Original Article

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☑ Knowledge translation and advances in health and nursing practices

Burden and psychological symptoms on informal caregivers of the elderly in the COVID-19 pandemic

Sobrecarga e sintomas psicológicos em cuidadores informais de idosos na pandemia da COVID-19

Sobrecarga y síntomas psicológicos en cuidadores informales de ancianos en la pandemia de COVID-19

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ABSTRACT

Objective: To evaluate the burden and psychological symptoms of informal caregivers of the elderly during the COVID-19 pandemic.
Method: Cross-sectional study with 50 caregivers from the Gerontology Outpatient Clinic in the interior of São Paulo, evaluated in 2021 via teleconsultation by the Hospital Anxiety and Depression Scale and the Zarit-Brief Burden Interview. Poisson's multivariate regression was applied to the two instruments scores according to the set of characteristics of the participants.
Results: Psychological symptoms were highlighted in caregivers with longer time in exercise (p=0.01; p=0.001) and who lived in the same environment with the elderly (p=0.04; p=0.02). Burden was associated with age (p<0.001) and living with the elderly (p=0.001).
Conclusion: There is a need for interventions that attenuate psychological symptoms and burden in older caregivers, who live with the elderly and have been working for a longer time.
Keywords: Aged. Caregiver. Depression. Anxiety.

RESUMO

Objetivo: Avaliar sobrecarga e sintomas psicológicos dos cuidadores informais de idosos durante a pandemia da COVID-19.
Método: Estudo transversal com 50 cuidadores do Ambulatório de Gerontologia do interior de São Paulo, avaliados em 2021 via teleconsulta pela Escala Hospitalar de Ansiedade e Depressão e Entrevista de Sobrecarga de Zarit. A Regressão multivariada de Poisson foi aplicada nos escores dos dois instrumentos em função do conjunto de características dos participantes.
Resultados: Destacaram-se os sintomas psicológicos nos cuidadores com maior tempo em exercício (p=0,01; p=0,001) e que viviam no mesmo ambiente que o idoso (p=0,04; p=0,02). A sobrecarga associou-se com sua idade (p<0,001) e morar junto ao idoso (p=0,001).
Conclusão: Urgem intervenções atenuantes dos sintomas psicológicos e de sobrecarga nos cuidadores com idade avançada, que residem junto ao idoso e desempenham a função há maior tempo.
Palavras-chave: Idoso. Cuidadores. Depressão. Ansiedade.

RESUMEN

Objetivo: Evaluar sobrecarga y los síntomas psicológicos de cuidadores informales de ancianos durante la pandemia de COVID-19.
Método: Estudio transversal con 50 cuidadores del Ambulatorio de Gerontología del interior de São Paulo, evaluados en 2021 mediante teleconsulta por la Escala de Ansiedad y Depresión Hospitalaria y Entrevista de Sobrecarga de Zarit. Se aplicó la Regresión multivariada de Poisson a las puntuaciones de los dos instrumentos en función de las características de los participantes.
Resultados: Los síntomas psicológicos destacaron en cuidadores con mayor tiempo de ejercicio (p=0,01; p=0,001) y que vivían en mismo ambiente que lo anciano (p=0,04; p=0,02). La sobrecarga asoció con edad (p<0,001) y convivencia con ancianos (p=0,001).
Conclusión: Existe una necesidad de intervenciones de mitigación de los síntomas psicológicos y sobrecarga en cuidadores mayores, que viven con ancianos y realizan la función por más tiempo.
Palabras clave: Anciano. Cuidadores. Depresión. Ansiedad.

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INTRODUCTION

In view of the occurrence of demographic and epidemiological transitions in the world context, there is a significant increase in the aging of the population[1]. These transformations occurred due to the accentuated reduction in mortality and the increase in life expectancy, thus resulting in the emergence of a new epidemiological profile in which the typical diseases of aging predominate[2]. It is estimated that in Brazil, one in ten people is 60 years of age or older[3]. According to the World Report on Ageing and Health, the population of elderly people grows above average in Brazil, showing that while in the world the number of people over 60 years old will double by 2050, in Brazil it will almost triple[2,4].

The epidemiological profile of the elderly population is characterized by the predominance of chronic conditions, prevalence of high mortality and morbidity, and it should be highlighted that this situation does not necessarily mean limitation of their activities, restriction of social participation or their social role, which currently has suffered significant impact due to control measures for the spread of the new Coronavirus, in which social isolation was recommended as the main means of preventing the disease[4].

