consultation and timely treatment (Chen et al., 2020; Singh et al., 2021). In certain cases, delayed treatment could lead to more deteriorating health condition of the older adults, thus increasing the chances of severe morbidities, disability and mortality. Researchers have reported that in the Netherlands there is a reduction in the number of new cancer cases in National Cancer Registry, which is associated with the suspension of screening programmes since the pandemic began (Delgado-Ortiz et al., 2020). Similarly, there was a substantial reduction in the active tuberculosis case finding in India (Glaziou, 2020). In addition, treatment for cancer and heart diseases in India reduced by 70% and 50% during the lockdown (Grills & Goli, 2020). Restriction of using public transport during the lockdown has further amplified the already existing barrier of lack of transport infrastructure to access healthcare facilities even before the pandemic. Access an important component of motility, is defined as “all possible means of transportation that is available based on the place, time, and contextual features” (Kaufmann et al., 2004). A study conducted in the United States showed that COVID-19 has impacted the transport infrastructure which has affected the access to healthcare for individuals who require care for different healthcare needs (Chen et al., 2020).

In order to overcome this challenge to access healthcare, tele-consultation was made available for persons with non-COVID issues by various hospitals in India. However, there may be older adults who require in-person care from a healthcare facility and their inability to reach the facility due to lack of transport would cause the condition to worsen. This will add more burden to those from lower socio-economic groups who already face the burden of transportation disadvantage even before the pandemic. Unfortunately, tele-consultations do not always reach to all the older adults more so the lower income groups due to either lack of availability of internet and technology or the inability to use technology (Seifert, 2020). For instance, a study conducted by 'Agewell foundation' reported that in India as much as 85.8% older adults were unable to use internet and devices like smart phone, tablet devices, and computer to make tele-consultation appointments (D'cruz & Banerjee, 2020). Though there has been directives by the government for tele-consultation, the ground level challenges at the healthcare facility and individual level remains (Government of Karnataka, 2020). This shows that a majority of the older adults in India will have to visit a healthcare facility for any medical intervention required and would require any transportation mode to do so.

Mental Well-Being

Mental well-being is defined by the WHO as “a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community” (World Health Organization, 2020a). One of the concepts of mental well-being includes quality of life, which WHO defines as “an individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns. It is a broad ranging concept affected in a complex way by the person’s physical health, psychological state, personal beliefs, social relationships, and their relationship to salient features of their environment” (World Health Organization, 2020b). Stress and worry are usually the normal responses of a human being when faced with uncertainty and difficult situations (Nagarkar, 2020). The distress caused by the pandemic could have exacerbated already existing mental health conditions for older adults. A report “Mental health of older adults” by the WHO shows that there are 20% older adults who are 60 years and above have some form of mental health condition (World Health Organization, 2017). A commentary on COVID-19 pandemic reported that there was a 20% increase in the number of people trying to get help for mental health issues during the initial three weeks of lockdown (Vahia & Shah, 2020). The psychological stress on older adults could arise from factors not only related to the COVID-19 infection but also due to the restrictions imposed on mobility during the lockdown period. Generally, older people tend to have reduced social interactions. Often depression is considered as a part of life among older adults and goes unrecognized and undiagnosed as well (Avasthi & Grover, 2018). Their pre-COVID

social interactions included spending time visiting few family members, relatives, and friends or attending any religious or family gatherings. However, the lockdown caused more inconvenience for their social interactions with friends and family, thus leading to an increased level of stress, anxiety, and loneliness (Chaudhary & Suresh, 2020; Holmes et al., 2020). Past experiences of pandemics showed that an increase in the number of suicides and psychosis was associated with loneliness and being disconnected from people (Chong et al., 2020). Another study conducted in the United States of America (USA) showed that reduced social connections lead to older adults feeling isolated, which further resulted in increased depression and anxiety (Santini et al., 2020). Older adults living alone or with spouse and who do not have access to technology experience problems in connecting with their children, other relatives, and friends during the lockdown (D’cruz & Banerjee, 2020). This lack of communication contributes to increased loneliness and isolation. In addition, those already having a diagnosed mental health condition may have experienced worsening of the pre-existing conditions without access to medicines and counselling services. Older adults who are dependent on others are often vulnerable to abuse and neglect. Preliminary research findings from ten developed countries suggest a very high increase in elder abuse (D’cruz & Banerjee, 2020).

Additionally, an alarming increase in the flow of information about COVID-19 from the media can increase the stress and anxiety in older adults (Holmes et al., 2020). Garfin and colleagues observed that increased exposure to media information can lead to more stress and other public health related concerns (Garfin et al., 2020). Wrong information during such crisis could result in individuals taking wrong medication and/or not following the guidelines given by experts to contain the spread of the virus, which can increase the risk of the vulnerable population contracting infection (Krause et al., 2020). An example of risk communication regarding COVID-19 and mental health of older adults is shown in Fig. 37.2.

