Reduced access to care among older American adults during CoVID-19 pandemic: Results from a prospective cohort study

Ashis Kumar Das[1]; Devi Kalyan Mishra[2]; Saji Saraswathy Gopalan[3]*

[1]Research Group, The World Bank, Washington DC, USA.

[2]Department of Community Medicine, Hitech Medical College, Rourkela, India.

[3]Human Development Department, The World Bank, Washington DC, USA.

*Corresponding Authors: Saji Saraswathy Gopalan

Human Development Department, The World Bank, 1818 H St NW, Washington DC, USA.

Email: sajisaraswathyg@gmail.com

Abstract

Background: Reduced access to routine care can lead to higher morbidity and mortality among older adults. We assessed the extent of reduced access to care among older American adults during the COVID-19 pandemic, identified predictors and reasons for reduced access.

Materials and methods: Using publicly available data from the COVID-19 module (interim release) of the Health and Retirement Study, we undertook descriptive analyses of older adults stratified by socio-demographic characteristics. Associations between reduced access to care and predictors were estimated using a multivariable logistic regression model.

Results: 30.2% of respondents delayed or avoided care during the pandemic. Reduced access was more likely to be reported by respondents that were female, younger, educated, not receiving social security benefits, with limitations in daily activities and three preexisting conditions. In terms of the reasons, the majority of the respondents (45.9%) reported that their visit was either cancelled or rescheduled by the provider; 13.9% thought they could wait, 10.9% could not get an appointment, 9.1% found it unaffordable, and 7.4% were afraid to visit the provider. Respondents reported of reduced access to doctor's visits, surgery, prescription filling, and dental care.

Conclusions: We suggest urgent attention on improving access to care for older adults during the pandemic. For nonemergency conditions and routine care that can be delivered virtually, telehealth services can be strengthened. Additionally, health messaging can reemphasize that neglecting medical care might lead to increased morbidity and mortality among older adults from preexisting illnesses.

Keywords: Older adults; Access to care; COVID-19; Health and retirement study.

Introduction

As of November 24, 2020, the US has reported approximately 12.3 million confirmed cases and 257,016 deaths due to COVID-19 [1]. The global evidence says that a pandemic of this scale has certain potential indirect effects on essential and routine healthcare usage patterns [2-4]. There could be several plausible determinants driving the access to essential healthcare patterns, apart from the pandemic mitigation strategies such as lock down and social distancing, and severity of the pandemic itself. The existing social, demographic, and economic contexts, and underlying health conditions could be a few of such determinants. However, the current evidence is limited globally and specifically, in the USA on the indirect effects of COVID-19 on access to care for older adults during the pandemic. Due to preexisting conditions, older adults are usually at higher risk of COVID-19 related severe complications [5,6]. Additionally, negligence of routine medical care for chronic illnesses can lead to higher morbidity and mortality among older adults. There are several attempts to inform the potential impact of COVID-19 on emergency care, cardiovascular disease care, cancer care, and other essential outpatient care encompassing the general population [4,7-9]. However, to the best of our knowledge no study has explored the dimensions of access to care among the elderly population. Understanding the neglect of healthcare and potential reasons among older adults could be relevant for the policy makers to improve elderly health as the pandemic continues.

In this context, we explored access to care and its determinants among older American adults during the pandemic using a nationally representative survey. We also assessed the reasons for reduced access to care.

Materials and methods

Data source

The data were obtained from the COVID-19 module (interim release) of the Health and Retirement Study (HRS). The HRS is an ongoing prospective cohort study that is nationally representative of adults ages 50 and over in the USA [10]. Participants from the HRS are interviewed every two years and are followed-up actively through regular mail contact and phone interviews. The COVID-19 module of HRS 2020 was administered to half of the random subsample of households who were originally assigned to enhanced face-to-face interviewing. This was done over two phases using two randomly halved subsamples during June and September. In this study, we use the interim release data from the June study that includes 3,266 respondents. After excluding those with missing values, 3,129 respondents were included in the final analysis.

Variables

The outcome of interest was reduced access to health care during the pandemic. In the COVID-19 module, the respondents were asked if they delayed getting medical care or did not get at all since March 2020. This response was collected as a binary variable in the data – yes if they delayed or forgone medical care and otherwise no. The predictors were age in groups (50-59, 60-69, 70-79, 80 and above), sex, education (below high school, high school, college and post-college), employment (employed,

unemployed, retired, homemaker), marital status (legally married and living with spouse, others), health insurance (none, Medicare/Medicaid, private, TriCare/VA), receipt of social security benefits, number of difficulties in activities of daily living – ADL (none, at least 1), and number of self-reported pre-existing conditions (none, 1,2,3,4 or more). Difficulties in caring for the self as a result of health or physical issues constitute ADLs. Caring for the self includes activities such as bathing, dressing up, eating, getting in or out of bed, or using toilets. Pre-existing conditions consisted of hypertension, diabetes, cancer, chronic lung disease, heart conditions, stroke, psychiatric problems, and arthritis.