The emergence of the new coronavirus with high-mortality and transmissibility, identified as SARS-CoV-2, affected approximately 13 million people worldwide by July 2020, being 600,000 of fatal victims[5–6].Individuals over 60 years of age and those who had chronic health conditions such as diabetes, cancer, respiratory and chronic heart diseases, were at greater risk of developing COVID-19 in its most severe form[5].

The pandemic caused irreparable human, economic, social and health losses[7]. Moreover, cognitive well-being was directly impaired with the social distancing imposed by contingency plans, as well as increased unemployment, loss of family members, dissemination of fake news and excessive information[8].

An online study developed in Brazil discusses on the incidence of depressive and anxious symptoms in Brazilian adults during the COVID-19 pandemic. In it, it was shown that after the initial outbreak of SARS-CoV-2, these symptoms were higher compared to pre-pandemic rates, indicating damage to the Brazilians' mental health[9].

Family functionality, intra-family communication, the care routine for the elderly during the emergence of the new coronavirus in Brazil, added to the mismatch of guidance and information, generated negative conflicts that were intensified due to extreme situations, crisis and situations of vulnerability[10].

In addition to the usual burden by the act of caring, which is proportional to the advance of the pandemic, informal caregivers of the elderly were faced with fear for life, feelings of uncertainty and fear[11]. It is worth mentioning that the informal caregiver is the one represented by a family member, friend or neighbor, whose role is to provide care in the home environment voluntarily, without funding, performing the activity full-time[12]. The chronic stress related to the care process of the elderly, together with lockdown, negatively impacted on the psychological aspects of these caregivers, resulting in emotional and physical adversities[11].

With the drastic changes in routine during the pandemic, it has increased the likelihood of the development of anxious and depressive symptoms in individuals with low capacity to deal mentally or emotionally with these stressful events[13].

Thinking about this moment of isolation and physical and emotional vulnerability experienced by these caregivers and care recipients, some services have created online groups, with the objective of professional support to meet, somehow, the caregivers' needs.

Online support services were supported by Ordinance No. 340 of September 4, 2020, which regulated telemedicine and telecare, determining this practice not only for doctors, but also for other health professionals[14]. In addition, COFEN Resolution 634 of 03/26/2020, published at the beginning of the pandemic, authorizes and regulates nursing teleconsultation as a way of cope with the pandemic caused by Sars-Cov-2, upon clarifications, consultations, referrals and guidance by technological means[15]. Only in May 2022, Telenursing was regulated in Brazil by Resolution COFEN 696/2022, being amended by COFEN No. 707/2022, standardizing it and providing for the role of Nursing in Digital Health[16].

Teleconsultation is defined as a care modality performed remotely (at distance) mediated by Information and Communication Technologies (ICT), with health professionals and patients of different geographic places[14]. Through the use of ICTs, it is possible to provide support to services, maintain the care provided to patients, monitor health situations, ensuring that the care provided is followed up and, thus, ensure that the elderly population together with their caregivers are assisted even in times of social isolation[14,17].

Studies on caregivers of the elderly people are necessary not only to characterize the impacts of the pandemic on this population group, but, above all, to support the planning

of actions to promote health, provide support and care for both caregivers and care recipients.

In view of the above, the present study aimed to evaluate the burden and psychological symptoms of informal caregivers of the elderly during the COVID-19 pandemic.

METHOD

This was a cross-sectional study with informal caregivers of the elderly treated at the Gerontology Outpatient Clinic of the University Hospital of the *Universidade Federal de São Carlos*. The investigation was conducted from March to December 2021. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) was used to guide the steps of this study.

The University Hospital "Prof. Dr. Horácio Carlos Panepucci" from the *Universidade Federal de São Carlos* (HU-UFSCar), is in the city of São Carlos, in the interior of São Paulo. The structure of approximately 8000 m^2 and 54 beds, allows services in the areas of emergency care, support, diagnosis, therapy, psychosocial care and pediatric and adult inpatient units.

The HU-UFSCar Gerontology outpatient clinic, inaugurated in June 2019, provides free care by the Unified Health System (*Sistema Único de Saúde* – SUS) to frail elderly people over 60 years old and to their caregiver, referred by the Basic Health Units (BHU) of the municipality. At the HU-UFSCar, the service exists under the name of Gerontology Outpatient Clinic, however, by the SUS regulation system (CROSS) for scheduling via the network (Health Department), the service is under the name of Geriatric Nursing, for not having yet the terminology Gerontology in the CROSS system.

