



Epidemiological Profile of Patients Seen at a Health Specialty Outpatient Clinic in an Amazon Region

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Authors' contributions

This work was carried out in collaboration among all authors. Authors DMS, AGIS and PSCP designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author RCV managed the analyses of the study. Authors ECB, GFC, DCL, LAV, ALSF, ENOJ and JCDG managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JAMMR/2020/v32i1530603

Editor(s):

(1) Dr. Muhammad Torequl Islam, Bangabandhu Sheikh Mujibur Rahman Science and Technology University, Bangladesh.

Reviewers:

(1) Yajaira Romero Uzcátegui, Universidad de Los Andes, Venezuela.

(2) Patricia Alves De Souza, Universidade Do Planalto Catarinense (Uniplac), Brazil.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/60923>

Original Research Article

Received 25 June 2020
Accepted 31 August 2020
Published 05 September 2020

ABSTRACT

Objective: Describe the epidemiological profile of patients seen in an outpatient clinic in a region of the Amazon.

Methodology: A cross-sectional, exploratory, descriptive survey with a quantitative approach, conducted in an outpatient clinic of health specialties of a Private Higher Education Institution (HEI)

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of Belém-Pará, from February to March 2019. With a range of 100 participants. From the application of a form on the socio-demographic, health and food profile. The data were analyzed by Bioestat version 5.3.

Results: 65% female, average age 43, 67% up to a minimum wage, 54% single, 51% with complete high school, 86% from the metropolitan region of Belém, 76% own a home, 75% have basic sanitation, 56% have running water, 50% with a family group of 4 to 6 members, 81% are not smokers, 59% are not alcoholics, 93% have no health plan, 42% in medical treatment, 72% report complete immunization, 79% 3 to 4 meals/day, 59% do not consume canned food, 62% consume fried food weekly, 52% consume fruit and vegetables daily, 60% consume red meat weekly, 51% consume white meat weekly, 50% do not consume soft drinks, 37% do not practice physical activities.

Conclusion: Are young adults, with low schooling, low income, inadequate nutrition, who do not engage in physical activities, however most of them have a current vaccination picture, and inadequate basic sanitation. These are determining factors in the quality of life of these individuals, being characteristics of a developing country, and that health interventions and policies should be implemented to promote health.

Keywords: Health profile; outpatient care; Amazon.

1. INTRODUCTION

In past decades, the concept of health was configured as the absence of disease or some physical-biological symptom, in which other relevant aspects in the health and disease process were not taken into consideration, this period was called assistance in the biomedical model, in which there was no holistic view of the individual [1].

Over the years, this concept has changed and expanded through the inclusion of several aspects considered as conditioning health, that is, factors that interfere in the health-disease process, such as living conditions, occupation, education, income, transportation, access to health services, food, environment, leisure and freedom, which directly impact the health of individuals [2].

In this context, the Social Determinants of Health (SDH) emerge, where they are characterized as: social, economic, cultural, ethnic/racial, psychological and behavioral factors that impact on the emergence of health problems and their risk factors in the community. The World Health Organization's (WHO) homonymous commission defines SHD as social conditions in which people live and work [3].

Another relevant point to consider is the demographic transition, in which it is configured in the change in epidemiological behavior that has occurred in recent years, with a reduction in birth rates, an increase in the number of elderly people and a reduction in deaths from infectious

diseases, increased life expectancy, which brings along with the aging process the increase of Chronic Non Transmissible Diseases (CNTD), Neoplasms, Cardiovascular Diseases (CD), Respiratory, Systemic Hypertension (SH), Diabetes Mellitus (DM), Autoimmune Diseases and Mental Diseases [4].

CNTD account for 70% of all causes of death in the world and are a serious public health problem. Moreover, for WHO the poverty situation worsens with the presence of CNTD because it demands family spending on the disease and demand for health services [5-7].

In the context of CNTD influenced mainly by SDH, the Amazon region stands out, where these social, economic, demographic, biological and climatic characteristics are even more specific, as it is a tropical region of Brazil, which presents a greater diversity of fauna and flora, has regions of lakes, waterways, humid climate, low population density, traditional peoples such as riverine peoples, Indians and rubber tappers. Besides practices such as land use, environmental exploration, dam constructions, large fires are factors that directly interfere in the health of the Amazon population, characterizing a specific epidemiological profile [8,9].