Statistical methods

We undertook descriptive analyses for the respondent characteristics and presented the results stratified by subgroups for each characteristic. Correlation was tested among all respondent characteristics with the Pearson's correlation coefficient. Associations between reduced access to care and predictors (age group, sex, education, employment, marital status, health insurance, receipt of social security benefits, number of ADLs, and number of preexisting conditions) were estimated using a multivariable logistic regression model adjusting for all predictors. We considered the associations statistically significant if the p-value was below 0.05. The statistical analyses were performed using Stata Version 15 (StataCorp LLC. College Station, TX). Sampling weights were applied to all analyses to account for the HRS sampling design.

Results

Descriptive analysis

The profile of respondents is shown in table 1. Out of 3,129 respondents, slightly more than half (53.1%) were females with the single largest age group being 60 to 69 years (38.9%). Whites constituted 79.5 percent, followed by Blacks (10.9%) and others (9.6%). Around 41 percent were legally married and living with their spouses, 44 percent had college education, and about three-fifths received Social Security benefits (60.7%). A little above half (54.3%) had Medicare/Medicaid insurance, and a vast majority (88.4%) did not have any limitations in activities of daily living. Very few (14.4%) did not have any preexisting conditions. Closer to 30 percent respondents reported of reduced access to care.

Predictors of reduced access to care

There were not strong correlations between predictors and the Pearson's correlation coefficients ranged from -0.27 to 0.6. Significantly less males than females (adjusted odds ratio 0.78; p value 0.033) and older respondents than the younger ones (aOR 0.43; p value <0.001) reported reduced access to care. Similarly, respondents receiving social security benefits (aOR 0.65; p value 0.018) were less likely to have reduced access to care. Compared to respondents educated below high school, educated respondents were more likely to experience reduced access to care – high school (aOR 1.67; p value 0.047), college (aOR 2.04; p value 0.005) and post-college (aOR 3.05; p value <0.001). Likewise, respondents with limitations in activities of

daily living (aOR 2.25; p value <0.001) and those with three pre-existing conditions (aOR 1.72; p value 0.016) were more likely to report reduced access. Race, marital status, employment, and health insurance were not associated with reduced access.

When asked about the reasons for reduced access, the majority of the respondents reported their visit was either cancelled or rescheduled by the provider (45.9%), whereas 13.9 percent thought they could wait, 10.9 percent could not get an appointment, 9.1 percent found it unaffordable, and 7.4 percent were afraid to visit the provider. There were 12.8 percent with other reasons for reduced access. Among the various components of health care that were either delayed or avoided, 58.8 percent of respondents did so for visiting a doctor, 14 percent for surgery, 4.9 percent for filling prescriptions, and 76.5 percent for dental care. It is worth noting that respondents reported reduced access to multiple components of care simultaneously. Therefore, the proportions may add up to more than 100 percent.

Table 1: Sample characteristics.

Variable	n	%
Sex		
Female	1,859	53.1
Male	1,270	46.9
Age group (Years)		
50–59	650	20.9
60–69	1,109	38.9
70-79	728	26.0
80 and older	642	14.3
Race		
Black	664	10.9
White	2,103	79.5
Others	362	9.6
Education		
Below HS	227	5.4
High school	1,203	36.0
College	1,283	44.0
Post college	416	14.6
Marital status		
Legally married and living with spouse	1,434	41.4
Others	1,695	58.6
Employment		
Employed	862	31.3
Unemployed	630	18.4
Retired	1,475	46.0
Homemaker	162	4.4
Receipt of social security benefits		
Yes	1,122	39.3
No	2,007	60.7
Health insurance		
No insurance	160	4.5
Medicare/Medicaid	1,816	54.3
Private/Employer	984	35.7
TriCare/VA	169	5.5
Number of ADLs		
0	2,720	88.4
At least 1	409	11.6
Number of pre-existing conditions		
0	397	14.4
1	697	22.7
2	801	26.7
3	652	19.3
4 or more	582	17.0
Reduced access to care		
Yes	936	30.2
No	2,193	69.8
Total	3,129	100

Table 2: Predictors of reduced access to care (N=936).