Fig. 37.2 Information on COVID-19 and mental health for older adults. *Source* Ministry of Health and Family Welfare. <https://transferringindia.mygov.in/covid-19/?type=en#scrolltothis>



During this pandemic, it is likely that the stress levels among older adults will increase when they are faced with new realities such as working from home, inability to visit family, friends, or relatives, and temporary unemployment. Under existing circumstances, it is necessary to ensure that transportation does not become a major barrier for older adults than it already was before the pandemic in order to access healthcare. Lessons we learn from this pandemic must help us identify the gaps and better prepare ourselves for future pandemics or other public health concerns. There has been a lot of research conducted in the last few months since the pandemic has begun focusing on several aspects across the globe. However, access to healthcare with respect to urban transportation and well-being of the older adults has not been adequately explored in India. Hence, this short online survey was conducted in India with an objective to understand the impact of COVID-19 lockdown on older adults, especially their access to healthcare facility for COVID or non-COVID related conditions and mental well-being.

Methodology

The survey was conducted as a part of the EQUIMOB (Inclusive Cities through Equitable Access to Urban Mobility) project to understand the impact of mobility restrictions imposed due to the nationwide COVID-19 lockdown. It was conducted in the month of June 2020 and covered four states in India namely Karnataka, Maharashtra, West Bengal, and New Delhi. Karnataka is one of the top five states for COVID-19 cases hence, for this chapter we will focus on the data obtained from Karnataka only. The survey was shared through social media platforms and personal and professional contacts. The survey was available online for older adults above 50 years of age from 9–25 June 2020. The questions asked were related to the socio-demographic details of the participant, access to healthcare and other activities during the lockdown, risk perceptions about contracting the infection, mental health, and well-being. In addition, information regarding their choice of travel mode and reason for travelling post-COVID-19 lockdown was collected. The socio-demographic details included gender, age, work, religion, marital status, living arrangements, state/city where they lived, education level, and monthly income. To understand their access to goods and healthcare services questions were asked regarding their mode of transport and risk perceptions while using a particular mode of transport. The survey used Patient Health Questionnaire (PHQ)—2 to screen for depression. The PHQ-2 has two questions with a four-point Likert scale with a score ranging from 0–6. Those who scored three and above were likely to be having a depressed mood. The questionnaire has been validated to identify major depression in older adults and has been used in Indian population (Li et al., 2007; Pilania et al., 2019). WHO-5 well-being index includes five questions, which is a short self-reported measure to understand the mental well-being of an individual. It has a six-point Likert scale with a score ranging from 0–25. This raw score when multiplied by four gives the final score, with ‘zero’ representing bad/worst quality of life and 100 representing the best quality of life. The

scale has been previously used among older adults and Indian population (Bonsignore et al., 2001; Topp et al., 2015). SPSS (version 20) software was used for descriptive statistical analysis.

The limitation to this survey is that a convenient sample was used and hence the results cannot be generalized. It is self-reported; hence, there could be recall or reporting bias. Being an online survey, it is not adequately representative of the diverse group of older adults. Participants of the survey were dominated by the techno-savvy group of urban middle/upper class, educated group of older adults who could independently participate in the survey. Older adults without access to smart phones and internet would not have been able to respond to the survey. There may have been older adults who took help from younger individuals to complete the survey. Despite these limitations, the data can be informative and provide insights on mobility of older adults during the nationwide lockdown in India.

Results

Socio-Demographic Details of Respondents

The survey consisted of 300 respondents from Karnataka. More than half of the respondents were males and a majority of them were in the age group of 50–59 years. A majority of older adults reported that they were working and 32% older adults had a monthly family income between INR 21,000 to INR 40,000. A majority of the respondents had a bachelor degree followed by those with a master's degree and above.

Older adults were asked about their living arrangements. Nearly 64% of the older adults were living with their spouse and children and the 5% who belonged to category 'others' included older adults who lived with other extended family members or friends. A detailed information of socio-demographic characteristics is mentioned in Table 37.1.

Access to Healthcare and Medicines

Respondents were asked about the distance to healthcare facility from their homes to understand their need for transportation to access healthcare facility. Half of the respondents had a clinic/ healthcare facility between 1–3 kms and 4 kms or more distance. Older adults accessed the healthcare facility by various modes of transport as given in Table 37.2. The most recurred response from the respondents was that they did not attempt to access healthcare facility. However, we do not know whether it was due to their better state of health or due to anticipated risk of COVID. A few

Table 37.1 Sample characteristics, Karnataka (N = 300)

Characteristics	Total (in percentage)
<i>Gender</i>	
Male	55.7
Female	44.3
<i>Age group</i>	
50–59 years	51.0
60–69 years	36.3
70–79 years	11.3
80 years and above	1.3
<i>Education</i>	
Up to 5th standard	2.3
6th standard—10th standard	12
Attended college	16
Degree holder	37
Master's degree and above	32.7
<i>Occupation</i>	
Working	41
Retired (pensioner)	25.3
Not working	33.7
<i>Income</i>	
Up to 20,000 INR	15.3
21,000–40,000 INR	31.7
41,000–80,000 INR	22
81,000–150,000 INR	16
Above 150,000 INR	15
<i>Living arrangements</i>	
With wife/husband & children	64
With wife husband only	22
Alone	9
At old age home	0
Others	5

of them reported that they could not access healthcare facilities. It is also important to note that some of them accessed healthcare through tele-consultation.

