



Occurrence of COVID-19 Deaths in Institutionalized Elderly People: The Importance of Vaccination to Minimize the Potential Risk of Greater Severity of Illness

Xavier Nobre TT^{1*}, de Vasconcelos Torres G², Da Silva Nery SMA³, Sampaio Gobira NCM³, Laignier De Souza JT³, Costa da Silva JF¹, de Araújo Nunes VM² and dos Reis LA³

¹Department of Health Sciences, Federal University of Rio Grande do Norte, Brazil

²Federal University of Rio Grande do Norte, Brazil

³State University of Southwest Bahia, Brazil

Abstract

Objective: We aimed to identify the occurrence of deaths from COVID-19 in institutionalized elderly people in the state of Rio Grande do Norte (RN), in the period 2020 and 2021.

Methods: This is a cross-sectional study, with a quantitative approach carried out in the state of Rio Grande do Norte in 2021, based on information obtained until May 15th, 2021 on mortality from COVID-19 between 2020 and 2021 in Long-Term Care Institutions (LTCIEs). A total of 47 LTCIEs in 24 municipalities in Rio Grande do Norte took part in the study. The inclusion criteria adopted for our study were: Being an elderly resident and having been registered in the LTCF in Rio Grande do Norte for at least six months prior to the study. The following exclusion criteria were adopted: the ILPI not having registered data on vaccination and mortality of the elderly resident.

Results: In the context of our state, a total of 48 elderly people have died so far in this study, predominantly in 2020 (62.5%). It was observed that the prevalence of mortality in 2020 was 0.026 and in 2021 there was a reduction to 0.016. With regard to vaccination, a total of 1,331 elderly people received the two vaccine doses.

Conclusion: There was a decrease in the prevalence percentile and relative numbers of deaths associated with COVID-19 in LTCFs in Rio Grande do Norte in 2020 and 2021.

Keywords: Elderly; Vaccine; COVID-19; Primary health care

Introduction

The process of demographic transition takes place in phases. Brazil is currently in a process where the fertility rate is falling, and the number of children and young people is decreasing. Another very important aspect to be considered is the reduction in mortality and increase in life expectancy, culminating in an increase in the number of elderly people. These events directly affect the health of the population, such as the increase in Chronic Non-Communicable Diseases (CNCD) [1].

The elderly population is one of the main people most at risk of dying from complications of COVID-19. The world is experiencing a pandemic of this serious disease caused by the SARS-CoV-2 virus. There are a multitude of symptoms, the most common being fever, cough, dyspnea, fatigue, or sputum production. It is estimated that individuals aged >59 years are 5 times more likely to die after the onset of symptoms when compared to individuals of a younger age [2,3].

A meta-analysis of more than half a million patients who tested positive for COVID-19 observed the effect of age group on mortality, with relevant thresholds at ages >50 and especially >60 and a higher incidence of death in elderly people over 80, concluding that it is necessary to prioritize the implementation of preventive measures in this population [4].

In Brazil, the first case of the disease was reported on February 26th, 2020, the individual was an elderly person with a history of travel to Italy. This would be the beginning of an unimaginable growth in confirmed cases and deaths, as of November 9th, 2021, 21,897,025 cases and 609,756 deaths had been reported to health information systems throughout Brazil [5,6].

OPEN ACCESS

*Correspondence:

Thaiza Teixeira Xavier Nobre,
Department of Health Sciences, Federal
University of Rio Grande do Norte,
Santa Cruz-RN, Brazil

Received Date: 07 Dec 2023

Accepted Date: 26 Dec 2023

Published Date: 30 Dec 2023

Citation:

Xavier Nobre TT, de Vasconcelos
Torres G, Da Silva Nery SMA, Sampaio
Gobira NCM, Laignier De Souza JT,
Costa da Silva JF, et al. Occurrence of
COVID-19 Deaths in Institutionalized
Elderly People: The Importance of
Vaccination to Minimize the Potential
Risk of Greater Severity of Illness. *Clin
Oncol.* 2023; 8: 2044.

ISSN: 2474-1663

Copyright © 2023 Xavier Nobre
TT. This is an open access article
distributed under the Creative
Commons Attribution License, which
permits unrestricted use, distribution,
and reproduction in any medium,
provided the original work is properly
cited.

Thinking about biological prevention with vaccination coverage among the elderly in Brazil, the first priority public as well as health professionals, was associated with a drastic decrease in cases of deaths associated with COVID-19 when compared to younger individuals [7].

In this context, thinking about institutionalized elderly people and cases of deaths from COVID-19, we aimed to identify the occurrence of deaths from COVID-19 in institutionalized elderly people in the state of Rio Grande do Norte, in the period 2020 and 2021.

