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Telehealth home support during COVID-19 confinement: Survey study among community-dwelling older adults with mild cognitive impairment or mild dementia

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Table of Contents

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Abstract

Background: The public global health emergency of coronavirus disease 2019 has created a rapidly evolving situation worldwide with some countries, such as Spain, implementing restrictions of lockdown, quarantine and confinement. Vulnerable populations to this outbreak and its physical and mental health impact include community-dwelling older adults with mild cognitive impairment or mild dementia. Telehealth is becoming a potential major tool to deliver healthcare and support preventing the risk of exposure, especially for those at higher risk.

Objective: This study aimed to explore the physical and mental health and well-being impact in community-dwelling older adults with mild cognitive impairment or mild dementia during the coronavirus disease confinement whilst providing health and social support and to study the effect of a TV-based assistive integrated technology (TV-AssistDem).

Methods: 100 community-dwelling older adults with mild cognitive impairment or mild dementia residing in Spain, who were participants of the TV-AssistDem clinical trial, from both the intervention and control groups, were called via telephone, out of which 93 responded. Participants were interviewed from the 25th of March to 6th of April 2020.

Results: Respondents were mostly women (64.5%) aged 73. 34 (SD=6.07) who lived accompanied (74.2%). Lockdown measures forced 18.3% to change their living arrangements. Health status was mainly found optimal presenting no COVID-19 symptoms (95.7%). Grocery and pharmacy outings were mostly done by family members (73.1%). Respondents reported overall well-being (61.3%) and a maintained sleep (69.9%), however those living alone in comparison with those living accompanied presented greater negative feelings and sleeping problems. Leisure activities included physical, intellectual, recreational and social activities, such as walks (56.9%), memory exercises (34.8%), watching TV (59.8%) and telephone calls to family and friends (97.8%). Respondents reported accessing moderately or too much (63.8%) COVID-19 information, using predominantly Television sets (96.7%) and understanding this information in extreme (61.5%). Some respondents had contacted health and social services (38.6%) whilst others requested information regarding these services during the telephone call (31.2%). Regarding differences between the intervention and control group there were no significant differences in health and well-being. Respondents with TV-AssistDem did more memory exercises (52.2% vs. 17.4%; P<.001) than controls.

Conclusions: These findings suggest that our vulnerable population at risk have protective factors against confinement such as a support network which guarantees food and medical supplies preventing them from risk of exposure to COVID-19, a daily routine which includes leisure activities and social connectedness using Information and Communication Technologies. Television sets stand out as preferred technological devices when it comes to accessing COVID-19 information and enjoying leisure time, especially in terms of cognitive stimulation, demonstrating the potential of TV-based telehealth, such as TV-AssistDem. Clinical Trial: ClinicalTrials.gov NCT03653234

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Telehealth home support during COVID-19 confinement: Survey study among community-dwelling older adults with mild cognitive impairment or mild dementia

Introduction

Coronavirus disease 2019 (COVID-19), declared as a global emergency by the World Health Organization (WHO), has created a rapidly evolving situation which has forced the implementation of unprecedented restrictions to control its viral spread and mitigate its impact [1]. Spain has one of the highest burdens of COVID-19 worldwide with 59.4% cases reported in population aged 60 and over [2]. In response to the outbreak, its government used a royal decree (463/2020) to declare a 15-day national emergency, with the exceptional measure of a Nationwide lockdown which started on March 15th and has been extended twice ever since [3]. This decree enforces: social distancing, quarantine of those exposed to the disease, and home confinement of those who remain healthy, allowing only essential outings. This restriction of movement of daily life activities and separation from loved ones may be challenging and unpleasant. This experience may impact the physical and mental health and well-being of those who undergo it. Demographic factors, such as sex, age and baseline health and well-being status, have been described as preconfinement predictors of greater impact [4].