Further, the survey findings revealed that nearly half of the older adults stepped out of the house to buy medicines. The various ways by which they reached a medical store to buy medicines were; they went by themselves (55.3%), went in a vehicle driven by a driver (1%), home delivered by the medical store (8.7%), home delivered by other family members (21.3%), home delivered by volunteers (3.7%) and 16% older adults mentioned that they did not buy medicines.

Table 37.2 Mode of transport to access healthcare facility (N = 300)

Mode of transport	Frequency (%)
By walk	5.7
Drove alone to clinic	6.3
Went with help of personal driver	2.3
Family member dropped to healthcare facility	5
Volunteer dropped to healthcare facility	0.7
Tele-consultation	14.3
Could not consult	5
Did not consult	67
Others	1

The participants had the choice to click on multiple options; hence, the frequencies will not add up to 100

Table 37.3 Cross tabulation between risk perception and availing healthcare services post-COVID-19 lockdown (N = 300)

		Availing healthcare services post-COVID-19 lockdown		
		No (%)	Yes (%)	Maybe (%)
Risk perceptions	High risk	17.3	13.3	16.3
	Medium risk	11.3	14.3	13.3
	Low risk	4.3	4	6

A majority of the older adults (47%) felt that they were at high risk of contracting COVID-19 infection while visiting a healthcare facility. They felt that the risk of infection could be at the healthcare facility or during their commute to reach the facility. Additionally, the survey results indicated that one third of the older adults would not prefer visiting a healthcare facility post-COVID-19 lockdown and 35.7% were not sure if they wanted to visit the hospital even after the lockdown. Further analysis as given in Table 37.3 showed that perception of higher risk by the older adult led to lower availing of healthcare services.

Impact on Mental Well-Being

Results from the survey revealed that 20% of older adults were depressed and about 81% had a poor quality of life. Cross tabulation was done to find the relationship between socio-demographic variables such as gender, work status, living arrangements, age group and 'depression' and 'quality of life', and the results are presented in Tables 37.4 and 37.5. It was found that a higher number of older women were

Table 37.4 Cross tabulation between work status, monthly income, gender, living arrangements, and age group with 'depression' (N = 300)

		Depression	
		Yes (n = 20%)	No (%)
Work status	<i>No</i>	7.33	26.33
	<i>Yes</i>	8.67	32.33
	<i>Retired</i>	4	21.33
Gender	<i>Females</i>	11	33
	<i>Males</i>	8.7	47
Living arrangement	<i>With spouse only</i>	2.33	19.67
	<i>With spouse and children</i>	12.67	51.67
	<i>By myself</i>	2.67	6
	<i>Old age home</i>	0	0
	<i>Others</i>	2.33	2.67
Age Group	50–59 years	10.6	40.3
	60–69 years	7.3	29
	70–79 years	2	9.3
	80 years and above	0	1.3

Table 37.5 Cross tabulation between work status, monthly income, gender, living arrangements, and age group with 'perceived quality of life' (N = 300)

		Perceived Quality of Life	
		Poor (n = 80.67%)	Good (%)
Work status	<i>No</i>	26.67	7
	<i>Yes</i>	34.67	6.33
	<i>Retired</i>	19.33	6
Gender	<i>Females</i>	34.3	10
	<i>Males</i>	46.3	9.3
Living arrangement	<i>With spouse only</i>	18	4
	<i>With spouse and children</i>	53	11.3
	<i>By myself</i>	6	2.67
	<i>Old age home</i>	0	0
	<i>Others</i>	3.67	1.33
Age Group	50–59 years	43	8
	60–69 years	28.6	7.6
	70–79 years	7.6	3.6
	80 years and above	1.3	0

in a depressed mood than older men; whereas a majority of older men had a poor quality of life than older women. Those who reported depression and poor quality of life were more in the age group of 50–59 years than other age groups; currently employed than non-working and co-residing with their spouse and children than in other living arrangements.

Discussion

Findings from the survey shed light on certain pertinent issues related to access to healthcare and medicines, mental well-being, quality of life, and risk perception of older adults who participated in the survey from Karnataka. These are discussed in the following sections.

Access to Healthcare and Medicines

Nearly half of the respondents from the online survey reported that they had the nearest healthcare facility within one-kilometre distance from their homes, whereas the rest of them had the nearest health facility/ clinic at a distance ranging between 1–3 kms or more than 4kms. This implies that half of the survey respondents had to be dependent on some mode of transport to visit a clinic/healthcare facility. However, the lack of public transport and intermediary transport like auto rickshaws or cabs could have possibly led to an older adult to not go for a regular check-up, if they did not feel it was an emergency. For instance, report from a qualitative research conducted in Mumbai during the month of April 2020 showed that a few of the older adults who had no help from other family members or volunteers could not go to the hospital or go to buy medicines due to non-availability of bus, auto rickshaws and cabs (Prasad, 2020).

