Determining factors in adherence to influenza vaccination in older adults living in a city of the state of Mato Grosso do Sul

Humberta Correia Silva Azambuja[1]
Mariana Ferreira Carrijo[2]
Sofia Cristina Iost Pavarini[3]
Tatiana Carvalho Reis Martins[1,2]
Bruna Moretti Luchesi[1,2]

Abstract

Objective: To identify the sociodemographic, health and knowledge factors related to the adherence to influenza vaccination in older adults in 2019, in a municipality of the state of Mato Grosso do Sul, Brazil. *Methods*: This is a quantitative and cross-sectional study, carried out with 172 older adults users of health and coexistence services. A questionnaire was applied that covered sociodemographic, health and knowledge about vaccination issues, in addition to vaccination adherence in the 2019 campaign. Log-linear regression and Bayesian networks were used to analyze the data. *Results*: There was a predominance of women, with a partner, between 60-69 years of age and elementary school. The adherence rate was 91.28% in 2019. Older adults with neuropsychiatric diseases, who used to get the vaccine annually and who had gotten it in the years of 2018, 2016 and 2015 had a higher prevalence of adherence to influenza vaccination in 2019. Bayesian networks to the adherence to influenza vaccination in 2019 showed that knowing that the National Immunization Program exists leads to trust in it, which leads the older adults to get the vaccine annually. *Conclusion*: Health professionals and the media must provide valid information so that people know and trust the National Immunization Program. The work of guiding older people about vaccination against influenza should be annual, as it is important that older adults are vaccinated every year to maintain vaccine adherence.

Keywords: Vaccination Coverage. Epidemiologic Factors. Aged. Influenza Vaccines.

[1] Universidade Federal de Mato Grosso do Sul, Programa de Pós-Graduação em Enfermagem, Três Lagoas, MS, Brasil.

[2] Universidade Federal de Mato Grosso do Sul, Curso de Graduação em Medicina, Três Lagoas, MS, Brasil.

[3] Universidade Federal de São Carlos, Programa de Pós-Graduação em Enfermagem, Programa de Pós-Graduação em Gerontologia, São Carlos, SP, Brasil.

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Correspondence
Bruna Moretti Luchesi
Email: bruna.luchesi@ufms.br

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INTRODUCTION

Influenza is an acute respiratory infection caused by subtypes of the influenza virus responsible for seasonal epidemics worldwide affecting people of all ages. Some groups are at higher risk of being affected by the virus, and among them are the older people[1].

The symptoms of the disease comprise sudden onset fever, cough (usually dry), headache, muscle pain, runny nose, and malaise, which can resolve spontaneously within a week but can also progress to complications that are more frequent in individuals with cardiac and respiratory diseases, older people, and immunocompromised individuals[1]. Therefore, older people are more vulnerable both because of the physiological changes of age and the presence of associated comorbidities, making them more fragile and susceptible to morbidity and mortality from influenza and secondary infections[2].

The most effective way of preventing influenza in the world is vaccination[1]. In Brazil, it was introduced by the National Immunization Program (PNI) in 1999 with annual campaigns aimed to vaccinate at least 70% of the older people of 65 years of age and over. In 2000, older people aged 60 and over were included. In 2008, the target for vaccination coverage was 80%, and 90% in 2017, which is maintained until the present day[3,4].

So far, Brazil has achieved the annual vaccination target, and the vaccination coverage for influenza in older people was 97.2% in 2018. In 2019, it was 99.4%, and 120.7% in 2020[5]. However, due to vaccination coverage above 100%, the data used for the calculation may be outdated, as studies on the topic have shown that some older people do not adhere to the annual vaccination campaigns[6-12]. The decision of an older person to get vaccinated or not can be related to several personal and even cultural aspects.

