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Original Article

Differences in Physical and Mental Health of Older Adults over the Covid-19 Pandemic from Face-to-Face versus Hybrid Methods

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ABSTRACT

Background/Purpose: As a result of the COVID-19 pandemic, changes in data collection methods have been introduced in research to ensure continuity despite physical distancing and lockdown restrictions. Our objective was to compare differences in physical and mental health of older adults participating in falls research using data collection methods pre-covid-19 pandemic (face-to-face) and during the pandemic (hybrid).

Methods: Individuals aged 60 years and over with at least one fall in the past 12 months, and controls with no history of falls in the past 12 months were recruited. Pre-pandemic, individuals were interviewed face-to-face exclusively, those interviews after the start of the pandemic were conducted virtually with physical assessments conducted face-to-face to minimize physical contact. Cognitive status, physical performance, psychological status, quality of life, physical activity, and social participation were measured.

Results: Of the 145 participants of similar socio-demographic backgrounds, 69 were interviewed face-to-face, while 76 were assessed using a hybrid method. Differences were observed in presence of fall characteristics, with fewer fallers seeing a doctor and more fallers attending the emergency department after the start of the pandemic. After adjustment for baseline differences, participants interviewed using hybrid status had lower depression scores (OR (95%CI)=0.29(0.14-0.61)) and stress scores (OR(95%CI)=0.33(0.15-0.72)), but greater fear of falling (OR(95%CI)=2.16(1.04-4.48)) and reduced social participation (OR(95%CI)=2.64(1.20-5.79)).

Conclusion: Alterations in data collection methods to overcome pandemic restrictions should take into consideration potential differences in individuals who agree to participate as well as the influence of major life events on the psychological status of participants.

1. INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic and associated public health measures undertaken to contain it have caused widespread and unprecedented socioeconomic disruption. On March 18th, 2020, nationwide lockdown measures were enforced by the Malaysian government, which included travel restrictions, mandatory closure of schools, non-essential commercial activities, and industries. People were asked to stay at home and socially isolate themselves to prevent infection.[1]

Infection control measures to contain the spread of the COVID-19 have curtailed research activity, particularly clinical research where face-to-face contact have been necessary.[2] Research on ageing was arguably most seriously affected as older adults are considered a high-risk group for COVID-19.[3] While most research ceased or slowed down to reduce the risk of COVID-19 transmission, some researchers have endeavoured to ensure the continuation of research by converting face-to-face data collection methods to virtual or hybrid methods. Similar measures may also be applied in ageing research to reduce the risk of COVID-19 transmission.[4] However, as ageing is stereotypically framed with frailty and incompetence, not surprisingly there is an innate bias in the use of technology in older adults leading to the exclusion of older adults from the research during this period.[5]

The use of technology has increased during the pandemic as it enables key components of our social, educational, and occupational lives to continue. Despite its potential, few have studied the adaptation of virtual technology for ageing research.[6] As a switch to virtual or hybrid data collection was unavoidable to ensure continuation of valuable clinical studies involving older adults, it is important to determine potential changes in the data with the change in samples recruit, data collection methods, and living circumstances to aid interpretation.

1.1. Aim

Our objective was to compare differences in physical and mental health of older adults participating in falls research using data collection methods pre-covid-19 pandemic (face-to-face) and during the pandemic (hybrid).

2. METHODS

2.1. Sample Population

This was a cross-sectional study. Participants were drawn from the baseline data obtained from two ongoing falls studies, the Life After Falls (LiAF) and the Obesity, Sarcopenia and Falls in Older Persons (OSFOP) studies. The sample population comprised individuals aged 60 years and over with a history of at least one fall in the past 12 months recruited via word of mouth, community health promotion events, and from the primary care department, outpatient clinics, or emergency department at a university hospital in Kuala Lumpur. In addition, participants were recruited from wave three follow-up interviews of the Malaysian Elders Longitudinal Research study who reported falls in the past 12 months.[7] Control participants were primarily recruited through spouses, siblings, accompanying persons and acquaintances of the participants who meet the age criteria and did not have any falls in the past 12 months. The intended recruitment ratio for fallers to non-fallers was 3:1. Individuals with significant fractures such as hip or femur fractures and head injuries were excluded. Data collection commenced in January 2019 through hospital-based, face-to-face assessments which came to an abrupt halt when movement control orders were enforced on 18th March 2020. The study immediately switched to hybrid data collection methods, and data collection through this alternative method continued up to December 2020. Virtual interviews were conducted using one or more of the virtual communication devices of a smartphone, computer tablet or personal computer (laptop or desktop) using telephone calls, social media messaging or video calls and video conferencing (Meet™, Google Inc., USA), according to participants' choice and availability of technology to the participant. Written informed consent was obtained from all participants, though virtual interviews were first conducted following verbal consent and written consent sought at a subsequent face-to-face visit, as per approval from the ethics committee. Whenever movement control orders were permissive, participants were invited to a satellite research centre, 1.5km away from the hospital, with ground-floor disabled access and off-street open-air parking, and only physical assessments that could not be performed virtually were conducted during the visits to minimise time of exposure, with a maximal visit time of 30 minutes compared 1.5 hours when the assessment was conducted using face-to-face methods exclusively. The study had obtained approval from the Institutional Ethical Review Board (MECID: 2019525-7445) prior to commencement and a subsequent application for amendment to hybrid methods and accelerated approval was obtained.