Variable	Reduced access (%)	Adjusted odds ratio	95% confidence interval	p value
Sex				
Female	32.4	Reference		
Male	27.8	0.78	0.61-0.98	0.033
Age group (Years)				
50–59	37.1	Reference		
60–69	33.3	0.86	0.62-1.20	0.388
70-79	26.0	0.69	0.45-1.05	0.084
80 and older	19.5	0.43	0.27-0.66	<0.001
Race				
Black	30.5	Reference		
White	30.6	1.09	0.83-1.44	0.531
Others	27.0	0.80	0.52-1.24	0.32
Education				

Below HS	17.1	Reference		
High school	26.6	1.67	1.01-2.76	0.047
College	31.7	2.04	1.23-3.37	0.005
Post college	39.7	3.05	1.75-5.30	<0.001
Marital status				
Legally married and living with spouse	31.3	Reference		
Others	29.4	0.86	0.68-1.08	0.198
Employment				
Employed	35.7	Reference		
Unemployed	31.3	0.85	0.59-1.23	0.392
Retired	27.1	1.02	0.73-1.42	0.906
Homemaker	19.6	0.56	0.31-1.02	0.057
Receipt of social security benefits				
No	36.9	Reference		
Yes	25.9	0.65	0.46-0.93	0.018
Health insurance				
No insurance	30.8	Reference		
Medicare/Medicaid	27.5	0.99	0.57-1.73	0.983
Private	34.7	0.96	0.56-1.64	0.884
TriCare/VA	27.4	0.97	0.47-2.00	0.938
Number of ADLs				
0	28.9			
At least 1	40.6	2.25	1.64-3.09	<0.001
Number of pre-existing conditions				
0	27.4	Reference		
1	31.0	1.39	0.92-2.11	0.12
2	31.7	1.44	0.96-2.17	0.082
3	32.5	1.72	1.11-2.68	0.016
4 or more	26.6	1.26	0.80-1.98	0.31

Discussion

The COVID-19 pandemic has directly and indirectly affected access to health care across the world [7,8,11-13]. In this study, we show that 30 percent of older adults either delayed or forgone care during the pandemic. Moreover, reduced access was more likely to be reported by respondents that were female, younger, educated, not receiving social security benefits, with limitations in daily activities and three preexisting conditions.

In a web-based survey administered to American adults, the prevalence of reduced access among older adults over 65 years was 33.5 per cent [14]. This study also found females, multiple preexisting medical conditions, higher education and having health insurance were significantly associated with reduced access among all age groups. The Research and Development Survey (RANDS) undertaken by the National Center for Health Statistics during COVID-19 shows 39.5 per cent of older adults had reduced access to care [15]. Overall, females and education of above bachelor's degree were more likely to report missing care. Additionally, about 31 percent of older adults reported to have scheduled at least one telehealth appointment. The proportion of respondents reporting reduced access to care in these studies are higher than our study. The differences in the reduced access to care are possibly due to differing methodologies and recall periods. For instance, our study includes a nationally representative sample of older adults, whereas it was not the case with other studies. However, in line with these similar studies, our study finds female respondents and those with higher education levels tend to report reduced access to care during the pandemic. Among the elderly, research shows that being female is associated with reduced access even during non-pandemic times [16,17]. We believe that respondents with higher education could be more aware of the risk of exposure to COVID-19 infection and hence delayed or avoided care altogether [18].

As reported by the respondents in our study, the primary reasons for reduced access were due to cancellation, rescheduling, or not getting appointments. During the pandemic, health care providers and practices are striving to maintain stricter infection prevention and control guidelines with limited resources [19,20]. This could have led to cancellations and rescheduling of visits to keep the patients and providers safe from potential spread of the infection. Respondents that need regular medical visits or prescription filling are more likely to have reduced access during the pandemic. Ironically, most of them suffer from preexisting conditions and research shows that they are at risk of developing serious complications if infected with COVID-19 [5]. Based on our findings, we suggest urgent attention on improving access to care for older adults during the pandemic. For nonemergency conditions and routine care that can be deliv-

ered virtually, strengthening telehealth services will be helpful. Additionally, older adults' awareness on the availability and benefits of telehealth can be improved. Older adults would have to be reassured that the providers and healthcare facilities are taking adequate measures to ensure a safe environment and neglecting medical care might lead to increase morbidity and mortality from pre-existing illnesses [21]. Improving involvement of medical volunteers and voluntary organizations in supporting older adults can ensure timely care.

Limitations

Our study has three limitations. First, the HRS information is self-reported and thus, is subject to measurement errors, misreporting, and social desirability biases [22]. Secondly, due to the lack of reliable data, this study did not explore the nature of symptoms that the respondents delayed or avoided seeking care. Thirdly, the study did not collect specifically any information on virtual consultations. Due to the risk involved with in-person visits during the pandemic, many respondents might have opted for teleconsultations. Despite these limitations, our study contributes to the limited evidence on the patterns of access to care during the pandemic. To the best of our knowledge, this is the first study that explores access to care, predictors and reasons during the COVID-19 pandemic in a nationally representative population of older adults.