The team consists of the professor responsible for the service, nurse, and professor of the Gerontology course, in addition to undergraduate students in Gerontology and Graduate students in Gerontology and Nursing, responsible for the service. The activities are generally related to the care for the frail elderly people and their caregivers, gerontological assessments and the elaboration of an individual therapeutic plan, in addition to offering cognitive stimulation workshops for the elderly and guidance for caregivers, integrating teaching, research and extension actions. The online service, or teleconsultation of the Gerontology Outpatient Clinic, started with the reception and delineation of the caregiver's profile. Next, through a multidimensional evaluation, biopsychosocial demands were identified, as well as psychological symptoms (anxiety and depression) and burden, in order to, from this identification, develop an action plan aimed at caregivers.

The sample of this study was non-probabilistic and intentional. All informal caregivers of elderly patients treated at the Gerontology Outpatient Clinic in 2019 were invited. In 2019, 54 elderly and their respective caregivers were treated, and contact with caregivers was resumed in the first half of 2021, to invite them to undergo an evaluation via teleconsultation.

The inclusion criteria were informal caregivers of the elderly registered at the Gerontology Outpatient Clinic of the HU-UFSCar, aged 18 years or over, who were identified as the main responsible for the care of the elderly (defined by the time of daily care), who had previous knowledge in technology and who showed interest to participate in the study. Those in which the contact was not successful or were unable to participate in teleconsultations due to difficulties with technology were excluded.

For caregivers who agreed to participate, a teleconsultation session was scheduled and the electronic Free and Informed Consent Form (FICF) was sent, in addition to the Term of Agreement for teleconsultation.

At the beginning of each evaluation, the team presented the objectives of the research, making themself available to clarify any doubts about the study and the informed consent. All teleconsultation rules were supported by Ordinance No. 340 of September 4, 2020. Next, the participants were invited to answer to the study evaluation protocol via the Google Forms®, platform, applied via teleconsultation, that is, remote evaluation from the participant's clinical condition, with the objective of defining and directing adequate care based on the evidenced needs. This resource is characterized as a type of telenursing, which includes consultation, guidance, and monitoring by electronic means.

Following the recommendations of Resolution 340, all patients evaluated by teleconsultation already had a first evaluation in-person in 2019. The flow of care and the registration of the consultation were conducted as follows: Access to the meeting via link on the day and time established; Positive identification (print screen of the videoconference screen with the image of the patient showing official document with photo); Sending the print screen to the Administrative Assistant who saves it in the specific Teleconsultation folder with the title "record number"; Teleconsultation registration in the electronic medical record system (Management Application for University Hospitals – *Aplicativo de Gestão para Hospitais Universitários* – AGHU) following the recommendations:

I - clinical data necessary for the proper management of the case, being filled in at each contact with the patient;

II - date, time, information and communication technology (ICT) used for the service;

III - number of the Regional Professional Council and its federation unit;

IV - identification of the Teleconsultation at AGHU writing in the patient's medical record #teleconsultation;

Each teleconsultation session lasted approximately 40 minutes, with the following order of data collection: (1) sociodemographic data (gender, age, education level, marital status, degree of kinship with the elderly); (2) data on the caregiver's health status; (3) data on knowledge about the disease of the elderly and types of activities performed in care; (4) Zarit Burden Inventory (ZBI) and, (5) Hospital Anxiety and Depression Scale (HAD).

The Zarit Burden Inventory has the purpose of assess the objective and subjective perception of the burden suffered by the caregiver of the elderly, however it was used the abbreviated and validated Brazilian version of this instrument, the Zarit-Brief Burden Interview (ZBI-12)[18–19]. The ZBI-12 has 12 questions, obtaining a total score of 44 points, and the burden can be identified by the cut-off score equal to 13 points[19].

The Brazilian version of the Hospital Anxiety and Depression Scale (HAD) was used to evaluate the presence of depressive and anxiety symptoms on caregivers. This scale has 14 items, with specific questions that evaluate depression and anxiety. The answers range from 0 to 3 and the sum equal to 0-7 indicates unlikely symptoms of depression and anxiety, 8-11, possible presence of symptoms, but questionable or doubtful, and 12-21 probable presence of symptoms[20,21].

Data normality was tested by Shapiro-Wilk. Numerical variables are presented as mean ± standard deviation or median (interquartile range) according to the test result. Continuous data were expressed as mean ± standard deviation. Categorical variables were expressed as absolute frequency (relative frequency). Poisson regression models evaluated scores on the ZBI-12 inventory and HAD scales (depression and anxiety separated) according to characteristics of the caregivers. All analyses were performed using R version 4.0.3 (The R Foundation for Statistical Computing, Vienna, Austria) in R-Studio 1.3.1093 (RStudio Inc., Boston, USA). The Poisson regression model was chosen so that the residuals (differences between actual and predicted values) were considered to follow the Poisson distribution rather than the normal distribution. Logarithmic transformation in the Poisson distribution guarantees that the predicted values of the dependent variable will be zero or positive.