2.2. Data Collection

The outcome variables collected for physical health included physical performance, physical activity and activities of daily living. The outcome variables collected for mental health included depression, anxiety, stress, fear of falling, quality of life (QoL), cognitive testing, social network and social participation. Additional variables collected to address potential confounders included falls history and medications.

2.2.1. Pivoting from face-to-face to hybrid

Immediately after the announcement of lockdown measures, researchers comprising geriatricians, psychologists, an ophthalmologist, a rehabilitation physician, an emergency physician, a primary care physician and a gerontologist changed the original assessments to hybrid assessments within social media messaging (WhatsApp™, USA) chat group. Study data were collected and managed using REDCap electronic data capture tools.[8,9] Face-to-face data collection maintained was physical and cognitive assessments, with the addition of infection control measures for face-to-face assessments conducted during the pandemic.

The mode of administration for all validated questionnaires, including social network and participation, instrumental activities of daily living, physical activity, quality of life, and psychological assessments was switched from face-to-face to virtual assessments whenever possible. Medication data was also pivoted from face-to-face to virtual data collection. For face-to-face assessments, the interviewer would sit next to the participant with a printed version of the questionnaire in front of them, and the interviewer would assist the participant in the completion of the questionnaire by reading out the questions and answers and marking the selected answers. The questionnaires were administered always in the same order, starting with social network and participation, followed by activities of daily living, physical activity, quality of life and ending with psychological status. During the virtual interviews, the questions and responses would be read out verbatim. If the participant's attention waned during the virtual interviews, the researchers would discontinue the interview and complete the questionnaires during the face-to-face visit.

2.2.2. Physical health

Physical performance

This was assessed using grip strength, the timed-up and go test (TUG), and functional reach test. Grip strength was measured using the Jamar hydraulic hand dynamometer (Sammons Preston, Illinois, USA). Beginning with the dominant hand, the participant was asked to grip as hard as possible with their elbow flexed at 90 degrees in the seated position. Three measurements were obtained for each hand.[10] For the TUG test the participant was instructed to rise from a standard chair with arms, walk at their normal speed using their usual walking-aid and regular footwear, to a marker at three meters away from the front legs of the chair, turn around and walk back to the chair and sit back down again. The TUG time was considered the time between the participant's back leaving and touching the back of the chair.[11] Functional reach (FR) was the maximal forward reach in centimetres from the upright position measured from the tip of the middle finger with the participant standing with the left arm outstretched, parallel and left shoulder adjacent to a wall with a metre rule attached.[12]

Physical activity

Physical activity (PA) was assessed with the Physical Activity Scale for the Elderly (PASE).[17] Information on leisure, household, and occupational activity are included. The PASE assesses the types of activities typically chosen by older adults, for example, recreational activities, exercise, housework, gardening, and caring for others. The score is calculated based on the frequency, duration, and intensity level of activity over the previous week, ranging from scores 0 to 793. A higher score indicates greater physical activity. Physical activity level immediately prior to the most recent fall would be recorded.

Instrumental activities of daily living

Functional ability was evaluated using the Lawton Instrumental Activities of Daily Living (IADL) scale.[16] The Lawton's scale was scored dichotomously on eight items enquiring about telephone use, shopping, food preparation, housekeeping, laundering, use of transportation, medication use and managing money. The maximum total score was therefore eight, with a higher score indicating a higher level of independence. The Lawton's scale was administered virtually during the pandemic.