Conclusions

Using the nationally representative HRS data, we found the older population in the USA to have reduced access to doctor's visits, surgery, prescription filling, and dental care during the pandemic. The odds of reduced access were more among females, younger, educated, not receiving social security benefits, with limitations in daily activities, and those with three preexisting conditions. We suggest improving access to care for older adults by strengthening the availability of telehealth services and the involvement of medical volunteers and voluntary organizations. Awareness on the benefits of telehealth and the risks of delaying and neglecting care need to be reemphasized.

References

1. Centers for Disease Control and Prevention. United States COVID-19 Cases and Deaths by State. 2020.

2. Wilhelm JA, Helleringer S. Utilization of non-Ebola health care services during Ebola outbreaks: A systematic review and meta-analysis. J Glob Health. 2019.

3. Bong CL, Brasher C, Chikumba E, Mcdougall R, Mellin-Olsen J, Enright A. The COVID-19 Pandemic: Effects on Low- And Middle-Income Countries. Anesth Analg. 2020.

4. Lange SJ, Ritchey MD, Goodman AB, et al. Potential Indirect Effects of the COVID-19 Pandemic on Use of Emergency Departments for Acute Life-Threatening Conditions-United States, January–May 2020. MMWR Morb Mortal Wkly Rep. 2020.

5. McMichael TM, Currie DW, Clark S, et al. Epidemiology of Covid-19 in a Long-Term Care Facility in King County, Washington. N Engl J Med. 2020.

6. Li T, Lu L, Zhang W, et al. Clinical characteristics of 312 hospitalized older patients with COVID-19 in Wuhan, China. Arch Gerontol Geriatr. 2020.

7. Birkmeyer JD, Barnato A, Birkmeyer N, Bessler R, Skinner J. The Impact Of The COVID-19 Pandemic On Hospital Admissions In The United States. Health Aff (Millwood). 2020.

8. Lupuşoru I, Ciobanu D, Ursaru M, Bălan GG, Grigorovici A. Difficulties in Treating a Patient with Multiple Cancers in the COVID-19 Pandemic. Chirurgia (Bucur). 2020.

9. Bojdani E, Rajagopalan A, Chen A, et al. COVID-19 Pandemic: Impact on psychiatric care in the United States. Psychiatry Res. 2020.

10. Sonnega A, Faul JD, Ofstedal MB, Langa KM, Phillips JWR, Weir DR. Cohort profile: The Health and Retirement Study (HRS). Int J Epidemiol. 2014.

11. Erol MK, Kayıkçıoğlu M, Kılıçkap M, et al. Treatment delays and in-hospital outcomes in acute myocardial infarction during the COVID-19 pandemic: A nationwide study. Anatol J Cardiol. 2020; 24: 334-342.

12. Nikolayevskyy V, Holicka Y, van Soolingen D, et al. Impact of COVID-19 pandemic on tuberculosis laboratory services in Europe. Eur Respir J. November 2020.

13. Al-Quteimat OM, Amer AM. The Impact of the COVID-19 Pandemic on Cancer Patients. Am J Clin Oncol Cancer Clin Trials. 2020.

14. Czeisler MÉ, Marynak K, Clarke KEN, et al. Delay or Avoidance of Medical Care Because of COVID-19–Related Concerns-United States, June 2020. MMWR Morb Mortal Wkly Rep. 2020.

15. National Center for Health Statistics. Research and Development Survey, RANDS during COVID-19. 2020.

16. Fitzpatrick AL, Powe NR, Cooper LS, Ives DG, Robbins JA, Enright E. Barriers to health care access among the elderly and who perceives them. Am J Public Health. 2004.

17. Katz SJ, Kabeto M, Langa KM. Gender disparities in the receipt of home care for elderly people with disability in the United States. J Am Med Assoc. 2000.

18. McCormack LA, Squiers L, Frasier AM, Lynch M, Bann CM, MacDonald PDM. Gaps in Knowledge About COVID-19 Among US Residents Early in the Outbreak. Public Health Rep. 2020.

19. Chopra V, Toner E, Waldhorn R, Washer L. How should U.S. Hospitals prepare for coronavirus disease 2019 (COVID-19)? Ann Intern Med. 2020.

20. Khullar D, Bond AM, Schpero WL. COVID-19 and the Financial Health of US Hospitals. JAMA - J Am Med Assoc. 2020.

21. Masroor S. Collateral damage of COVID-19 pandemic: Delayed medical care. J Card Surg. 2020.

22. Benitez-Silva H, Eren S, Heiland F, Jimenez-Martin S. Using the Health and Retirement Study to Analyze Housing Decisions, Housing Values, and Housing Prices. Cityscape A J Policy Dev Res. 2010.