Among the vulnerable populations to the impact of this confinement, are community-dwelling older adults. Their chronic conditions may be aggravated by the consequences of confinement [4]. Additionally, WHO underlines that people with mild cognitive impairment or mild dementia (PMCI/MD) may face a greater challenge during the outbreak [5]. Their comprehension of the public health situation and measures to follow, such as staying at home or wearing masks, may be limited [6]. Confinement may lead to social isolation which is a risk factor for health-related consequences [7], and increases risk of dementia and cognitive decline in older adults [8–10]. Moreover, facing a novel and unknown situation is a potential stressor, specially, when cognition may be compromised [4]. Furthermore, the nonattendance to face-to-face activities, such as memory workshops and day care services under closure, may worsen the cognition and functioning of this population [11]. Reduced availability of support may increase caregiver burden consequently [6]. Alzheimer Europe recommends PMCI/MD and their caregivers: building a support network; keeping well informed; guaranteeing food and medical supplies; enjoying leisure activities; staying physically and mentally active using Stimulus®, among others, for cognitive stimulation; and keeping socially connected [12].

In the Information Age of Information and Communication Technologies (ICTs), technology home-based interventions [13] (SmartPhones, tablets, computers, SmartTVs, virtual assistants, ambient assistive devices, etc) enable most of these recommendations: information sharing, online shopping, sports and entertainment, social connectedness, etc. But most importantly, they enable the distribution of health-related information and services. Telehealth is becoming a potential major tool to deliver routine healthcare preventing the risk of viral exposure, especially for those at higher risk [14].

The burden of COVID-19 exerts pressures on healthcare and social support services [3] and caregivers. Public Health Systems which had not proactively integrated telehealth in their health systems, are working reactively against the clock to respond to this urgent situation. Nationally, the Spanish government has launched a COVID-19 triage App AsistenciaCOVID-19 [15] and regionally, routine care is being remotely managed via centralized telephone numbers, Salud Responde [16]. Though these efforts are noteworthy, prior to this outbreak Europe has, for years, proactively invested in ICTs research in at risk populations with programmes such as the European Active and Assisted Living Programme (AAL Programme). TV-AssistDem was an AAL project selected for the Call for proposals "Living well with dementia. The contribution of ICTs to integrated solutions for enabling the well-being of people living with dementia and their communities." [17].

TV-AssistDem is a European multicentre randomized controlled trial which evaluates a TV-based assistive integrated service to support and improve the quality of life of PMCI/MD and provide relief to their caregivers. TV-AssistDem components are: a digital Set-Top-Box service with Android technology with a TV-based interface, a webcam and a centralized back-end service with a web-based interface. TV-AssistDem facilitates remote support through data transmission and video-interactivity between users, caregivers and healthcare professionals.

The current study is nested in the TV-AssistDem project. To face the unexpected health emergency of COVID-19, the TV-AssistDem team rapidly adapted the service to provide tailored support. Detailed information on COVID-19 was offered through the functionality of Health Education with selected content from official sources, such as the WHO, the Spanish Ministry of Health and local authorities, among others. Videos on recommendations and basic care measures, such as hand washing, were uploaded. In addition to offering such informational content, three of its usual functionalities guarantee physical and mental health and well-being, social connectedness and cognitive stimulation: Health Education: visualization of videos of physical activity at home; Videocall: communication with loved ones and health professionals through videocalls; and Memory games: cognitive stimulation with Stimulus® memory games [18].

The use of ICTs in reducing social isolation, improving cognition, and facilitating access to services in PMCI/MD has been broadly study [13,19]. However, despite the growing global interest on telehealth during COVID-19 [14,20], no study has yet explored the use of telehealth home support during COVID-19 confinement in PMCI/MD and the impact of confinement on this population.

The aim of this study was threefold: 1) to explore the physical and mental health and well-being impact of confinement in community-dwelling older adults with mild cognitive impairment or mild dementia, 2) to provide TV-based and telephone-based health and social support, and 3) to study the effect of a TV-based assistive integrated technology (TV-AssistDem). We hypothesized that those with access to TV-AssistDem would report greater physical and mental health and well-being.