2.2.3. Mental health

Psychological assessments

Depression, anxiety and stress were evaluated using the 21-item Depression, Anxiety and Stress Scale (DASS-21).[19] This is a self-reported measure in which participants rate the frequency and severity of the negative emotions of depression, anxiety, and stress over the previous week. Frequency and severity ratings were made on a series of 4-point scales, with 0 indicating "did not apply to me at all" and 3 indicating "applied to me very much, or most of the time." The scores were calculated individually for the three components: depression, anxiety, and stress. The total score for each component was dichotomized using median values as the cut-offs, depression ≥2, anxiety ≥2, and stress ≥2, respectively. This questionnaire was pivoted to virtual assessments during the pandemic.

Fear-of-falling was assessed with the 7-item Falls Efficacy Scale-International (short FES-I).[20] The short FES-I consists of seven items on a 4-point Likert scale, with 1 indicating no concern and 4 indicating severe concern. The minimum and maximum

scores for the short FES-I are therefore 7 and 28, respectively. To allow for adjustment for potential confounders, cut-offs were developed using the median values; subjects with a score of ≥10 were considered to have greater fear of falling. This questionnaire was pivoted to virtual assessments during the pandemic.

Cognitive assessments

Cognitive assessments were done using the Visual Cognitive Assessment Tool (VCAT).[13] The VCAT is a non-language dependent tool evaluating the cognitive domains memory, executive function, visuospatial function, attention, and semantic knowledge with minimum and maximum scores of 0 and 30 respectively. A higher score indicates better cognitive ability. Cognitive performance was assessed face-to-face pre-Covid-19 pandemic and during the pandemic.

Social network and participation

Lubben's social network scale-6 (LSNS-6) and the Keele's assessment of participation (KAP) were used to assess social networks and participation. The LSNS-6 measures the size of active and intimate networks of family and friends with whom respondents can talk or call on for help.[14] Scores range from 0 to 30, with higher scores indicating stronger networks. The KAP is intended to measure an individual's level of participation in various activities such as work, education, social activities, and activities of daily living.[15] A minimum score of 0 indicates no participation restrictions (a score of 1-11 indicates participation restriction in at least one activity). The Lubben's scale and KAP were administered virtually during the pandemic.

Quality of life

Quality of life was assessed with the locally validated 12-item Control, Autonomy, Self-realization and Pleasure questionnaire (CASP-12). The CASP-12 is a shortened version of CASP-19. It is a 12-item Likert-scaled index, composed of the items pertinent to the subscales control or autonomy, participation, and self-realization, intending to capture quality of life in older adults. Higher scores indicate better quality of life. The minimum and maximum scores are 12 to 48 respectively.[18] QoL was evaluated virtually during the pandemic.

2.2.4. Additional variables

Falls history

Location of falls, the total number of falls in the past year, any injuries sustained, and any medical treatment received post-fall were also recorded. This information was collected face-to-face pre-Covid-19 pandemic and during the pandemic.

Medications

Participants were asked to show the researcher all their medications in their original packaging, as well as prescription orders for their medications. Comparisons were made with hospital electronic records of prescriptions if available. Medication data were pivoted to virtual assessments during the pandemic.

2.3. Data Analysis

Descriptive and analytical statistical analyses were performed using SPSS 24.0. All continuous data were tested for normality. Participants' basic characteristics were summarized as means with standard deviations or medians with interquartile ranges for continuous variables and frequency with percentages for categorical variables. For each physical and mental health outcome described above, non-parametric comparisons were performed between face-to-face and hybrid data collection methods using the Mann-Whitney U tests for continuous variables and Chi-square tests for categorical variables. A logistic regression to compare data collection methods on the above physical and mental health outcomes was then conducted to adjust for potential confounders which were identified from multiple variables with p <0.05. The strength of associations was depicted as odds ratios (OR) and 95% confidence intervals (CI).

3. RESULTS

3.1. Study Population

A total of 145 participants were recruited, of which 69 (47.6%) were interviewed face-to-face before the pandemic lockdown and 76 (53.4%) were hybrid interviewed after pandemic lockdown measures were implemented. Of the 145 participants, 88 (60.7%) were women with a median age (IQR) of 73.5 (67-81) years.