The study was approved by the Research Ethics Committee Involving Human Beings of the *Universidade Federal de São Carlos* (opinion 3.825.117/2020, CAAE: 24244519.3.0000.5504). This project was conducted complied with the recommendations of Good Clinical Practice and Resolution No. 466 of 2012 of the National Health Council/Ministry of Health.

RESULTS

The 54 caregivers on the list were contacted and, among them, 50 individuals agreed to participate in this study. The reason for exclusion was refusal to participate in the study (n=4).

Most of the sample is female (94%), with a mean age of 54.7±15.1 years, married (40%) and with a mean education level of 9.4±4.7 years. The other sociodemographic and health characteristics of the study participants are described in Table 1.

Table 2 presents the type of care provided by the caregiver to the elderly. Most care activities focus on medication control (78%); feeding (60%); sleep and rest (54%); and body hygiene (52%).

Poisson regression models were used to evaluate the burden and the symptoms of depression and anxiety in caregivers regarding the caregiver's age, if the caregiver lives with the elderly person, and the time they have been caring for the elderly person. Table 3 shows that living with the elderly had a statistically significant and positive association with all scores (ZBI-12, HAD-D and HAD-A). Caregiver age (in years) also showed a statistically significant association with burden and anxiety scores, but not with depression. Nevertheless, the time in which the caregiver has been working showed a statistically significant and positive association with anxiety and depression scores, but not with burden.

Table 1 – Sociodemographic distribution and health profile of informal caregivers of the elderly followedup by the Gerontology Outpatient Clinic at HU-UFSCAR. São Carlos, São Paulo, Brazil, 2022

Variable	Sample (n=50)
Female	47 (94%)
Age group	
21 – 31 years	4 (8%)
32 – 42 years	7 (14%)
43 – 53 years	13 (26%)
54 – 64 years	12 (24%)
65 – 75 years	9 (18%)
76+ years	5 (10%)
Marital status	
Married	20 (40%)
Single	19 (38%)
Widowed	4 (8%)
Divorced	5 (10%)
Other	2 (4%)
Education level	
Illiterate	2 (4%)
1 to 4 years	12 (24%)
5 to 8 years	7 (14%)
9 years or more	29 (58%)
Kinship with the elderly	
Spouse	10 (20%)
Son/Daughter	28 (56%)
Son-in-law/Daughter-in-law	4 (8%)
Grandson	4 (8%)
Brother/Sister	3 (6%)
Nephew/Niece	1 (2%)

Table 1 – Cont.

Variable	Sample (n=50)
Not familiar	0 (0%)
Does live with the elderly?	40 (80%)
Time of care in years	8,7 ± 10,0
Hours of care/day	17,5 ± 8,6
Comorbidities	
None	5 (10%)
1 to 4 diseases	43 (86%)
5 diseases or more	2 (4%)
Medication in continuous use	
0 to 3 medications	42 (84%)
4 medications or more	8 (16%)
ZBI-12	
Score	17,3 ± 10,2
Presence of burden	30 (60%)
HAD-D	
Score	5,7 ± 4,6
Depressive symptoms	
Unlikely	39 (78%)
Possible	3 (6%)
Probable	8 (16%)
HAD-A	
Score	6,3 ± 4,7
Anxiety symptoms	
Unlikely	35 (70%)
Possible	8 (16%)
Probable	7 (14%)

Source: Research Data, 2022.
Abbreviations: ZBI-12, Zarit-Brief Burden Interview; HAD, Hospital Anxiety and Depression Scale.

Table 2 – Type of care provided to the elderly by caregivers. São Carlos, São Paulo, Brazil, 2022

Type of care	Sample (n=50)
Medication control	39 (78%)
Feeding	30 (60%)
Sleep/Rest	27 (54%)
Body Hygiene	26 (52%)
Skin care	21 (42%)
Disposal	17 (34%)
Oral Hygiene	16 (32%)

Source: Research Data, 2022.