Methods

Ethic declarations

The current study is nested in the clinical trial TV-AssistDem approved by the Malaga Province Research Ethics Committee - Comité de Ética de la Investigación Provincial de Málaga, approval

Number: 1770-N-17. The substantial amendments derived from this new study were reviewed by the ethics committee being granted with a favorable opinion.

PMCI/MD and their caregivers provided written consent before taking part in the TV-AssistDem clinical trial as per protocol [18]. Taking into consideration the rights of the participants and in order to perform this study regarding this exceptional situation of confinement, PMCI/MD and their caregivers were informed at the beginning of the telephone call interview that the reason for the call was an additional follow-up within the framework of the project.

Survey development

Telephone-based survey research was conducted following Gordon´s Functional Health Patterns [21] (Supplementary material). Overall, quantitative strategies (questions with numerically rated items) were used for data collection of the "health perception-health management" and "sleep-rest" patterns. Qualitative strategies ("open-ended" questions) were used for "coping-stress tolerance", "activity-exercise" and "role-relationship" patterns. Data was organized into previously coded and listed categories following a directed content analysis approach.

Participant identification and recruitment

100 community-dwelling older adults with mild cognitive impairment or mild dementia were contacted by telephone by researchers from the Biomedical Research Institute of Malaga (IBIMA). Potential respondents were TV-AssistDem participants which had met eligibility criteria for the TV-AssistDem trial from both the intervention and control groups and had not dropped-out from the study. Participants in the intervention group are specifically trained in the use of TV-AssistDem and have daily access to the service from their home environment. Participants in the control group receive treatment-as-usual. Both groups undergo follow-up visits at 6 and 12 months. Inclusion criteria: Over sixty years of age, self-perceived cognitive impairment or caregiver´s perception of cognitive impairment that has been present for at least 6 months, score 23-27 points on the Mini-Mental State Examination, independently living, informal caregiver, pharmacological treatment and written consent. Exclusion criteria: Score above 11 on the Geriatric Depression Scale, terminal illness and specific conditions (cognitive, visual, motor, etc) which may compromise the use of the system [18].

Interview process

Participants were contacted by telephone by health professionals (Mental Health Registered Nurse Clinical Specialist and Neuropsychologist). Researchers had previously established relationship with participants during the TV-AssistDem study. Potential respondents were considered unreachable when no answer was given to three different calls in three different days. The telephone call time frame was the 25th of March to 6th of April 2020. Researchers interviewed participants following the telephone-based survey. Caregivers were interviewed on behalf of PMCI/MD when cognitive or emotional statuses were compromised.

During the interview, when necessary, health information and counselling was provided by the health professionals regarding COVID-19. This information included: symptoms and mode of transmission of the disease, healthcare and social services contact telephone numbers to manage difficulties

derived from the situation of confinement, and recommendation guidelines for staying physically and mentally active. In addition, PMCI/MD in the intervention group were notified of the new updates available in the Health Education functionality concerning COVID-19. These included selected content from official sources such as the WHO, the Spanish Ministry of Health and local authorities, among others. Informative content included infographics and videos about the disease, basic protection measures, such as hand washing, advice for managing psychological distress and guidelines to carry out health procedures. Additionally, they were encouraged to continue to use three of its usual functionalities which are meant to guarantee physical and mental health and well-being. Physical activity was promoted through the visualization of videos of indoor home exercise. Cognition was stimulated with Stimulus® memory games. Lastly, social connectedness with loved ones and health professionals was facilitated through videocalls (Figure 1).

Figure 1. TV-AssistDem adapted to provide tailored support during COVID-19.

Data analysis

The Chi square test and Fisher exact test when less than 80% expected frequencies of the cell were greater than 5 were used for analysis of the categorical variables. For quantitative variables the T Student test was used. The analysis was made following an intention-to-treat procedure. The R program version 3.6.2 © was used for the analysis.