COVID-19 has caused an unprecedented effect on the everyday lives of older adults. It is, hence, important that the problems faced by older adults are identified and that healthcare workers be able to meet their healthcare needs. Co-morbidities make older adults more susceptible to new health problems and mortality. The online survey revealed that only 11% older adults went out to visit a doctor. While the focus of healthcare currently has completely shifted to treating the COVID-19 cases, the regular visits to outpatient departments have been reduced or patients have been asked not to visit hospitals unless it is necessary. In addition, another important aspect that prevented older adults from visiting healthcare facility was lack of or fewer options of transportation to reach the hospital (Chen et al., 2020).

The survey revealed that 46% respondents went out to buy medicines from the pharmacy, which suggests that the remaining respondents did not need medications or maybe did not have the ability to go and buy medicines on their own. Being unable

to meet a doctor or buy medicines could worsen their health too. Option of tele-consultation was made available by healthcare facilities (Government of Karnataka, 2020; Hoffer-Hawlik et al., 2020). However, this option comes with its own concerns such as internet connectivity, inability to use technology, and so on. Our survey found that only a very low number of respondents used tele-consultation. They find tele-consultation of less use unless the older adult has good internet connectivity, help from other family members, and knowledge on how to use a computer or smart phone for tele-consultation. Moreover, those who do not have the luxury of owning a computer or smart phone are left with no other options than to delay seeking help during COVID-19.

Mental Well-Being

Lack of access to essential services like visiting the healthcare facility itself could influence the mental health of the older adults. Interruption or termination of an ongoing treatment may make them more anxious and stressed. The inability to socialize with friends or family will make them feel more isolated and alone (Mukherjee, 2020). If the requirements of older adults are not taken care of adequately, then it could affect their psychological well-being. The online survey, for instance, revealed that nearly 81% older adults in Karnataka had a poor quality of life, and 20% of older adults' were having a depressed mood during the lockdown. A majority of older women in our survey reported to have a depressed mood. This finding was congruent with a literature review on depression among older adults in India, which showed that older women were more depressed when compared to older men (Grover & Malhotra, 2015). Additionally, there is evidence from literature that older men have a good quality of life when compared to older women. The factors which influenced the quality of life among older men were living environment, cognitive and physical function, and income (Lee et al., 2020; Shah et al., 2017). However, our survey showed an interesting finding that majority of older men had a poor quality of life than older women. This finding could be due to the current pandemic situation and the restrictions imposed by the lockdown, which resulted in loss of employment, financial insecurities, and health issues. A majority of the respondents reported that they were upset, nervous, and stressed sometimes during the lockdown period. Similar results were found in a systematic review of literature conducted during the pandemic, which showed that adults with pre-existing mental health conditions reported a decline or deterioration of their health, and they experienced isolation and loneliness largely (Sheridan Rains et al., 2020). In addition, the review highlighted that a sudden change in the regular activities, loneliness, isolation, and anxiety related to COVID-19 were identified as the factors that exacerbated their mental health condition. Another rapid systematic review found that anxiety, insomnia, stress, denial, depressive symptoms, fear, and anger were the most commonly reported mental health conditions during the pandemic (Roy et al., 2020). An online survey conducted in India in the month of April reported that a majority

of individuals experienced depression and anxiety due to the lockdown restrictions (Grover et al., 2020). This suggests the need of accessible mental health services for older adults during such times of a pandemic. A commentary about the pandemic situation in Philippines highlights the fact that limited or no access to healthcare facility left the older adults with chronic diseases worried about their health conditions and future, leading to a decline in their well-being (Buenaventura et al., 2020).

Quality of Life

Our survey reported that those older adults who were working were depressed and had a poor quality of life when compared to those who were not working or retired. Similar finding was reported in a recent survey conducted in the United Kingdom, which showed that employment and financial concerns resulted in the poor well-being of adults (D'Arcy, 2020). Another report from the early impacts of COVID-19 on employment in the USA showed that the recession affected the older adults more often than younger population (Bui et al., 2020). Loss of employment and financial insecurities adds to the existing burden faced by older adults, resulting in a poor quality of life (Chen et al., 2020; Rana, 2020). Family structure changes and financial insecurities make the older adults dependent on younger generation. This results in older adults losing their self-respect and thus increasing their feelings of loneliness in their own homes (Pilania et al., 2013). Evidence from literature showed that family support is important for older adults to have a good mental well-being (Lodha & De Sousa, 2018; Lyberg et al., 2013). However, our survey reported an interesting finding that those older adults who were co-residing with spouse and children had a depressed mood and poor quality of life. A similar finding was reported in a survey conducted by 'Agewell Foundation' in India during the month of April 2020. The survey reported that older adults claimed their relationships with family members had deteriorated during the COVID-19 lockdown (Agewell Foundation, 2020).