Most of the studies carried out in Brazil on the topic are prior to the influenza epidemic that took place in the country in 2016. Characteristics such as chronic diseases, being physically active, having a partner, being followed by healthcare professionals, and having attended a medical appointment in the past 12 months contribute to vaccine adherence[2,6-12]. Regarding age, contradictory results are found in the literature. Most investigations point to greater adherence the older the person gets[2,6,8,9,12,13]. A study carried out with 286 older people from Fortaleza (CE) showed greater acceptance among the youngest[11], and another one carried out with 1,043 older people from São Paulo (SP) did not identify significant results according to the age[10]. A survey showed that there are no socioeconomic inequalities regarding vaccine adherence, and that the main reasons for non-adherence are lack of confidence in the vaccine and fear of adverse effects[9].

In China, being a woman, having chronic disease, participating in community activities, and receiving recommendations from healthcare providers were associated with greater vaccination, which shows the importance of disseminating knowledge about the importance of the vaccine[14]. In Saudi Arabia, older people with a higher level of education had greater adherence to the vaccine[15]. In Israel, the healthcare team influenced the increase in vaccination rates by providing reliable information[16].

A systematic review concluded that seasonal influenza vaccination is influenced by structural social determinants such as gender, age, marital status, education, among others; intermediary determinants such as place of residence, behavioral beliefs, social influences, and information sources; and those related to health, such as accessibility, knowledge about vaccination, and advice from healthcare professionals[17]. Another review evidenced that psychological (utility, risk perception, social benefit, attitude, experience, past behaviors, and knowledge), physical (alcohol consumption, smoking, physical inactivity, and medical conditions), contextual (lack of access and interaction with healthcare services, receiving recommendations from professionals), and sociodemographic (age, gender, race, marital status) barriers can lead to vaccine refusal[18].

Therefore, the literature shows that factors related to influenza vaccine adherence in older people vary. In Brazil, vaccination coverage for influenza was high after the 2016 epidemic[5], and understanding the factors related to the adherence of older people after this epidemic can contribute to further increase these rates. The present study

aimed to identify the sociodemographic, health, and knowledge variables about vaccination related to the adherence of older people to the influenza vaccine in 2019 in a municipality in the countryside of Mato Grosso do Sul, Brazil. As hypotheses, it is expected that the adherence to influenza vaccine in older people is related to the sociodemographic, health, and knowledge variables about vaccination.

METHOD

This is a descriptive, cross-sectional study with a quantitative approach carried out with a questionnaire for the older population assisted in the healthcare or social services in the city of Três Lagoas (MS), Brazil. In 2019, the municipality had an estimated population of 121,388 inhabitants, and there were 16 Basic Healthcare Units (UBS) in the city. Medium complexity care is offered by referring these people from the UBS to the Medical Specialties Center (CEM) and to the Clinics for Older People, Children, Women, and Orthopedics. In the city, there are two associations of retirees, one of education workers, and one of workers from energy companies offering social activities to their members.

The inclusion criteria were being aged 60 years and over, being treated at a healthcare service or community service, and being able to understand the interview questions (assessed by the interviewer's perception). The exclusion criterion was not living in the municipality.

The sample size was determined according to the proportion estimation formula in a finite population study. A significance level of 10% (alpha=0.10), a sampling error of 5% (e=0.05), and a proportion estimate of 80% (p=0.80) were used, considering that the vaccination coverage in older people was above this value, and a finite population size of N=10,067 corresponding to the total number of older people in the municipality, according to the 2010 census. The minimum sample was 171 participants. After collection, the power function was calculated to investigate the plausibility of the sample size and there was no mischaracterization or inconsistency.

The older people were selected from different services chosen for being places where there is a high flow of treatment of older people, like a UBS in the central region of the city, Clínica do Idoso, and CEM. The two associations of retirees, in which the public is predominantly older, were also included.