Table 3 – Poisson regression for ZBI-12 and HAD scores regarding the caregiver variables. São Carlos, São Paulo, Brazil, 2022

Independent variable	Dependent variable					
	ZBI-12		HAD Depression		HAD Anxiety	
	PR (95% CI)	p	PR (95% CI)	p	PR (95% CI)	p
Caregiver's age, years	1.01 (1.01 – 1.02)	<0.001	1.01 (0.99 – 1.01)	0.1	1.01 (1.00 – 1.01)	0.01
Lives with the elderly						
No	Reference	–	Reference	–	Reference	–
Yes	1.27 (1.05 – 1.54)	0.01	1.42 (1.00 – 2.00)	0.04	1.45 (1.04 – 2.03)	0.02
Time caring for the elderly, years	1.00 (0.99 – 1.01)	0.3	1.01 (1.00 – 1.02)	0.01	1.02 (1.00 – 1.02)	0.001

Source: Research Data, 2022.
Abbreviations: PR, Prevalence Ratio; CI, Confidence Interval; ZBI-12, Zarit-Brief Burden Interview; HAD, Hospital Anxiety and Depression Scale.

DISCUSSION

The present study aimed to evaluate, by teleconsultation, the informal caregiver of the elderly treated at a Gerontology Outpatient Clinic regarding the degree of burden and psychological symptoms in the period of social isolation during the COVID-19 pandemic, in addition to identifying the factors associated with burden and psychological symptoms. The results showed that higher levels of caregiver burden were independently associated with the caregiver's age and living with the elderly being cared for. Symptoms of depression and anxiety were statistically significant for caregivers who live with the elderly and for those with more years working as caregiver.

In a quick systematic review, it was verified in the literature the impact of COVID-19 on the health and well-being aspects

of informal caregivers of people with dementia. Among the 10 selected studies, symptoms of depression, anxiety and burden were evidenced as the most common outcomes[22].

Although the sample in the present study had, for the most part, unlikely symptoms of depression and anxiety, those that had were associated with factors specific to the caregiver, such as age, living with the elderly person and being a caregiver for more years. In a research that evaluated Italian caregivers of elderly people with dementia, regarding the impact of the pandemic and the lockdown period on psychological symptoms, resilience and burden, there was an increase in depressive symptoms, however, anxiety was not evidenced[13]. The symptom of depression can be enhanced by feeling alone, when individuals experience collective mourning, high lethality, abandonment of government and lack of public policies for social protection in times of pandemic[9].

In addition, a study conducted with the Brazilian adult population showed that women and younger adults were more likely to have symptoms of depression and anxiety during the COVID-19 pandemic[9]. This fact is in line with the results achieved in the present research, which presented a sample predominant of female and daughter caregivers. It was observed, then, that the pandemic increased the demand of caregivers, resulting in higher levels of anxiety and depression, in addition to a greater burden, which is also verified in another study[9–13].

In a research with ten informal caregivers during the pandemic, issues related to little or no psychological support in the face of many demands, fear of contamination of themselves and others, restrictions at the home to reconcile work activities and home demands, were frequent reports from family caregivers[23].

The factor "living with the elderly" significantly increased the three symptoms evaluated in this research: burden, symptoms of depression and anxiety. Due to the COVID-19 pandemic, there was a certain "limitation" of both informational and structural support provided by health services and support networks for caregivers, such as group activities and home care. Moreover, it is considered that the psychological symptoms are enhanced due to social isolation and changes in the dedication of care. These factors can also be explained by the change in the routine of both the elderly and caregivers. Those family members who eventually took care of their relatives reorganized themselves to provide support in other areas, such as the acquisition of medication, food, among other needs. Furthermore, the elderly with a higher degree of dependence and their respective caregivers were unable to receive visits and lived restricted in their homes, intensifying the feeling of loneliness, helplessness and isolation at this moment[10].

Furthermore, a research aimed to explore the possibility of associations between the changes implied by the COVID-19 pandemic and the rural-urban status regarding the burden of North American informal caregivers. The results of this study showed an increase in caregiver burden during the pandemic in those who lived with the care recipient and who were diagnosed with COVID-19, and the issue of living with the elderly person, respectively, was present in the current study[24].

Given the feelings of fear and uncertainty, informal caregivers had to develop their communication and compassion skills with the elderly person being cared for. In this adverse context, the impaired quality of life demanded greater resilience from caregivers, which is a fundamental and necessary characteristic to assist in a positive adaptation in their homes. Thus, the balance between emotional, cognitive and sociocultural mechanisms requires a holistic view so that levels of resilience are not affected[11].

Regarding the "time of care", caregivers had an average of 8.7 years (±10.0), in addition to an average of 17.5 hours per day (±8.6). These findings showed in different ways through the literature search. In a first study, conducted at the Geriatrics Outpatient Clinic of a municipality in southeastern Brazil, most caregivers had a mean age between 0-3 years[25]. On the other hand, in the research developed in Basic Health Units in the city of Caxias-MA, caregivers performed care for more than 4 years[26]. Thus, the time spent to care for a dependent elderly person is considered high, in addition to being characterized as a predisposing factor to burden, since the responsible family members have a reduction in the time for social relationships and self-care activities[27].