Results

A total of 93(93%) TV-AssistDem participants were successfully contacted, 47(51%) of the intervention group and 46 (49%) of the control group. 7(7%) participants were found unreachable. The mean duration of the telephone calls was of 12'4"(SD= 7'). 21(22%) caregivers were interviewed on behalf of PMCI/MD when cognitive or emotional statuses were compromised.

Sociodemographics

The sample of PMCI/MD had a mean age of 73.34 (SD 6.07), 60(65%) were women and 69(74%) lived accompanied. Lockdown measures forced 17(18%) to change their living arrangements (Table 1).

Functional Health Patterns

Health status was mainly found optimal presenting no COVID-19 symptoms in 89(97%). Grocery and pharmacy outings were done by family members in 68(73%). Most of our respondents did not report inadequate or insufficient food supplies nor being unable to get regular medical care and prescriptions. 57(61%) respondents reported overall well-being and 65(70%) a maintained sleep. Negative experiences reported include: fear of becoming infected or infecting family members, frustration and boredom involving not being able to take part in daily activities and loss of usual routine, and social isolation. Leisure activities included physical, intellectual, recreational and social activities. 53(57%) went on walks, 32(35%) did memory games, 55(59%) watched TV, and 91(98%) telephone called their family and friends. Off-protocol, numerous respondents mentioned during the interviews that religious activities such as listening to religious programs on the radio felt comforting and joining their neighbors at 8pm for the national clapping against COVID-19 felt uplifting and a powerful reminder that, though restrictions are followed in isolation, we are all part of a community (Table 1).

Knowledge of COVID-19 situation and health and social services

58(64%) respondents reported accessing moderately or too much COVID-19 information, using 89(96.7%) Television sets, and 56 (62%) stated understanding this information in extreme. 39(38%) respondents had contacted health and social services whilst 29(31%) requested information regarding these services during the telephone call (Table 1).

Differences between living alone or with others

In comparison with the participants living with others (N= 69, 74%), the participants living alone (N=24, 26%) reported less often wellbeing (34.8% vs. 71.0%; χ^2= 9.607; P = .002), more anxiety (59% vs. 41%; χ^2= 3.903; P = .048) and more sleeping problems (48% vs. 19%; χ^2= 4.706; P = .03). They informed more frequently being sad (44% vs. 25%; χ^2= 2.953; P = .09) and bored (26% vs.

10%; χ^2= 3.613; *P* = .057) but those last results were only marginally significant.

Differences between the intervention and control groups

There were no significant differences between the intervention and control groups in any sociodemographic variables and health status or other variables associated with COVID19. Likewise, there were no differences regarding health management, mental health, well-being and sleeping problems. Respondents with TV-AssistDem did more memory exercises (52% vs. 17%; *P*<.001) than controls (Table 1).

Table 1. Sample characteristics and differences between the intervention and control groups.