In these places, older people were approached at random by the researchers while awaiting care or participating in activities offered at the places, and they were invited to participate in the research. The interviews took place at different times, and it was estimated that approximately 50 participants would be sellected at each location. A total of 183 older people were approached, 11 of which refused to participate, which resulted in a sample of 172 participants (response rate 93.9%). The locations were a UBS (n=53), CEM (n=40), Clínica do Idoso (n=50), and the two retired associations (n=29). The associations were the last place visited and the collection ceased when the minimum sample of participants was reached.

A questionnaire was applied by two trained interviewers in a quiet place between January and March 2020. The questionnaire was developed by the researchersaccording to the vaccination manuals of the Ministry of Health, the Brazilian Society of Immunization, and data on adherence and non-adherence to the influenza vaccine in the literature[2-4,6-13,19-23]. The instrument underwent face validation, a subtype of content validation in which other people analyze the content to verify that it really delivers what the researcher wants to assess[24]. Three professionals carried out the validation , two from the gerontology area and one from the vaccination area. The instrument was adapted according to the suggestions and was applied to five older people to verify understanding and ease of application. All older people understood the questions, and the final version of the instrument presented the following data:

- Sociodemographic characterization: gender (male, female), age (60-69, 70-79, 80 years or more), education (non-literate, elementary school, high school, higher education, don't know/didn't answered), marital status (with a partner, without a partner), and religion (Catholic, Evangelical, Spiritist, other, none, don't know/didn't answer).

- Characterization of health and social activities: daily use of medication (yes, no); self-reported

conditions (yes, no) as cardiovascular diseases (such as systemic arterial hypertension and heart failure), respiratory diseases (such as respiratory failure, chronic obstructive pulmonary disease, and bronchitis), endocrine diseases (such as thyroid disorders and diabetes mellitus), neurological disorders (such as Alzheimer's and Parkinson's disease), osteoarticular disorders (such as osteoarthrosis and osteoarthritis), neuropsychiatric disorders (such as depression, anxiety, panic syndrome, and bipolar disorder), gastrointestinal disorders (such as gastritis and gastric ulcer), urinary disorders (such as kidney failure, and nephritis), and other diseases; practice of physical activities (yes, no); and participation in social activities ("do you participate in social activities (community center, church or groups)?" – yes, no). If the participant mentioned having another disease that was not included in the list of examples but which fits into the above categories, the researcher marked it as "yes". If the disease did not fit into the categories, it was marked as "other".

- Issues related to influenza vaccination: "Did you know that Brazil has a National Immunization Program?" (yes, no, no answer), "If so, do you trust the PNI in Brazil?" (yes no); "To your knowledge, is influenza vaccination for people aged ≥60 years indicated in Brazil?" (yes no); "Have you ever had any adverse reaction to the influenza vaccine?" (yes, no, don't know, or didn't answer); "Do Are you annually vaccinated?" (yes, no); "Were you vaccinated in 2019? In 2018? In 2017? In 2016? Waht about in 2015?" (yes; no). These questions were asked according to the age of the older person in that year. For example, if they were not 60 years old in 2015, the question was not asked for this year.

The data were entered, validated by double entry, and stored in electronic spreadsheets. Tables with descriptive measures were created, organized, and described in terms of frequency and percentage. The prevalence ratio was calculated using a log-linear regression model[25].

Bayesian learning networks, specifically the IAMB-*Incremental Association Markov Blanket* algorithm[26] was used to study pathways and interrelationships between vaccine adherence in 2019 and knowing that the PNI exists, trusting the PNI, knowing that the vaccine is indicated for older people, having the habit of being vaccinated annually, having had a previous adverse event, and having taken the vaccine in the years 2015 to 2018. They are based on techniques for learning and detecting the data structure, generating and analyzing the probabilistic relationship implied by the property of probability and conditional independence. After the relations are structured, it is possible to build a Directed Acyclic Graph *(DAG)* showing the possible paths and associations between the variables studied[27].

A 5% significance level was adopted in all analysis. The explanatory power of the sample collected *a posteriori*was analyzed after the data collection considering the alpha used in the main analyzes (0.05), and it was 83%.