In the present investigation, 60% of the informal caregivers evaluated had burden related to the care provided to the elderly. A study developed during the COVID-19 pandemic through telehealth by videoconferencing platforms, brought significant results to this variable. The sample comprised sixty pairs of elderly people with neurocognitive disorder treated at an activity center in Hong Kong and their marital caregivers. Thus, the pairs were allocated into two groups, that is, intervention and control. The caregivers of the control group were submitted to weekly phone calls lasting 30 minutes, while the caregivers of the intervention group received, in addition to the phone calls, care by health professionals through videoconferencing applications[28].

These individuals were evaluated at the beginning and at the end of the intervention by instruments aimed at different variables, including burden, through the ZBI in the version

with 22 items. In four weeks of follow-up, a worsening in the levels of burden of caregivers from the control group was observed, unlike the intervention group, in which there was an evident improvement in this variable ($p < 0.0001$), suggesting that the consultations via videoconference were beneficial to this population during the context of the pandemic[28].

Thus, it is essential that caregivers obtain guidance about the care of the elderly to be applied in a systematic way and with the appropriate means. Furthermore, it is necessary to provide a space for listening to caregivers, as they are constantly exposed to the challenges related to the act of caring and which, added to physical distancing, increase the levels of burden and stress. It should also be considered the history of diseases and interests of these individuals before the COVID-19 pandemic, so that it is possible to direct them to health services according to the particularities evidenced in each case, as well as encourage them to return their activities[23].

Therefore, teleconsultation through video calls can be a strategy to be used, especially in periods when the population goes through unfavorable social conditions that hinder social interaction and support for people belonging to more vulnerable groups[28].

The actions performed by services such as the one conducted by the Gerontology Outpatient Clinic in the present research online, guarantee to direct the look at the informal caregivers of the elderly, by establishing a care plan that includes evaluations and interventions with a multidisciplinary team based on the health needs evidenced by the caregivers, as well as guidance regarding the available support resources that indicate ways to reduce the effects of the exercise of their practice.

The outcomes of the present study must be discussed considering some limitations. It is highlighted that the findings presented refer to the population delimited by the study, as they have greater access to information and communication resources. People without internet access, with little information, or without support for the use of video calling technology could not participate in the research. Furthermore, this sample represents a small portion of the population of elderly caregivers who used the health service at the Hospital of the city studied, which may have led to biased estimates. Further research that includes a significant number of caregivers is needed to allow generalization of data.

CONCLUSION

The results showed that living with the elderly at the time of social isolation from the COVID -19 pandemic and the caregiver being older, significantly increased the levels of burden. Thus, health interventions are urgent to guarantee support for informal caregivers in terms of reducing the burden related to the care of the elderly person.

The data obtained revealed important evidence for the knowledge translation and advances in health and nursing practices, as it demonstrated a format of care focused on the health of caregivers of elderly people.

The practices of care and support to informal caregivers can be implemented in health services through systematized evaluations of health status, in the remote model and also in person, to guarantee access to all, in case of situations of imposed social isolation and even for those who cannot accesshealth services.