	Total (N=93) n (%)	Intervention (N=47) n (%)	Control (N=46) n (%)	χ^2	*P*
Age M (SD)	73. 34 (6.07)	74.00 (6.16)	72.67(5.98)	t=1.053	.29
Sex					
Male	33(36)	16 (34)	17(37)	.09	.77
Female	60(65)	31 (66)	29 (33)		
Change in living arrangements					
Yes	17(18)	10 (21)	7(15)	.57	.45
No	76(82)	37 (79)	39 (85)		
Living arrangements					
Alone	24(26)	14 (30)	10 (22)	3.75	.44
Spouse	39(42)	22 (47)	17 (37)		
Children	12(13)	5 (11)	7 (15)		
Spouse and children	13(14)	4 (9)	9 (19)		
Other	5(6)	2 (4)	3 (7)		
Health status (COVID19)					
No symptoms	89(96)	45 (96)	44 (96)	1.33	.51
Symptoms without Test	3(3)	1 (2)	2 (4)		
Symptoms and + Test	0	0	0		
Hospitalized	0	0	0		
ICU Inpatient	1(1)	1 (2)	0		
Deceased	0	0	0		
Health management: groceries/pharmacy					
Patient	12(13)	3 (6)	9 (20)	9.19	.10
Patient and family member	7(8)	3 (6)	4 (9)		
Family member	68(73)	35 (75)	33 (72)		
Home worker	1 (1)	1 (2)	0		
Online	1(1)	1 (2)	0		
Other	4(4)	4 (9)	0		
Mental health and well-being					
Well	57(61)	27 (59)	30 (65)	.41	.52
Calm	8(9)	3 (7)	5 (11)	.55	.46
Sad	27(29)	17 (37)	10 (22)	2.57	.11
Worried	20(22)	7 (15)	13 (28.	2.30	.13
Afraid	10(11)	6 (13)	4 (9)	.450	.50
Anxious	22(24)	8 (17)	14 (30)	2.15	.14
Bored	13(14)	6 (13)	7 (15)	.09	.74
Sleep					
Maintained	65(70)	35 (81)	30 (68)	2.01	.16
Altered	22(24)	8 (19)	14 (32)		
Unknown	6(6)				
Leisure activities					
Physical activity					
None	12(13)	8 (19)	4 (9)	1.43	.23
Walks	53(57)	23 (49)	30 (65)	2.51	.11
Stair climbing	10(11)	5 (11)	5 (11)	.01	.97

Gymnastics	19(20.	12 (26)	7 (12)	1.52	.22
House chores	8(9)	6 (13)	2 (4)	2.09	.27
Other	12(13)	3 (6)	9 (20)	3.59	.058
Intellectual					
Memory exercises	32(35)	24 (52)	8 (17)	12.22	<.001
Reading	24(26.1)	13 (28)	11 (24)	.22	.63
Playing games	6(7)	1 (2)	5 (11)	2.85	.20
Needlework	18(20)	6 (13)	12 (26)	2.49	.11
Painting	8(9)	5 (11)	3 (7)	.55	.71
Recreational					
Watching TV	55(60)	28 (61)	27 (59)	.04	.83
Listening to radio or music	9(9.8)	3 (6.5)	6 (13)	1.11	.48
Playing with ICTs	8(8.7)	4 (8.7)	4 (9)	0	1
House chores	41(44.6)	18 (39.1)	23 (50)	1.10	.29
Keeping pets or plants	12(13)	2 (4.3)	10 (22)	6.13	.01
Social					
Home visits	46(50)	24 (51)	22 (48)	.10	.75
Calls	91(98)	46 (98)	45 (98)	<.001	.99
Videocalls	45(48)	23 (49)	22 (48)	.01	.91
Texting	46(50)	25 (53)	21 (46)	.53	.47
COVID19 information access					
None	0	0	0	2.55	.47
Too little	9(10)	3 (7)	6 (13)		
Moderate	29(32)	15 (33)	14 (30)		
Too much	29(32)	17 (38)	12 (26)		
Extreme	24(26)	10 (22)	14 (30)		
COVID19 information source					
Family and friends	47(51)	27 (59)	20 (43)	2.13	.14
TV	89(97)	45 (98)	44 (96)	.34	.56
Newspaper	5(5)	3 (7)	2 (4)	.21	.65
Digital media	11(12)	5 (11)	6 (13)	.10	.75
Radio	11(12)	6 (13)	5 (11)	.10	.75
COVID19 understanding of the information					
None	0	0	0	2.85	.41
Too little	7(8)	2 (4)	5 (11)		
Moderate	13(14)	8 (18)	5 (11)		
Too much	15(17)	9 (20)	6 (13)		
Extreme	56 (62)	26 (58)	30 (65)		
Resources contacted					
None	54(61)	30 (68)	24 (55)	3.17	.37
Health services	32(36)	14 (32)	18 (41)		
COVID19 services	1(1)	0	1 (2)		
Emergency services	0	0	0		
Social services NGO	1 (1)	0	1 (2)		
Resources facilitated					
Health services number	12(13)	3 (6)	9 (20)	3.59	.058
COVID19 services number	1(1)	0	1 (2)	-	-
Social services NGO number	3(3)	1 (2)	2 (4)	.62	.49
TV-AssistDem Health Education	13(14)				