Risk Perception

We identified that nearly half of the older adults who responded to the survey perceived a high risk of contracting COVID-19. They did not want to go or were not sure if they should go to the hospital even after the lockdown restrictions are removed, since they perceived a higher risk of contracting the COVID-19 infection. This can have adverse implications on their health. The finding was congruent with the results from a survey conducted across ten countries in USA, Europe, and Asia, which showed similar results where individuals perceived a higher risk of contracting the infection. The research further identified how perception of higher risk led to adopting preventive health behaviours (Dryhurst et al., 2020). This suggests the importance of appropriate risk communication to older adults in the community so that they will

be able to stay safe during the pandemic. Social media, news outlets, and personal communication provides a huge opportunity for such communication, which has its own advantages and challenges. Public health experts and clinicians can make use of such message networks to convey the correct information to the community (Malecki et al., 2020).

Conclusion

Based on the current pandemic experience, it is important that we develop strategies to be prepared for future pandemics in order to provide appropriate care for the older adults. The WHO has come up with guidelines to care for the older adults during a pandemic (World Health Organization, 2020a, 2020b, 2020c). It would be beneficial to adapt these guidelines for the Indian context and design interventions based on older adults needs. Best practices from other countries (Chen et al., 2020) can be adapted for Indian context in order to improve access to healthcare for older adults during and after the pandemic as well. During COVID times, it is important to take care of the healthcare needs and mental well-being of older adults. We need to ensure that interventions or strategies be specifically designed for the needs of older adults. Involving older adults as stakeholders before making decisions for them would be beneficial for their well-being (Lloyd-Sherlock et al., 2020). When transport infrastructure is not available, taking the healthcare service to their neighbourhoods such as mobile health services can help older adults get timely consult and treatment (Chen et al., 2020). Community based interventions such as using services of volunteers who can interact and monitor the mental health of the older adults while taking adequate precautions, on a regular basis can help in providing the support older adults need during challenging times. It is important to have continuity of care to all older adults by developing strategies that can be used by older adults with limited technological abilities. The COVID-19 outbreak has brought to light the challenges faced by healthcare systems in providing care for older adults in both developed and developing countries, suggesting that there is a need to include older adults care in emergency preparedness for similar outbreaks. An inter-sectoral collaboration between public and private agencies such as state and national governments, non-governmental organizations, workplace support groups, healthcare professionals in private sectors, healthcare professionals in public sector, public health practitioners, and self-help groups is deemed necessary to develop interventions to meet the priorities of older adults. Limitation in exposure to wrong media information regarding COVID-19 situation and developing appropriate risk communication strategies by sending out clear and correct information regarding the pandemic would reduce a lot of stress and anxiety for older adults. They can be educated to limit the sources of information from media and focus more on improving their well-being.

Acknowledgements The authors would like to acknowledge the support of the EQUIMOB project team in developing and disseminating the survey.

Conflict of Interest The authors declare that there is no conflict of interest.

Funding The survey is a part of EQUIMOB (Inclusive Cities through Equitable Access to Urban Mobility) project, funded by the Dutch Research Council (NWO) and the Utrecht University, the Netherlands. Project number: W 07.30318.003. Website link: <https://inclusivemobilities.sites.uu.nl/>.

References

- Agewell Foundation. (2020). *Elderly are the worst sufferers during Covid-19 Lock down—Agewell Survey*. https://www.agewellfoundation.org/?page_id=6103
- Avasthi, A., & Grover, S. (2018). Clinical practice guidelines for management of depression in elderly. *Indian Journal of Psychiatry*, 60(Suppl 3), S341–S362. <https://doi.org/10.4103/0019-5545.224474>
- Bajada, T., Mifsud, D., & Ciommo, F. di. (2016). Accessibility as an indicator of transport equity: The case of public transport infrastructure in Malta, and its impact on the elderly. *Xjenza Online—Journal of The Malta Chamber of Scientists*, 4, 72–81. <https://doi.org/10.7423/XJENZA.2016.1.10>
- Boniface, S., Scantlebury, R., Watkins, S. J., & Mindell, J. S. (2015). Health implications of transport: Evidence of effects of transport on social interactions. *Journal of Transport & Health*, 2(3), 441–446. <https://doi.org/10.1016/j.jth.2015.05.005>
- Bonsignore, M., Barkow, K., Jessen, F., & Heun, R. (2001). Validity of the five-item WHO Well-Being Index (WHO-5) in an elderly population. *European Archives of Psychiatry and Clinical Neuroscience*, 251(Suppl 2), II27–31. <https://doi.org/10.1007/BF03035123>
- Bruhat Bengaluru Mahanagara Palike. (2020). *Warroom Bulletins—BBMP*. <http://bbmp.gov.in/covid19bulletins>
- Buenaventura, R. D., Ho, J. B., & Lapid, M. I. (2020). COVID-19 and mental health of older adults in the Philippines: A perspective from a developing country. *International Psychogeriatrics*, 32(10), 1129–1133. <https://doi.org/10.1017/S1041610220000757>
- Bui, T. T. M., Button, P., & Picciotti, E. G. (2020). Early Evidence on the Impact of COVID-19 and the Recession on Older Workers (Working Paper No. 27448; Working Paper Series). *National Bureau of Economic Research*. <https://doi.org/10.3386/w27448>
- Charles, S., & Carstensen, L. L. (2010). Social and emotional aging. *Annual Review of Psychology*, 61, 383–409. <https://doi.org/10.1146/annurev.psych.093008.100448>
- Chaudhary, S., & Suresh, Y. (2020). To Be a Senior Citizen During India's COVID-19 Epidemic. *The Wire Science*. <https://science.thewire.in/health/to-be-a-senior-citizen-during-indias-covid-19-epidemic/>
- Chen, K. L., Brozen, M., Rollman, J. E., Ward, T., Norris, K., Gregory, K. D., & Zimmerman, F. J. (2020). Transportation access to health care during the COVID-19 pandemic: Trends and implications for significant patient populations and health care needs. *Institute of Transportation Studies*. <https://escholarship.org/uc/item/22b3b1rc>
- Chong, T. W. H., Curran, E., Ames, D., Lautenschlager, N. T., & Castle, D. J. (2020). Mental health of older adults during the COVID-19 pandemic: Lessons from history to guide our future. *International Psychogeriatrics*, 32(10), 1249–1250. <https://doi.org/10.1017/S1041610220001003>
- D'Arcy, C. (2020). *Money & mental health during Coronavirus crisis—Money & Mental Health*. Money and Mental Health Policy Institute. <https://www.moneyandmentalhealth.org/coronavirus-policy/>
- D'cruz, M., & Banerjee, D. (2020). 'An invisible human rights crisis': The marginalization of older adults during the COVID-19 pandemic—An advocacy review. *Psychiatry Research*, 292, 113369. <https://doi.org/10.1016/j.psychres.2020.113369>