The research complies with Resolution No. 466/2012 and Resolution No. 510/2016, and was approved by the Human Research Ethics Committees of Universidade Federal de Mato Grosso do Sul (opinion No. 4.216.102). Data were collected after the participants read and signed the Informed Consent Form in two copies.

RESULTS

Table 1 shows the sociodemographic, health, and social characterization data of the participants in the total sample and according to vaccination adherence against influenza in 2019. The prevalence ratio for the studied variables is also presented. The largest proportion of the sample was older women aged between 60-69 years old with elementary education, a partner, and Catholic. Most of them made daily use of medication, did not practice physical activities, did not participate in social activities, and the most prevalent diseases were the cardiovascular, endocrine, and musculoskeletal ones.

Table 2 shows the data on variables related to vaccination according to vaccine adherence for influenza and the prevalence ratio. The vaccine adherence rate in the 2019 campaign was 91.28%. Most people know and trust the PNI, know that the vaccine is indicated for older people, and are vaccinated annually.

Table 1. Sociodemographic, health, and social characterization of older participants (N=172) according to the influenza vaccine adherence in 2019 and prevalence ratio for the studied variables. Três Lagoas, MS, 2020.

Variables	Total (N = 172)	Vaccination adherence (n=157)	Vaccination non-adherence (n=15)	PR (95% CI)	*p*
	n (%)	n (%)	n (%)		
Sociodemographic					
Male	61 (35.47)	56 (35.67)	5 (33.33)	1.0	
Female	111 (64.53)	101 (64.33)	10 (66.67)	1.01 (0.92-1.11)	0.855
Age (years)					
60-69	95 (55.23)	87 (55.41)	8 (53.33)	1.0	
70-79	65 (37.79)	60 (38.22)	5 (33.33)	1.01 (0.92-1.11)	0.867
80 and over	12 (6.98)	10 (6.37)	2 (13.44)	0.91 (0.70-1.18)	0.477
Education					
Iliterate	45 (26.16)	40 (25.48)	5 (33.33)	1.0	
Elementary School	75 (43.61)	69 (43.95)	6 (40.00)	1.03 (0.91-1.17)	0.598
High School	25 (14.53)	22 (14.01)	3 (20.00)	0.99 (0.84-1.18)	0.956
Higher Education/Postgraduation	26 (15.12)	25 (15.92)	1 (6.67)	1.08 (0.95-1.23)	0.232
Didn't know / Didn't answer	1 (0.58)	1 (0.64)	0 (0.00)	-	-
Marital status					
With spouse	91 (52.91)	72 (45.86)	9 (60.00)	1.0	
Without spouse	81 (47.09)	85 (54.14)	6 (40.00)	0.95 (0.87-1.05)	0.303
Religion					
Catholicism	97 (56.40)	89 (56.67)	8 (53.33)	Not estimated	
Evangelical	59 (34.30)	52 (33.12)	7 (46.67)		
Spiritism	10 (5.82)	10 (6.37)	0 (0.00)		
Other	3 (1.74)	3 (1.92)	0 (0.00)		
None/Didn't answer	3 (1.74)	3 (1.92)	0 (0.00)		
Health and social services					
Use of medication	158 (91.86)	144 (91.72)	14 (93.33)	0.98 (0.84-1.14)	0.811
Cardiovascular diseases	121 (70.35)	108 (68.79)	13 (86.67)	1.07 (0.99-1.17)	0.082
Respiratory diseases	14 (8.14)	13 (8.28)	1 (6.67)	0.98 (0.84-1.14)	0.811
Endocrine diseases	74 (43.02)	69 (43.95)	5 (33.33)	0.96 (0.88-1.05)	0.415
Neurological diseases	8 (4.65)	8 (5.10)	0 (0.00)	Not estimated	
Osteoarticular diseases	50 (29.07)	45 (28.66)	5 (33.3)	1.02 (0.91-1.13)	0.710
Neuropsychiatric diseases	39 (22.67)	38 (24.20)	1 (6.67)	0.92 (0.85-0.99)	0.030
Gastrointestinal diseases	21 (12.21)	19 (12.10)	2 (13.33)	1.01 (0.87-1.17)	0.893
Urinary diseases	7 (4.07)	7 (4.46)	0 (0.00)	Not estimated	
Other diseases	31 (18.02)	31 (19.75)	0 (0.00)	Not estimated	
Physical activity practice	77 (44.77)	69 (43.95)	8 (53.33)	1.03 (0.94-1.14)	0.493
Participation in social activities	70 (40.70)	65 (41.40)	5 (33.33)	1.03 (0.94-1.13)	0.532