Discussion

Principal Results

Our findings show that, at the time of assessment, the physical and mental health and well-being of our PMCI/MD was overall optimal, though living alone was found a risk factor for a

greater psychological negative impact and sleeping problems. Health and social support were TV-based provided in the intervention group and telephone-based when requested. Television sets stood out as preferred technological devices to access COVID-19 information, watch TV as a recreational activity, and do memory exercises as an intellectual activity.

Our sample presented characteristics which have been described as preconfinement predictors for a greater health and well-being impact: being women, old age and mild cognitive impairment or mild dementia [4,5]. However, the change in living arrangements suggests that some households decided to rearrange their support network for the duration of the confinement. Having one's support group at home has been described as helpful during disease outbreaks [4]. Our findings are encouraging in demonstrating that guaranteeing basic supplies, carrying out meaningful activities and ensuring the understanding of the situation by providing information of available resources improve the experience of confinement as described by Brooks et al [4].

Overall, respondents experienced an optimal health status at the time of data collection which may be explained by the reduced risk of exposure to daily life outings; and adequate supplies which have been reported to mitigate the consequences of quarantine [4]. Our findings regarding mental health and well-being at two weeks into confinement coincide with those described in the literature for quarantines under 10 days. Our respondents expressed fear, frustration and boredom which are frequent negative feelings expressed during confinements [4].

Participation in meaningful activities goes beyond pleasure or entertainment in PMCI/MD and has shown benefit on cognition and functioning improving independence in instrumental activities of daily living [22]. Physical activity has a role in enhancing and maintaining cognition [23] and while our respondents were restricted outdoor daily life and physical activities, the vast majority engaged daily in physical activities. Leisure activities involving intellectual high cognitive effort or social interaction have been associated with better cognition [24]. Considering that the nonattendance to memory workshops and day care services and social isolation may worsen the cognition and functioning of this population, participating in memory games analogically, or technologically using smartphones, tablets, computers or TV-based devices, may slow down the negative consequences of confinement in cognition. The fact that respondents with TV-AssistDem did significantly more memory exercises than controls suggests the potential of TV-based for cognitive stimulation. Recreational activities have also demonstrated benefits in dealing with challenging situations [24], however, careful attention must be given to watching TV which is associated with a dose-response cognitive decline [25].

Evidence suggests that access to devices as smartphones, tablets, computers and TV-based devices, as the sample of the study, which facilitate connectedness and communication, may reduce feelings of isolation [4]. Since social isolation and loneliness have been associated with poorer cognition [26] special attention must be drawn in PMCI/MD regarding social activities during confinement. Furthermore, setting up a specific telephone support line has been described as effective in terms of providing health and social support [4,27]. In addition, TV-AssistDem offers and will continue to offer videocall services during confinement to those in the intervention group.

Inadequate information is generally a potential stressor when facing novel and unknown situations [4]. While poor information may prevent from comprehending the severity of the situation and complying with the measures, being extremely informed may significantly impact the perception of the situation and cause being worried in extreme. PMCI/MD face an additional risk as their cognition and understanding of the information may be compromised. Considering our populations characteristics and their access to COVID-19 information being moderate-too much, their understanding being extreme is exceptional. While television sets stand out as the main source of information, family and friends follow, which may explain the remarkable understanding of the situation.

To our knowledge this is the first study to explore the physical and mental health and well-being impact of the COVID-19 confinement in community-dwelling older adults with mild cognitive impairment or mild dementia and the use of telehealth home support during COVID-19 confinement, with no systematic reviews or clinical trials registered regarding this study population and technologies, to date.