- Delgado-Ortiz, L., Cárdenas-Fuentes, G., Goldberg, X., & Garcia-Aymerich, J. (2020). *What Are the Health Priorities of Older Adults During a Pandemic?*. ISGlobal. https://www.isglobal.org/en_GB/-/cuales-son-las-prioridades-de-salud-de-las-personas-mayores-en-tiempos-de-pandemia
- Drum, C. E., Oberg, A., Cooper, K., & Carlin, R. (2020). *COVID-19 & Adults with Mobility Disabilities: Health and Health Care Access Online Survey Report*. American Association on Health & Disability. https://aahd.us/wp-content/uploads/2020/05/COVID-19_Mobility_Report_508.pdf
- Dryhurst, S., Schneider, C. R., Kerr, J., Freeman, A. L. J., Recchia, G., van der Bles, A. M., Spiegelhalter, D., & van der Linden, S. (2020). Risk perceptions of COVID-19 around the world. *Journal of Risk Research*, 23(7–8), 994–1006. <https://doi.org/10.1080/13669877.2020.1758193>
- Garfin, D. R., Silver, R. C., & Holman, E. A. (2020). The novel coronavirus (COVID-2019) outbreak: Amplification of public health consequences by media exposure. *Health Psychology*, 39(5), 355–357. <https://doi.org/10.1037/hea0000875>
- Glaziou, P. (2020). Predicted impact of the COVID-19 pandemic on global tuberculosis deaths in 2020. *MedRxiv*, 2020-04. <https://doi.org/10.1101/2020.04.28.20079582>
- Gorman, M., Jones, S., & Turner, J. (2019). Older people, mobility and transport in low- and middle-income countries: A review of the research. *Sustainability*, 11(21), 6157. <https://doi.org/10.3390/su11216157>
- Government of India. (2020). *Ministry of Home Affairs | GoI*. <https://www.mha.gov.in/notifications/circulars-covid-19>
- Government of Karnataka. (2020). *Guidelines for the medical establishments during Covid 19*. <https://covid19.karnataka.gov.in/new-page/Government%20Circulars/en>
- Grills, N., & Goli, S. (2020). *Caring for India's elderly during COVID-19*. Pursuit. <https://pursuit.unimelb.edu.au/articles/caring-for-india-s-elderly-during-covid-19>
- Grover, S., & Malhotra, N. (2015). Depression in elderly: A review of Indian research. *Journal of Geriatric Mental Health*, 2(1), 4–15. <https://www.jgmh.org/text.asp?2015/2/1/4/161376>
- Grover, S., Sahoo, S., Mehra, A., Avasthi, A., Tripathi, A., Subramanyan, A., Patojoshi, A., Rao, G. P., Saha, G., Mishra, K. K., Chakraborty, K., Rao, N. P., Vaishnav, M., Singh, O. P., Dalal, P. K., Chadda, R. K., Gupta, R., Gautam, S., Sarkar, S., ... Reddy, Y. J. (2020). Psychological impact of COVID-19 lockdown: An online survey from India. *Indian Journal of Psychiatry*, 62(4), 354. https://doi.org/10.4103/psychiatry.IndianJPsychiatry_427_20
- HelpAge India. (2020a). *Impact and Challenges faced by elders in time of Covid-19*. <https://www.helpageindia.org/impact-and-challenges-faced-by-elders-in-time-of-covid-19/>
- HelpAge India. (2020b). *The Elder Story: Ground Reality during Covid-19*. <https://www.helpageindia.org/beta/wp-content/uploads/2020b/06/The-Elder-Story-Ground-Reality-during-Covid-19-Impact-Challenges-A-HelpAge-India-Survey-June2020b.pdf>
- Hoffer-Hawlik, M. A., Moran, A. E., Burka, D., Kaur, P., Cai, J., Frieden, T. R., & Gupta, R. (2020). Leveraging telemedicine for chronic disease management in low- and middle-income countries during Covid-19. *Global Heart*, 15(1), 63. <https://doi.org/10.5334/gh.852>
- Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., Ballard, C., Christensen, H., Cohen Silver, R., Everall, I., Ford, T., John, A., Kabir, T., King, K., Madan, I., Michie, S., Przybylski, A. K., Shafran, R., Sweeney, A., ... Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: A call for action for mental health science. *The Lancet. Psychiatry*, 7(6), 547–560. [https://doi.org/10.1016/S2215-0366\(20\)30168-1](https://doi.org/10.1016/S2215-0366(20)30168-1)
- Hospital Management. (2020). *COVID-19 fears affect hospital appointments for routine doctor visits: Poll*. Hospital Management. <https://www.hospitalmanagement.net/news/covid-19-imp-act-on-routine-appointments-to-hospitals-doctors/>
- Kaufmann, V., Bergman, M. M., & Joye, D. (2004). Motility: Mobility as capital. *International Journal of Urban and Regional Research*, 28(4), 745–756.
- Keelery, S. (2020). *Number of COVID-19 cases India 2020 by age group*. Statista. <https://www.statista.com/statistics/1110522/india-number-of-coronavirus-cases-by-age-group/>