Source: table prepared by the authors themselves. PR: prevalence ratio; reference category – non-adherence; 95%CI: 95% confidence interval.

Table 2. Vaccination characterization of older participants (N=172) according to the influenza vaccine adherence in 2019 and prevalence ratio for the studied variables. Três Lagoas, MS, 2020.

Variables	Total (N = 172)	Vaccine adherence (n=157)	Vaccination non-adherence (n=15)	PR (95% CI)	*p*
Vaccination	n (%)	n (%)	n (%)		
Knows the PNI					
Yes	121 (70.35)	110 (70.06)	11 (73.34)	1.00	
No	27 (15.70)	25 (15.92)	2 (13.33)	1.02 (0.90-1.15)	0.765
Didn't answer	24 (13.95)	22 (14.02)	2 (13.33)	0.99 (0.84-1.16)	0.903
Trusts the PNI (n=121)	108 (86.26)	100 (90.91)	8 (72.73)	0.83 (0.61-1.12)	0.229
Knows that the vaccine is indicated for older people					
Yes	165 (95.93)	153 (97.45)	12 (80.00)	Not estimated	
No	1 (0.58)	1 (0.64)	0 (0.00)		
Didn't answer	6 (3.49)	3 (1.91)	3 (20.00)		
Previous adverse reaction					
Yes	25 (14.53)	22 (14.01)	3 (20.00)	1.0	
No	142 (82.56)	131 (83.44)	11(73.33)	1.05 (0.90-1.22)	0.543
Didn't answer/Didn't know	5 (2.91)	4 (2.55)	1 (6.67)	-	-
Is usually vaccinated annually	157 (91.28)	154 (98.09)	3 (20.00)	0.20 (0.07-0.56)	0.002
Was vaccinated in 2018 (n=169)	141 (83.43)	138 (89.61)	3 (20.00)	0.58 (0.42-0.80)	0.001
Was vaccinated in 2017 (n=161)	129 (80.12)	129 (87.76)	0 (0.00)	Not estimated	
Was vaccinated in 2016 (n=157)	120 (76.43)	119 (83.22)	1 (7.14)	0.65 (0.51-0.83)	<0.001
Was vaccinated in 2015 (n=154)	114 (74.03)	113 (80.71)	1 (7.14)	0.68 (0.55-0.84)	<0.001

Source: table prepared by the authors themselves. PR: prevalence ratio; reference category – non-adherence; 95%CI: 95% confidence interval; PNI: National Immunization Program.

The regression model showed that the vaccine adherence and non-adherence groups differ in terms of neuropsychiatric diseases. Individuals who reported having a neuropsychiatric disease had a higher prevalence of adherence compared to those who did not have these diseases. In addition, the analyzes showed that older people who are usually vaccinated annually and who were in 2018, 2016, and 2015 had a higher prevalence of adherence to the vaccine in 2019.

Additionally, the Bayesian Learning Networks (Figure 1) showed the pathways for adherence to the vaccine in 2019, showing that knowing that the PNI exists leads to trust in it, which leads older people to be vaccinated annually, even in 2019. Knowing that the vaccine is indicated for older people and having had a previous adverse event were not interrelated to vaccination.