3.2. Characteristics of Participants

Sociodemographic

Participant characteristics are summarized in Table 1 according to method of data collection. There was no significant difference in age, gender, ethnicity, marital status, education level, anthropometric measurements, and number of medications. There was a significant difference in the number of underlying chronic illnesses, where more participants interviewed face-to-face had hypertensio, depression, and cataracts.

Table 1. Comparison of sociodemographic and medical history of face-to-face and hybrid participants

Variables	Total	Face-to-face	Hybrid	*p* value
N	145	69	76	
Age (years), median (IQR)	73.5 (67-81)	75 (68-80.5)	73 (66-81)	0.246
Female, n (%)	88 (60.7)	40 (58)	48 (63.2)	0.525
Ethnicity, n (%)				
Malay	31 (21.4)	8 (11.6)	23 (30.3)	0.311
Chinese	83 (57.2)	49 (71)	34 (44.7)	
Indian	31 (21.4)	12 (17.4)	19 (25)	
Marital Status, n (%)				
Single/never married/ divorced/widowed	51 (35.2)	17 (24.6)	34 (44.7)	0.120
Married	94 (64.8)	52 (75.4)	42 (55.3)	
Education level, n (%)				
No formal education/ primary	42 (29)	20 (29)	22 (28.9)	0.893
Secondary	56 (38.6)	26 (37.7)	23 (28.9)	
Certificate/skill	47 (32.4)	23 (33.3)	24 (28.9)	
Chronic illnesses, n (%)				
Myocardial infarction	12 (8.3)	6 (8.7)	6 (7.9)	0.862
High blood pressure	71 (49)	43 (62.3)	28 (36.8)	0.002**
Diabetes	41 (28.3)	21 (30.4)	20 (26.3)	0.584
Stroke	14 (9.7)	9 (13)	5 (6.6)	0.19
Arthritis	15 (10.3)	9 (13)	6 (7.9)	0.311
Depression	4 (2.8)	4 (5.8)	0 (0)	0.034**
Parkinson	6 (4.1)	2 (2.9)	4 (5.3)	0.477
Cataract	11 (7.1)	11 (15.9)	0 (0)	<0.001***
Number of medications, n (%)				
≥5	54 (37.2)	30 (43.5)	24 (31.6)	0.140
<5	91 (62.8)	39 (56.5)	52 (68.4)	
Fall History, n (%)				
Had falls in the past 12 months	113 (77.9)	59 (85.5)	54 (71.1)	0.018**
Frequency of falls in the past 12 months				
Once	71	38 (55.1)	33 (43.4)	0.142
Twice	21	11 (15.9)	10 (13.2)	
3 times	13	3 (4.3)	10 (13.2)	
≥ 4 times	8	7 (10.1)	1 (1.3)	
Location of fall at home				
Bathroom	12	7 (10.1)	5 (6.6)	0.438
Living room	15	5 (7.2)	10 (13.2)	0.245
Bedroom	19	5 (7.2)	14 (18.4)	0.047**
Stairs	4	2 (2.9)	2 (2.6)	0.922
Kitchen	4	2 (2.9)	2 (2.6)	0.922
Hallway	2	1 (1.4)	1 (1.3)	0.945
Garden	7	1 (1.4)	6 (7.9)	0.072
Seeing a doctor after fall	52	34 (49.3)	26 (34.2)	0.047**
Attending emergency department	43	14 (20.3)	29 (38.2)	0.019**
Injury sustained				
Fractures	13	9 (13)	4 (5.3)	0.103
Cut requiring stitches	10	1 (1.4)	9 (11.8)	0.014**

Notes: *$p \leq 0.05$; **$p \leq 0.01$; ***$p \leq 0.001$.

Fall characteristics

There was a difference in proportion of fallers between the participants interviewed face-to-face and the participants interviewed using hybrid means: 85.5% of participants interviewed face-to-face had at least a fall in the past 12 months compared to the 71.1% of participants interviewed virtually. Among fallers, there were significantly more falls in the bedroom among those interviewed using the hybrid method compared to those interviewed face-to-face. Differences in healthcare-seeking behaviour were observed between fallers interviewed using face-to-face and hybrid methods with participants interviewed face-to-face more likely to see a doctor after their fall, while those who were interviewed using hybrid methods were more likely to attend the emergency department. While there was no significant difference in fracture rates, there was a significantly higher proportion who needed stitches in those interviewed using hybrid methods compared to those interviewed face-to-face.