- Krause, N. M., Freiling, I., Beets, B., & Brossard, D. (2020). Fact-checking as risk communication: The multi-layered risk of misinformation in times of COVID-19. *Journal of Risk Research*, 23(7–8), 1052–1059. <https://doi.org/10.1080/13669877.2020.1756385>
- Lee, K. H., Xu, H., & Wu, B. (2020). Gender differences in quality of life among community-dwelling older adults in low- and middle-income countries: Results from the Study on global AGEing and adult health (SAGE). *BMC Public Health*, 20(1), 114. <https://doi.org/10.1186/s12889-020-8212-0>
- Lee, R. J., & Sener, I. N. (2016). Transportation planning and quality of life: Where do they intersect? *Transport Policy*, 48, 146–155. <https://doi.org/10.1016/j.tranpol.2016.03.004>
- Li, C., Friedman, B., Conwell, Y., & Fiscella, K. (2007). Validity of the patient health questionnaire 2 (PHQ-2) in identifying major depression in older people. *Journal of the American Geriatrics Society*, 55(4), 596–602. <https://doi.org/10.1111/j.1532-5415.2007.01103.x>
- Lloyd-Sherlock, P., Ebrahim, S., Geffen, L., & McKee, M. (2020). Bearing the brunt of covid-19: Older people in low and middle income countries. *BMJ*, 368. <https://doi.org/10.1136/bmj.m1052>
- Lodha, P., & De Sousa, A. (2018). Geriatric mental health: The challenges for India. *J Geriatr Ment Health*, 5(1), 16–29. <https://www.jgmh.org/text.asp?2018/5/1/16/235372>
- Lyberg, A., Holm, A. L., Lassenius, E., Berggren, I., & Severinsson, E. (2013). Older Persons' Experiences of Depressive Ill-Health and Family Support. *Nursing Research and Practice*, 2013. <https://doi.org/10.1155/2013/837529>
- Malecki, K. M. C., Keating, J. A., & Safdar, N. (2020). Crisis communication and public perception of COVID-19 risk in the era of social media. *Clinical Infectious Diseases*, 72(4), 697–702. <https://doi.org/10.1093/cid/ciaa758>
- Mazumder, H., Hossain, M. M., & Das, A. (2020). Geriatric care during public health emergencies: lessons learned from novel corona virus disease (COVID-19) Pandemic. *Journal of Gerontological Social Work*, 63(4), 257–258. <https://doi.org/10.1080/01634372.2020.1746723>
- Mitchell, C. (2014). *Healthy Aging and Non-Communicable Diseases*. Pan American Health Organization/World Health Organization. https://www.paho.org/hq/index.php?option=com_content&view=article&id=9979:healthy-aging-non-communicable-diseases&Itemid=40721&lang=en
- Mukherjee, S. (2020). Disparities, desperation, and divisiveness: Coping with COVID-19 in India. *Psychological Trauma: Theory, Research, Practice and Policy*, 12(6), 582–584. <https://doi.org/10.1037/tra0000682>
- Nagarkar, A. (2020). Challenges and concerns for older adults in India regarding the COVID-19 Pandemic. *Journal of Gerontological Social Work*, 63(4), 259–261. <https://doi.org/10.1080/01634372.2020.1763534>
- Patel, V., Chatterji, S., Chisholm, D., Ebrahim, S., Gopalakrishna, G., Mathers, C., Mohan, V., Prabhakaran, D., Ravindran, R. D., & Reddy, K. S. (2011). Chronic diseases and injuries in India. *The Lancet*, 377(9763), 413–428. [https://doi.org/10.1016/S0140-6736\(10\)61188-9](https://doi.org/10.1016/S0140-6736(10)61188-9)
- Pilania, M., Bairwa, M., Kumar, N., Khanna, P., & Kurana, H. (2013). Elderly depression in India: An emerging public health challenge. *The Australasian Medical Journal*, 6(3), 107–111. <https://doi.org/10.4066/AMJ.2013.1583>
- Pilania, M., Yadav, V., Bairwa, M., Behera, P., Gupta, S. D., Khurana, H., Mohan, V., Baniya, G., & Poongothai, S. (2019). Prevalence of depression among the elderly (60 years and above) population in India, 1997–2016: A systematic review and meta-analysis. *BMC Public Health*, 19(1), 832. <https://doi.org/10.1186/s12889-019-7136-z>
- Prasad, A. (2020). *COVID-19: Impact on Elderly in Mumbai*. <https://mu.ac.in/wp-content/uploads/2020/06/57-64-COVID-19-Impact-on-Elderly.pdf>
- Rana, U. (2020). Elderly suicides in India: An emerging concern during COVID-19 pandemic. *International Psychogeriatrics*, 32(10), 1251–1252. <https://doi.org/10.1017/S10416102200101052>
- Roy, A., Singh, A. K., Mishra, S., Chinnadurai, A., Mitra, A., & Bakshi, O. (2020). Mental health implications of COVID-19 pandemic and its response in India. *International Journal of Social Psychiatry*, 67(5), 587–600. <https://doi.org/10.1177/0020764020950769>