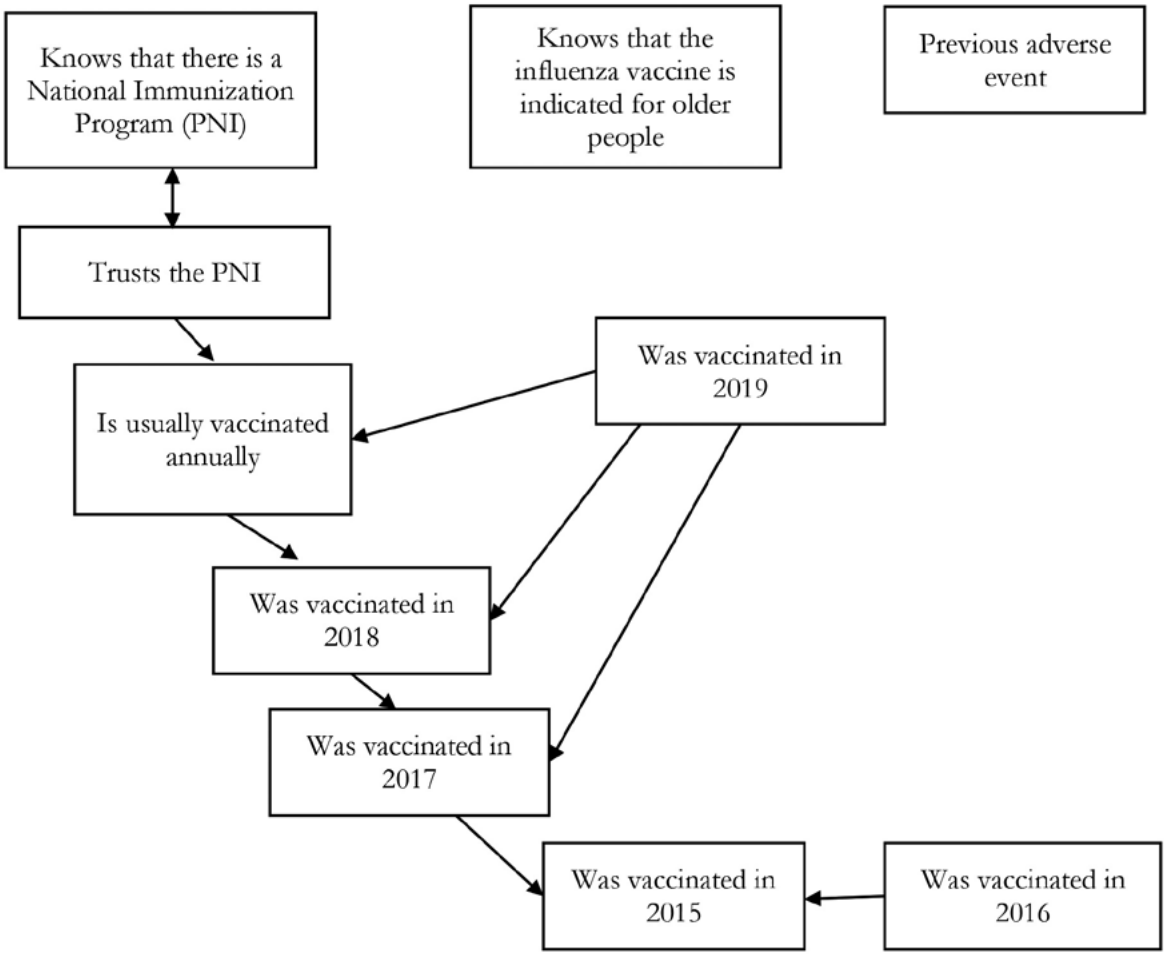

Figure 1. Directional acyclic graphs resulting from the Bayesian learning network for the variables of vaccination adherence in older people in 2019. Três Lagoas, MS, 2020.