Materials and Methods

This is a cross-sectional study with a quantitative approach carried out in the state of Rio Grande do Norte in 2021, based on information obtained up to May 15th, 2021 on COVID-19 mortality between 2020 and 2021.

A total of 47 Long-Term Care Institutions (LTCIEs) in 24 municipalities in Rio Grande do Norte took part in the study. The study was conducted using data obtained from the State Council for the Rights of the Elderly - CEDEPI/RN, which monitors and follows up on LTCIEs.

The target population consisted of 1,140 institutionalized elderly people living in RN.

The inclusion criteria adopted for our study were: Being an elderly resident and having been registered in the ILPI in RN for at least six months prior to the study; the following exclusion criteria were adopted: ILPI that did not have registered data on vaccination and mortality of the elderly resident.

This study was assessed and approved in Brazil by the Research Ethics Committee of the Onofre Lopes University Hospital. This study complied with the ethical criteria established by Resolution No. 466/12 and No. 510/16 of the National Health Council (CNS), which regulates research with human beings. The protocol has opinion No. 4.267.762.

The Microsoft[®] Excel 2016 program (Microsoft Corporation, Washington, WA, USA) was used to process and tabulate the data in tables. The Statistical Package for the Social Sciences (SPSS) program version 20.0 (International Business Machines Corporation [IBM], Armonk, NY, USA) enabled all the descriptive statistical analyses.

Results

In the state of Rio Grande do Norte, there are a total of 47 ILPIs (71% philanthropic) registered with CEDEPI/RN, in which 1,140 elderly people live.

Given the context of the global pandemic and the large number of deaths in the world and in Brazil, we sought to characterize the ILPIs and identify the mortality of the elderly living in these institutions as a result of COVID-19. In the context of our state, a total of 48 elderly people has died so far in this study, predominantly in 2020 (62.5%), according to the data in Table 1.

It was observed that the prevalence of mortality in 2020 was 0.026 and in 2021 there was a reduction to 0.016. As for vaccination, all ILPIs in RN received the two doses of the vaccine, however, in the last CEDEPI survey 09 (nine) elderly people had not yet been vaccinated, 04 due to a problem in registering with the City Hall (interior) and the other 05 either by their own will/family or because they had an illness that made vaccination impossible in that period, such as cancer in an

Table 1: Characterization of institutions, number of elderly residents and deaths by COVID-19 recorded in NH's LTCFs between 2020 and 2021. Natal, 2021.

Type of ILPI	Elderly residents	%
Philanthropic	810	71
Private	330	29
Total	1140	100
Year	Deaths by COVID-19	%
2020	30	63
2021	18	38
Total	48	100
Year of deaths	Prevalence of deaths	%
2020	0.026	2.6
2021	0.016	1.6

advanced stage, totaling 1,331 vaccinated elderly people.

LTCIEs are places created to care for elderly people who have lost their autonomy and functionality and for some reasons are without a family member or caregiver, with the aim of providing comprehensive care for people over 60. These social facilities have encountered major difficulties in managing elderly people infected with COVID-19 [8,9].

A large percentage of LTCIEs were philanthropic. This finding corroborates the national survey entitled Operating Conditions and Infrastructure of Long-Stay Institutions for the elderly in Brazil, carried out between 2007 and 2009, which found that 62.5% of the institutions identified by this survey are philanthropic [10].

There was a decrease in the number and percentile of deaths in elderly people living in LTCIEs in Rio Grande do Norte between 2020 and 2021, this data can be associated with the extensive vaccination work, as a priority this group was one of the first to be immunized, reducing the serious cases of the disease, confirming this thought it was identified that where low coverage of the vaccine against COVID-19 was found in the months of April and June 2021 there were still high mortality rates in the elderly in Brazil [11,12].

In a cohort of 842 individuals from 12 nursing homes in Spain, a mortality rate associated with COVID-19 was observed in 11.1% of their elderly, some factors were observed in these individuals who died, highlighting the male gender, greater dependence according to the Barthel index and a high rate of infection in equipment workers, requiring more intensified care for residents with these characteristics and management of the ILPI team [13].

The prevalence of deaths also decreased in the two years studied, it seems that the prevention tools widely disseminated in the media were essential in preventing COVID-19 infection, in the year 2021 with the massive arrival of vaccines and their vaccination the numbers of infections and deaths decreased dramatically, being a measure more than necessary for the well-being of residents and workers of ILPI [14].