REFERENCES

1. Oliveira AS. Transição demográfica, transição epidemiológica e envelhecimento populacional no Brasil. Hygeia. 2019;15(32):69-79. doi: https://doi.org/10.14393/hygeia153248614.
2. Lucchesi G. Envelhecimento populacional: perspectivas para o SUS. In: Câmara dos Deputados. Centro de Estudos e Debates Estratégicos. Consultoria Legislativa. Brasil 2050: desafios de uma nação que envelhece [Internet]. Brasília, DF: Edições Câmara; 2017 [cited 2022 Apr 13]. p.43-59. Available from: https://www2.camara.leg.br/atividade-legislativa/comissoes/comissoes-permanentes/ce/noticias/brasil-2050-desafios-de-uma-nacao-que-envelhece.
3. Presidência da República (BR). Secretaria de Direitos Humanos. Secretaria Nacional de Promoção Defesa dos Direitos Humanos. Dados sobre o envelhecimento no Brasil [Internet]. Brasília, DF: 2017 [cited 2022 Apr 13]. Available from: https://www.mpba.mp.br/sites/default/files/biblioteca/direitos-humanos/direitos-da-pessoa-idosa/publicacoes/dadossobreoenvelhecimentonobrasil.pdf.
4. Moreira VR, Fortes RC, Haack A. Impacto do envelhecimento população brasileira: um processo de transição demográfica, epidemiológica e nutricional. In: Fortes RC, Haack A, organizadores. Abordagem multidisciplinar do idoso – aspectos clínicos, fisiológicos, farmacológicos e nutricionais [Internet]. Brasília: Editora JRG; 2021 [cited 2022 Apr 13]. p.14-19. Available from: http://revistajrg.com/index.php/portaljrg/article/view/304/390.
5. Organização Pan-Americana da Saúde [Internet]. Folha informativa sobre COVID-19. Washington, DC: OPAS; 2021 [cited 2022 Apr 24]. Available from: https://www.paho.org/pt/covid19.
6. Dourado SPC. A pandemia de COVID-19 e a conversão de idosos em "grupo de risco". Cad Campo. 2020;29(supl):153-62. doi: https://doi.org/10.11606/issn.2316-9133.v29isuplp153-162.
7. Hammerschmidt KS, Santana RF. Health of the older adults in times of the COVID-19 pandemic. Cogitare Enferm. 2020;25:e72849. doi: https://doi.org/10.5380/ce.v25i0.72849.
8. Ransing R, Adiukwu F, Pereira-Sanchez V, Ramalho R, Orsolini L, Teixeira ALS, et al. Mental health interventions during the COVID-19 pandemic: a conceptual framework by early career psychiatrists. Asian J Psychiatr. 2020;51:102085. doi: https://doi.org/10.1016/j.ajp.2020.102085.
9. Zhang SX, Huang H, Li J, Antonelli-Ponti M, Paiva SF, Silva JA. Predictors of depression and anxiety symptoms in Brazil during COVID-19. Int J Environ Res Public Health. 2021;18(13):7026. doi: https://doi.org/10.3390/ijerph18137026.