- Santini, Z. I., Jose, P. E., Cornwell, E. Y., Koyanagi, A., Nielsen, L., Hinrichsen, C., Meilstrup, C., Madsen, K. R., & Koushede, V. (2020). Social disconnectedness, perceived isolation, and symptoms of depression and anxiety among older Americans (NSHAP): A longitudinal mediation analysis. *The Lancet Public Health*, 5(1), e62–e70. [https://doi.org/10.1016/S2468-2667\(19\)30230-0](https://doi.org/10.1016/S2468-2667(19)30230-0)
- Seifert, A. (2020). The Digital Exclusion of Older Adults during the COVID-19 Pandemic. *Journal of Gerontological Social Work*, 63(6–7), 674–676. <https://doi.org/10.1080/01634372.2020.1764687>
- Shah, V. R., Christian, D. S., Prajapati, A. C., Patel, M. M., & Sonaliya, K. N. (2017). Quality of life among elderly population residing in urban field practice area of a tertiary care institute of Ahmedabad city, Gujarat. *Journal of Family Medicine and Primary Care*, 6(1), 101–105. <https://doi.org/10.4103/2249-4863.214965>
- Sheridan Rains, L., Johnson, S., Barnett, P., Steare, T., Needle, J. J., Carr, S., ... & Simpson, A. (2020). COVID-19 Mental Health Policy Research Unit Group, 2020. Early impacts of the COVID-19 pandemic on mental health care and on people with mental health conditions: framework synthesis of international experiences and responses. *Social Psychiatry and Psychiatric Epidemiology*, 56(1), 13–24. <https://doi.org/10.1007/s00127-020-01924-7>
- Singh, D. R., Sunuwar, D. R., Shah, S. K., Karki, K., Sah, L. K., Adhikari, B., & Sah, R. K. (2021). Impact of COVID-19 on health services utilization in Province-2 of Nepal: A qualitative study among community members and stakeholders. *BMC Health Services Research*, 21(1), 1–14. <https://doi.org/10.1186/s12913-021-06176-y>
- Topp, C. W., Østergaard, S. D., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: A systematic review of the literature. *Psychotherapy and Psychosomatics*, 84(3), 167–176. <https://doi.org/10.1159/000376585>
- Vahia, V. N., & Shah, A. B. (2020). COVID-19 pandemic and mental health care of older adults in India. *International Psychogeriatrics*, 32(10), 1125–1127. <https://doi.org/10.1017/S1041610220001441>
- World Health Organization. (2020a). *Maintaining essential health services: Operational guidance for the COVID-19 context*. https://apps.who.int/iris/bitstream/handle/10665/332240/WHO-2019-nCoV-essential_health_services-2020a.2-eng.pdf?sequence=1&isAllowed=y
- World Health Organization. (2017). *Mental health of older adults*. <https://www.who.int/news-room/fact-sheets/detail/mental-health-of-older-adults>
- World Health Organization. (2020a). *Promotion of mental well-being*. World Health Organization, South-East Asia Regional Office. http://www.searo.who.int/mental_health/promotion-of-mental-well-being/en/
- World Health Organization. (2020b). *WHOQOL: Measuring Quality of Life*. World Health Organization. <https://www.who.int/healthinfo/survey/whoqol-qualityoflife/en/>