3.3. Physical and Mental Health

Table 2 displays the comparison of physical and mental health variables between participants interviewed face-to-face and the participants interviewed through hybrid means. Hybrid participants had a significantly better functional reach test results, lower depression scores and stress scores, higher cognitive function and higher quality of life compared to the participants interviewed face-to-face.

Table 3 showed the unadjusted and adjusted odds ratios for physical and mental health variables. Following adjustment for baseline differences in history of falls and history of hypertension, hybrid participants had significantly lower depression scores and stress scores, worse falls efficacy scores and were at greater risk of social isolation than participants interviewed face-to-face.

4. DISCUSSION

The COVID-19 pandemic is an unprecedented time, and it is a challenge to strike a balance between advancing ageing research and keeping vulnerable older adults safe. Our study has demonstrated that virtual interviews utilizing modern communication devices can minimize face-to-face data collection with older

adults. Characteristics of falls and healthcare-seeking behaviour in fallers were different between those assessed using face-to-face and hybrid methods. Those interviewed face-to-face were more likely to see a doctor after their fall, while those who were interviewed virtually were more likely to attend the emergency department. As the COVID-19 pandemic intensified, emergency departments became quieter because people felt afraid to come to the hospital or the emergency department due to fear of being exposed to the virus.[21,22] Therefore, the waiting time in ED became shorter and ironically became more accessible to the older adult with a fall. Conversely, the pandemic has made it more difficult to access general practice (GP) as face-to-face visits GP practices were only allowed through an appointment with a reduction in availability of appointments to allow for infection control measures such as donning and doffing of personal protective equipment. While many GP practices compensated through teleconsultations, a person presenting with a fall would be redirected to the emergency department, as legal and professional guidance specifies that new medical presentations, such as a fall, still required a face-to-face visit.[23,24]

Despite the recruitment methods being held constant for face-to-face and hybrid participants, we had fewer fallers recruited into the hybrid interviews resulting in recruitment bias. Those who declined due to other commitments prior were now able to take part as their usual routine activities were prohibited by lockdown measures. Those who were falling, on the contrary, and needed medical attention now avoided hospitals due to the fear of contracting COVID-19.[25] Decisions on appropriate recruitment and survey methods to adopt with regards to ensuring the continuity of research during the COVID-19 pandemic have been challenging.[26] Few studies have validated virtual data collection methods which are areas for future investigation.[27]

Table 2. Descriptive comparison between face-to-face vs hybrid data collection methods

	Face-to-face (n=69)	Hybrid (n=76)	*p*-value
Physical Health			
Physical performance, median (IQR)			
TUG test (s)	14.1 (10.6-30.2)	13.7 (10.4-18.9)	0.412
Functional reach test (cm)	22 (15-27)	26 (19.8-31)	0.027**
Dominant Handgrip strength (kg)	18.1 (13.1-21.2)	18.7 (13.4-21.2)	0.481
PASE, median (IQR)	54 (17-108)	78 (19-119)	0.445
Lawton's IADL, median (IQR)	7 (3-8)	7 (3.5-8)	0.955
Mental Health			
DASS-21, median (IQR)			
Depression score	2 (0-10)	0 (0-2)	<0.001***
Anxiety score	4 (0-6)	2 (0-6)	0.072
Stress score	6 (2-12)	2 (0-6)	0.002**
Short FES-I, median (IQR)	9 (7-13.5)	12 (7.5-16.5)	0.095
VCAT, median (IQR)	24.0 (17-28)	26 (22-29)	0.038*
LSNS-6, median (IQR)	17 (11-21)	18 (13-20)	0.495
KAP, median (IQR)	3 (1-7)	3 (2-5)	0.761
CASP12, median (IQR)	27 (22-32)	32 (25-35)	0.016**

Notes: Mann–Whitney U test was used for the non-parametric continuous data. Dichotomized data were categorized using median values. *$p \leq 0.05$; **$p \leq 0.01$; ***$p \leq 0.001$.