10. Caparrol AJS, Martins G, Barbosa GC, Monteiro DQ, Alves LCS, Gratão ACM. Pandemia da COVID-19: quem cuida dos cuidadores informais de idosos? Rev Recien. 2022;12(37):499-506. doi: https://doi.org/10.24276/rrecien2021.12.37.499-506.
11. Fajardo Ramos E, Nuñez Rodríguez ML, Henao Castaño AM. Resilience in in-home caregivers of older adults during the COVID-19 pandemic. Rev Latinoam Bioet. 2020;20(2):91-101. doi: https://doi.org/10.18359/rlbi.4813.
12. Almeida LPB, Menezes TMO, Freitas AVS, Pedreira LC. Social and demographic characteristics of elderly caregivers and reasons to care for elderly people at home. Ver Min Enferm. 2018;22:e1074. doi: https://doi.org/10.5935/1415-2762.20180004.
13. Altieri M, Santangelo G. The psychological impact of COVID-19 pandemic and lockdown on caregivers of people with dementia. Am J Geriatr Psychiatry. 2021;29(1):27-34. doi: https://doi.org/10.1016/j.jagp.2020.10.009.
14. Prefeitura de São Paulo. Secretaria Municipal de Saúde. Gabinete do Secretário. Portaria nº.340, de 04 de setembro de 2020. Regulamenta a prática da telemedicina, em cumprimento ao Parágrafo Único, Artigo 11, do Decreto Municipal nº 59.396, de 05 de maio de 2020 e a prática da teleassistência. Diário Oficial Cidade. 2020 set 05 [cited 13 Apr 2022];65(170):38. Available from: https://www.imprensaoficial.com.br/DO/BuscaDO2001Documento_11_4.aspx?link=%2f2020%2fdiario%2520oficial%2520cidade%2520de%2520sao%2520paulo%2fsetembro%2f05%2fpag_0038_8ba9d5e7a1b0e5b43708b8deb61ca24f.pdf&pagina=38&data=05/09/2020&caderno=Di%C3%A1rio%20Oficial%20Cidade%20de%20S%C3%A3o%20Paulo&paginaordenacao=100038.
15. Conselho Federal de Enfermagem (BR). Resolução COFEN nº 634, de 26 de março de 2020. Autoriza e normatiza, "ad referendum" do Plenário do Cofen, a teleconsulta de enfermagem como forma de combate à pandemia provocada pelo novo coronavírus (Sars-Cov-2), mediante consultas, esclarecimentos, encaminhamentos e orientações com uso de meios tecnológicos, e dá outras providências. Diário Oficial União. 2020 ago 27 [cited 2022 Aug 17];158(60 Seção 1):117. Available from: https://pesquisa.in.gov.br/imprensa/jsp/visualiza/index.jsp?data=27/03/2020&jornal=515&pagina=117.
16. Conselho Federal de Enfermagem (BR). Resolução COFEN nº 707, de 4 de agosto de 2022. Altera, ad referendum do Plenário do Cofen, a redação do art. 5º da Resolução Cofen nº 696, de 17 de maio de 2022. Diário Oficial União. 2022 ago 11 [cited 2022 Aug 17];160(152 Seção 1):174. Available from: https://pesquisa.in.gov.br/imprensa/jsp/visualiza/index.jsp?data=11/08/2022&jornal=515&pagina=174&totalArquivos=175.
17. Caetano R, Silva AB, Guedes ACCM, Paiva CCN, Ribeiro GR, Santos DL, et al. Challenges and opportunities for telehealth during the COVID-19 pandemic: ideas on spaces and initiatives in the Brazilian context. Cad Saude Publica. 2020;36(5):e00088920. doi: https://doi.org/10.1590/0102-311x00088920.
18. Zarit SH, Reever KE, Bach-Peterson J. Relatives of the impaired elderly: correlates of feelings of burden. Gerontologist. 1980;20(6):649-55. doi: https://doi.org/10.1093/geront/20.6.649.
19. Gratão ACM, Brigola AG, Ottaviani AC, Luchesi BM, Souza EN, Rossetti ES, et al. Brief version of Zarit Burden Interview (ZBI) for burden assessment in older caregivers. Dement Neuropsychol. 2019;13(1):122-9. doi: https://doi.org/10.1590/1980-57642018dn13-010015.
20. Zigmond AS, Snaith RP. The hospital anxiety and depression scale. Acta Psychiatr Scand. 1983;67(6):361-70. doi: https://doi.org/10.1111/j.1600-0447.1983.tb09716.x.
21. Botega NJ, Bio MR, Zomignani MA, Garcia Jr C, Pereira WA. Transtornos do humor em enfermaria de clínica médica e validação de escala de medida (HAD) de ansiedade e depressão. Rev Saude Publica. 1995 [cited 2022 May 2];29(5):359-63. Available from: https://www.scielo.br/j/rsp/a/dY4tVF5tWXkrfkyjz5Sp4rM/?format=pdf&lang=pt.
22. Hughes MC, Liu Y, Baumbach A. Impact of COVID-19 on the health and well-being of informal caregivers of people with dementia: a rapid systematic review. Gerontol Geriatr Med. 2021;7:23337214211020164. doi: https://doi.org/10.1177/23337214211020164.
23. Mattos EBT, Francisco IC, Pereira GC, Novelli MMPC. Virtual support group for family caregivers of elderly people with dementia in the COVID-19 scenery. Cad Bras Ter Ocup. 2021;29(1):e2882. doi: https://doi.org/10.1590/2526-8910.ctoRE2201.
24. Cohen SA, Kunicki ZJ, Nash CC, Drohan MM, Greaney ML. Rural-urban differences in caregiver burden due to the COVID-19 pandemic among a national sample of informal caregivers. Gerontol Geriatr Med. 2021;7:1-12. doi: https://doi.org/10.1177/23337214211025124.
25. Roque SMB, Braga MDX, Araújo MJAG, Nogueira MA, Salles TM, Teles MAB. Sobrecarga dos cuidadores de idosos com demência: um estudo em um ambulatório de geriatria no sudeste do Brasil. HU Rev. 2020;46:1-10. doi: https://doi.org/10.34019/1982-8047.2020.v46.31207.
26. Conceição HN, Jesus MLRS, Gomes IMN, Luz KRG, Conceição HN, Costa Filho JGD, et al. Perfil e sobrecarga dos cuidadores informais de idosos dependentes. Res Soc Dev. 2021;10(6):e47210616061. doi: https://doi.org/10.33448/rsd-v10i6.16061.
27. Aires M, Fuhrmann AC, Mocellin D, Dal Pizzol FLF, Sponchiado LF, Marchezan CR, et al. Burden of informal caregivers of dependent elderlies in the community in small cities. Rev Gaúcha Enferm. 2020;41(spe):e20190156. doi: https://doi.org/10.1590/1983-1447.2020.20190156.
28. Lai FHY, Yan EWH, Yu KKY, Tsui WS, Chan DTH, Yee BK. The protective impact of telemedicine on persons with dementia and their caregivers during the COVID-19 pandemic. Am J Geriatr Psychiatry. 2020;28(11):1175-84. doi: https://doi.org/10.1016/j.jagp.2020.07.019.

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