DISCUSSION

The influenza vaccine coverage in the sample studied was 91.28% in 2019, and those with neuropsychiatric diseases who used to be vaccinated annually and who was in 2018, 2016, and 2015 had a higher prevalence of adherence to the vaccine. Knowing that the PNI exists makes the older person trust it, which results in annual vaccination, including in 2019.

Data from the PNI Information System (SI-PNI) show that the coverage in 2019 in Brazil was 99.4%, and in the municipality of Três Lagoas (MS) was 118.4%, above the target of 90% established by the Ministry of Health[5].

Studies on vaccination adherence in older people in Brazil found the prevalences of 58.7% in Timon (MA)[19], 62.6% in Campinas (SP)[7], 62.9% in Fortaleza (CE)[11], 66.9% in cities in the state of São Paulo[6], 71.0% in Pelotas (RS)[20], 71.9% in Jundiaí (SP)[21], 72.6% in one representative sample of Brazilian older people[12], 73.8% in the capital of São Paulo[8], 74.4% in Campinas (SP)[22], 74.6% in Cambé (PR)[2], 79.7 % in 1043 older people in the Health, Well-Being, and Aging Study[10], and 82.4% in Teresina (PI)[23]. Finally, a survey with 5221 older people from 70 cities in Brazil using data from the Longitudinal Study of Older People Health (ELSI-Brasil) showed coverage of 73.0%[9]. Note that all the studies mentioned were developed before the influenza epidemic in 2016. The adherence found in the current survey was the

highest compared to other investigations, which may be related to a sample selection bias, but may also be a reflection of the increase in vaccination coverage at national level, which went from 89.1% in 2015 to 99.4% in 2019[5]. It is believed that investment in national immunization campaigns, as well as the fact that the population is more used to annual campaigns for older people, can contribute to the increase in vaccination coverage.

Note that the data available in the SI-PNI are calculated using the formula "(number of doses applied in a given year/ population of older people on the site in the same year) x 100". To calculate the coverage for older people, the denominator used in 2019 corresponded to an estimate of the population published by the Brazilian Institute of Geography and Statistics in 2012, that is, the information on vaccination coverage may be overestimated. For Três Lagoas (MS), the number of older people used in the calculation was 10,406, and the number of older people vaccinated in 2019 was 12,319[5]. With population aging, the number of older people must be higher than that used for the calculation, which indicates that the official data do not match reality. Also, both the self-reported data from the present study and those from the aforementioned investigations may be subject to the memory bias of older individuals. However, for the influenza vaccination that is annual and in large-scale, the vaccination data are not entered into the information systems individually, that is, it is not possible to confirm whether an older person who reported having taken the vaccine actually took it.

Unlike previous studies showing a relation between immunization adherence and gender, age, education, marital status, and religion[2,6-9,11-13,20,22], the present study did not identify this relation. Also, no relation was identified between adherence and use of medications, physical activity, and participation in social activities, as previously reported[6,11,22].

The National Primary Care Policy of 2017 encourages the increase of PHC coverage across the country[28], which may culminate in greater involvement of multidisciplinary teams, closer relations with the population in the territory, and expansion of the offer of the vaccine. In addition, proposals such as Programa Saúde na Hora which expands the operation of the UBS to extended hours[29] and extramural vaccination posts such as shopping malls, subways, highways, increase the possibility of users having access to immunobiologicals, regardless of sociodemographic and health characteristics, which may have contributed to the vaccination coverage found in the present study. However, the data must be viewed with caution, as they refer to a sample of older people from a single Brazilian municipality.

The relation between chronic diseases and influenza vaccine coverage has been described previously[7-9,11-14,17]. In the present survey, neuropsychiatric diseases were the only ones related to vaccine adherence. Those who reported having a disease in this group had a higher prevalence of adherence. In South Korea, no relation was found between depressed mood and stress and influenza vaccine coverage in older people[30]. On the other hand, another survey showed that older people identified with chronic loneliness visited the doctor more than non-lonely older individuals[31], which may contribute to vaccine adherence. However, the relation between psychiatric disorders and vaccination needs to be further investigated in further studies, including which disorder the individual has.