Individual residents and professionals who work in LTCFs deserve a differentiated look, thinking about their functional aspects and vulnerabilities, especially Primary Health Care because it is largely responsible for prevention and comprehensive care, health education activities thinking about the early signs of COVID-19 are essential for the management of infections, in these institutions it was also observed a high proportion of asymptomatic patients who can infect other residents and the professionals themselves [15,16].

Conclusion

There was a decrease in the prevalence percentile and relative numbers of deaths associated with COVID-19 in LTCFs in Rio Grande do Norte in 2020 and 2021. Given this context, we emphasize that restrictive measures should be part of the daily routine, as well as training workshops for health professionals and other areas that work directly with these elderly residents in ILPI should be increasingly encouraged and carried out to prevent lethality by COVID-19.

References

1. Oliveira AS. Demographic transition, epidemiological transition and populational aging in Brazil. *Hygeia - Revista Brasileira de Geografia Médica e da Saúde*. 2019;15(32):69-79.
2. Armitage R, Nellums LB. COVID-19 and the consequences of isolation for older people. *Lancet Public Health*. 2020;5(5):e256.
3. Wu JT, Leung K, Bushman M, Kishore N, Niehus R, de Salazar PM, et al. Estimating COVID-19 clinical severity based on transmission dynamics in Wuhan, China. *Nat Med*. 2020;26(4):506-10.
4. Bonanad C, García-Blas S, Tarazona-Santabalbina F, Sanchis J, Bertomeu-González V, Fácila L, et al. The effect of age on mortality in COVID-19 patients: A meta-analysis with 611,583 subjects. *J Am Med Dir Assoc*. 2020;21(7):915-8.
5. França EB, Ishitani LH, Teixeira RA, de Abreu DMX, Corrêa PRL, Marinho F, et al. Deaths from COVID-19 in Brazil: How many are there and which ones are we identifying? *Rev Bras Epidemiol*. 2020;23:e200053.
6. Croda J, Oliveira WK de, Frutuoso RL, Mandetta LH, Baia-Da-silva DC, Brito-Sousa JD, et al. COVID-19 in Brazil: Advantages of a single socialized health system and preparation to contain cases. *Rev Soc Bras Med Trop*. 2020;53:e20200167.
7. Victora C, Castro MC, Gurzenda S, Medeiros AC, França GVA, Barros AJD. Estimating the early impact of COVID-19 immunization on deaths among the elderly in Brazil: analysis of routinely collected data on vaccination coverage and mortality. *EClinicalMedicine*. 2021;38:101036.
8. Alves-Silva JD, Scorsolini-Comin F, dos Santos MA. Elderly in long-term care institutions: Development, living conditions and health. *Psicologia: Reflexão e Crítica*. 2013;26(4):820-30.
9. Watanabe HAW, Domingues MAR da C, Duarte YA de O. COVID-19 and homes for the elderly: Care or death foretold? *Geriatr Gerontol Aging*. 2020;14(2):143-5.
10. Camarano AA, Barbosa P. Long stay institutions for the elderly in Brazil: What are they talking about? In: *Política nacional do idoso: velhas e novas questões*. Rio de Janeiro: Institute of Applied Economic Research; 2016. p. 479-514.
11. Kupek E. Low COVID-19 vaccination coverage and high COVID-19 mortality rates in elderly Brazilian elderly. *Rev Bras Epidemiol*. 2021;24:e210041.
12. Ranzani OT, Hitchings MDT, Dorion M, D'Agostini TL, De Paula RC, De Paula OFP, et al. CoronaVac vaccine efficacy in the elderly during a COVID-19 epidemic associated with the gamma variant in Brazil: Case-control study with negative test. *BMJ*. 2021;374:n2015.
13. Burgaña Agoües A, Serra Gallego M, Hernández Resa R, Joven Llorente B, Lloret Arabi M, Ortiz Rodriguez J, et al. Risk factors for COVID-19 morbidity and mortality in institutionalized elderly. *Int J Environ Res Public Health*. 2021;18(19):10221.
14. Rossini G, Auxiliadora M, De Benedetto C, Moreto G, Levites MR, González Blasco P. One year with the COVID-19 pandemic: Reflections and lessons learned in long-term care institutions. *Ata Fisiátrica*. 2021;28(2):126-32.
15. Ly TDA, Zanini D, Laforge V, Arlotto S, Gentile S, Mendizabal H, et al. Pattern of SARS-CoV-2 infection among dependent elderly residents living in long-term care facilities in Marseille, France, March-June 2020. *Int J Antimicrob Agents*. 2020;56(6):106219.
16. Nunes VM de A. COVID-19 and the care of the elderly: Recommendations for long-term care institutions. 1st Ed. Natal/RN: EDUFRRN; 2020.