Limitations

Although telephone call interviewing was the safest means to communicate with the PMCI/MD during the COVID-19 pandemic, there were several drawbacks. The amount of information gathered and provided in a single telephone call is limited and researchers had to balance the time spent on each call. Furthermore, overloading PMCI/MD with a long interview is not advisable as it may feel tedious and time-consuming, nor providing too much information as they may not be able to understand or remember it all in one single telephone call. To ensure telephone call standardization, researchers followed an exhaustive structured protocol.

The physical and mental health and well-being impacts were assessed two weeks into confinement. Studies show that aggravation of physical chronic conditions and poorer mental health and well-being, specifically significantly higher post-traumatic stress symptoms, appear when the quarantine is over 10 days. As the duration of the Spanish confinement is not yet clear, long-term impact and consequences will need to be assessed overtime [4]. At the time of submission of this publication, the government had announced the extension of the period of confinement; therefore, new evaluations will be carried out to determine the effect of the prolonged duration of the confinement.

Conclusions

TV-AssistDem, our TV-based assistive integrated technology, has demonstrated going beyond its initial objective of telehealth home support, promoting active ageing of the elderly in their own homes and reducing caregiver burden. It has emerged as a promising cognitive stimulation and telehealth tool to deliver healthcare and facilitate remote caregiver support during exceptional circumstances, such as the current COVID-19 outbreak.

Our findings suggest that living alone may be a risk factor for mental health and well-being, and sleep during the coronavirus disease confinement in PMCI/MD. Measures to face the negative experience of confinement recommended include: keeping well informed of the situation and accessing health and social services, counting with a support network which prevented risk of

exposure to COVID-19 and guaranteed food and medical supplies, a daily routine with maintained sleeping habits and leisure activities, staying physically and mentally active with cognitive stimulation exercises, and ensuring social connectedness using technologies. Our findings show the potential of Television sets for informative, recreational and intellectual purposes in this population.

Findings of this study are valuable and meaningful and contribute to the growing evidence of COVID-19 research across populations, with special attention to PMCI/MD and technologies. Research regarding the assessment of needs of PMCI/MD and their caregivers during COVID-19, as well as technology-based support interventions, are urgently globally needed [6,28]. The approach to explore the uniqueness of this experience in vulnerable populations is appropriate and replicable. Telephone-based interventions during COVID-19 to survey and raise health awareness in older adults have proven as feasible when face-to-face measures are not possible during outbreaks [27].

Governments preparedness and responses to situations of the magnitude of COVID-19 determine related outcomes and consequences which go beyond the disease itself with political, economical and social impacts. This study aims to, in the short-term, prepare countries which are yet to face similar governmental restrictions to plan accordingly to guarantee and protect the physical and mental health and well-being of their community-dwelling older adults with mild cognitive impairment or mild dementia. In the long-term, it will contribute to the preparedness of another possible future outbreak. Consequences from this outbreak may affect not only people in confinement and their caregivers but also the health-care system which will have to provide care to deal with these consequences. The need for remote approaches to outreach and screen those at risk of social isolation urges to bolster the implementation of telehealth ICTs, such as TV-AssistDem, in the care and support of vulnerable populations who suffer the effects of the COVID-19 pandemic.

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Authorship for this manuscript follows the ICMJE Standards: Substantial contributions to the conception and design of the work JMGC and EDP; Acquisition of data JMGC and EDP; Analysis and interpretation of data: JMGC and JGP; Drafting the work: JMGC and JGP; and revising it critically for important intellectual content: JMGC, EDP, JGP, ACV and FM; Final approval of the version to be published: JMGC, EDP, JGP, ACV and FM.

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Conflicts of Interest

None declared.

Abbreviations

COVID-19: Coronavirus disease 2019
TV-AssistDem: TV-based ASSistive Integrated Service to supporT European adults living with mild DEMentia or mild cognitive impairment
WHO: World Health Organization

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