The analyzes showed that older people who are usually vaccinated annually and who were in 2018, 2016, and 2015 had a higher prevalence of adherence to the vaccine in 2019. The Bayesian Learning Networks also support these data, showing that knowing that the PNI exists leads the older person to trust in it, which leads them to be vaccinated annually. Therefore, knowledge and trust about the PNI were determining factors for vaccination adherence. A systematic review described sociodemographic and physical variables, past behaviors (not having taken the vaccine before) and lack of trust in the vaccine as factors leading to refusal to be vaccinated[18]. The present study is in line with the results of the review when it shows a relation between having taken the vaccine before, trust in the immunization program, and vaccine adherence. Potential barriers to vaccination such as lack of trust need to be overcome to increase awareness and acceptance of the vaccine.

A Greek study showed that beliefs related to the influence of other people on behavior and actions such as recommendations from doctors, pharmacists, family and friends were related to vaccine adherence[32]. The authors suggest that informational support and health education are essential for increasing vaccination coverage in older people, and that healthcare professionals play a central role as they can provide clear, comprehensive, and truthful information about the vaccine[32]. In Portugal, the greater use of healthcare services, having measured blood pressure in the last 12 months in the service, and having visited the family doctor in the last four weeks were associated with vaccination adherence[33], which reinforces the importance of taking advantage of the patient's contact with the service to talk about the importance of vaccination.

Advertisements and guidelines regarding the spreading by the media of dates, places, and times of national immunization campaigns can encourage the vaccination of the population. The Pesquisa Nacional por Amostra de Domicílios Contínua surveyed the access of Brazilians to Information and Communication Technology (ICT) and identified that the ratio of older people who accessed the internet rose from 24.7% in 2016 to 31.1% in 2017, showing the largest proportional increase among age groups[34].

Having had a previous adverse event was not interrelated to vaccination in 2019, unlike a review showing that the decision to vaccinate or not contemplates the perceived severity of the disease, the probability of having it, and the risk of post-vaccination adverse events[18]. Other investigations report that fear of adverse post-vaccination effects may contribute to non-adherence[2,9,21,35]. However, these studies were developed before the epidemic in 2016. One hypothesis that this data was not evidenced in the present study is that with the epidemic more information about vaccine adverse events was disseminated, reducing fear. However, the topic needs further research to be better understood.

The present study has some limitations: as it is a cross-sectional design, it is not possible to infer causality; despite the effort to include older participants from different points of care in the city, the data cannot be generalized as it is a convenience sample comprising individuals who attended the healthcare services and coexistence in a single municipality, which are more prone to self-care; some self-reported information such as the presence of diseases, use of medications, and vaccination adherence are subject to the participants' memory bias. We must also mention the scarcity of surveys with recent data related to influenza vaccination in older people in the national literature, which restricts the discussion about the Brazilian reality. Despite this, it is understood that the study contributes to the current knowledge about factors related to vaccine adherence.

CONCLUSION

There was a higher prevalence of adherence to the influenza vaccine in older people with neuropsychiatric diseases. Most participants knew and trusted the PNI, knew that the vaccine is indicated for older people, and used to be vaccinated annually, variables related to a higher prevalence of vaccine adherence. No relation was identified between vaccination adherence and sociodemographic variables.

Health education in the community must be conducted so that older people know the PNI and trust it to avoid possible distortions that may reduce vaccination coverage. The healthcare professionals are important as opinion makers about vaccination. Also, it is important that older people are vaccinated every year to maintain vaccine adherence. Therefore, the work to guide and attract the target audience must be annual. We also reinforce that using the media to spread reliable information about national vaccination campaigns can be an effective information and knowledge tool.

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