Table 3. Multivariate analyses for face-to-face vs hybrid data collection methods

	Face-to-face (reference) vs Hybrid			
	OR (95% CI)	*p*-value	Adjusted OR[a] (95% CI)	*p*-value
Physical Health				
Physical performance, median (IQR)				
TUG test ≥14(s)	0.81 (0.39-1.69)	0.579	1.34 (0.59-3.05)	0.482
Functional reach test ≥25(cm)	2.20 (1.07-4.54)	0.033*	1.53 (0.70-3.34)	0.289
Dominant Handgrip strength ≥18(kg)	1.29 (0.63-2.63)	0.491	0.84 (0.38-1.84)	0.662
PASE ≥71, n (%)	1.49 (0.77-2.88)	0.242	1.31 (0.64-2.65)	0.462
Lawton's IADL ≥7, n (%)	1.10 (0.56-2.15)	0.787	0.80 (0.38-1.67)	0.557
Mental Health				
DASS-21, n (%)				
Depression ≥2	0.32 (0.16-0.63)	0.001*	0.29 (0.14-0.61)	0.001*
Anxiety score ≥2	0.53 (0.26-1.08)	0.077	0.59 (0.27-1.27)	0.175
Stress score ≥2	0.37 (0.18-0.77)	0.007*	0.33 (0.15-0.72)	0.006*
Short FES-I ≥10, n (%)	1.65 (0.85-3.22)	0.140	2.16 (1.04-4.48)	0.039*
VCAT ≥25, n(%)	2.04 (0.98-4.24)	0.055	1.91 (0.84-4.35)	0.122
LSNS-6 ≥18, n (%)	1.40 (0.72-2.71)	0.322	1.34 (0.67-2.68)	0.416
KAP ≥3, n (%)	1.94 (0.95-3.95)	0.066	2.64 (1.20-5.79)	0.016*
CASP12 ≥29, n (%)	1.92 (0.98-3.76)	0.056	1.71 (0.81-3.60)	0.157

Notes: Mann–Whitney U test was used for the non-parametric continuous data. Dichotomized data were categorized using median values. *$p \leq 0.05$. [a]Adjusted for history of falls and hypertension.
Abbreviations: CASP12: 12-item Control, Autonomy, Self-realization and Pleasure Questionnaire; DASS21: 21-item Depression, Anxiety and Stress Scale; FES-I: 7-item Falls Efficacy Scale International; FR: Functional Reach; KAP: Keele's Assessment of Participation; Lawton IADL: Lawton's Instrumental Activities of Daily Living; LSNS-6: Lubben Social Network Scale-6; PA: Physical Activity; PASE: Physical Activity Scale for the Elderly; TUG: Timed Up and Go; VCAT: Visual Cognitive Assessment Test.

Older adults interviewed face-to-face had higher depression and stress scores measured by DASS-21 compared to the older adults assessed using hybrid methods. Social participation was lower in hybrid participants compared to face-to-face participants as an expected effect of movement restriction orders. The differences between the two groups may also be attributed to pandemic effects.[28] While a link between social isolation with associated with increased anxiety and depression has been reported,[29] however, emerging studies have also suggested that, unlike their younger counterparts, negative psychological consequences of COVID-19 were not evident among older adults.[30] A separate Malaysian study conducted during the pandemic suggested increased self-perceived social-psychological prosperity among older participants during periods when movement control orders were implemented.[31]

While the recruitment strategy and data collection tools remained constant, it is not possible to clearly differentiate the difference between those recruited before and during the pandemic. The difference in results may have been due to the impact of the pandemic on older adults, and/ or the pandemic influencing which older adults were prepared to volunteer into the study at the time. Hence studies that have elected to carry on during the pandemic by switching to hybrid or virtual methods should be interpreted with an awareness of these compound effects, and studies on the psychological effect of COVID-19 are urgently required. Future studies that validate virtual data collection methods, once pandemic restrictions are completely lifted, are needed to aid interpretation of studies such as ours that have converted to hybrid methods. To adapt to the limitations caused by the pandemic, we mobilized our research platform for patient needs, such as a research outpost within the community with ground-floor shopfront access so that the participants could complete the rest of the assessments without having to attend hospital.[4] It was still not possible to switch all our data collection to virtual assessment exclusively, but the incorporation of virtual assessments allowed us to minimise exposure time to the older persons. The attention span of older adults is also potentially shorter with virtual interviews, and hence many had to complete their psychological assessments during the face-to-face visits.

In conclusion, our study described the pivoting of the research from face to face to hybrid methods to ensure the continuity of public-funded research. Thorough process evaluations are required for subsequent interpretation as allowances will have to be made for differences in characteristics of recruited participants as well as the potential effects of the pandemic on the psychological, social, and physical status of the older adult, which cannot be separated.

CONFLICTS OF INTEREST

The authors have no relevant financial interests to disclose.

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