In this sense, studies of epidemiological profiles are important to analyze the current health condition of a population in order to identify the main social and biological events that affect and influence people's illness. In order to promote health, planning, strategies, educational actions,

based on evidence, ensuring greater results in the intervention [10].

Considering these aspects, the following research question emerged: What is the epidemiological profile of patients attended in an outpatient clinic in the Amazon region? Thus, the objective is to describe the epidemiological profile of patients seen in an outpatient clinic in an Amazon region.

2. MATERIALS AND METHODS

Study from the Scientific Initiation Program of the Metropolitan University Center of the Amazon UNIFAMAZ, called 2018-2019. Survey research, of the transversal type, descriptive with quantitative approach, carried out in an ambulatory of health specialties of a Private of Higher Education Institution (HEI) of Belém-Pará, from February to March 2019. With a reach of 100 participants from 260 patients, attended in the months of February and March 2019. Both sexes, over 18 years of age, were included, and individuals with some mental or cognitive disability were excluded.

The outpatient clinic serves the population free of charge, with the specialties, general practitioner, cardiology, gynecology, pediatrics, and provides the institution's health courses with clinical practice, with monthly care in an average of 130 patients over 18 years. We used the sample calculation, with a 95% confidence level and a 5% predictive sample error, thus resulting in a quantitative of 98 participants. However, 100 were reached.

The non-probabilistic sampling was chosen for convenience, which is characterized when not all the participants have access, and it is proposed to reach the participants who fit the inclusion criteria who accept to participate in the survey, and who are available at the moment, not needing to select specifically [11]. It is ideal to take into account that appointments are open to the public and referenced from other health care institutions, so it is ideal to collect data from those who are available, and reach the number of the sample calculation in the determined period of data collection.

For data collection, a form was used, with open and closed questions, filled in by the participants, with variables related to demographic, health and food characteristics. The data collection took place during the days of the week Monday to Friday, in the morning period, from February to March 2019, when

patients were waiting for their appointments. The objective of the study and the relevance of the research were discussed, and they were invited to participate.

In the data analysis, the information from the forms were tabulated in Excel spreadsheets, and then analyzed by descriptive statistics by *Bioestat* software version 5.3. The data were presented in tables, divided and based on each block of the form.

This research corresponded to the Institutional Program of Scientific Initiation Scholarships (PIBIC) of the Metropolitan University Center of the Amazon (UNIFAMAZ), from the Continuous Flow Notice for the year 2018, carried out by academics of the Bachelor's Degree in Nursing, and guided by a titular professor of the institution with the title of PhD in Nursing.

3. RESULTS

The results will be presented from descriptive tables on the demographic and health profile of research participants.

3.1 Demographic Characterization of Participants

Observing the results found in Table 1 it is observed that the predominance of outpatient care was among the female gender 65 (65.0%), for the most predominant age group it was between 18 and 31 years of age, with a mean of 43 years and standard deviation of ± 18.1 years and confidence interval (95%) of $39.4 \leq \mu 46.6$.

As for marital status, most users declared themselves single 54 (54.0%) followed by married 42 (42%); in the item schooling the predominance was of individuals with the level of schooling in high school 51 (51%) and elementary school 25 (25%); when family income is observed that most live with 1 minimum wage 67 (67%), the average wage was 1.47 wages, standard deviation of ± 0.95 and confidence interval (95%) of $1.3 \leq \mu 1.7$.

In the occupation item it was observed that there was a homogeneous distribution among the developed activities, being 27 (27%), followed by retired 16 (16%), domestic and students 13 (13%) each and did not inform their activities 14 (14%) participants.

Table 2 describes the profile of the living condition of the patients seen in the outpatient clinic, where it is observed that the great majority 86 (86%) came from the metropolitan region of

Belém (MRB); as for the living situation 76 (76%) lived in their own home; when asked the number of people living in the home it was found a number of 4 to 6 people 50 (50%) who lived in the home, with an average of 3.7 people, standard deviation of ± 1.7 people and CI (95%) $3.36 \leq \mu \leq 4.06$.

When questioned if they had access to the Internet in their residence 81 (81%) informed that they had; in the item basic sanitation 75 (75%) informed that they had available sanitation in their residence; as for water supply 56 (56%) had running water and 41 (41%) used untreated water from an artesian well; in the item origin of water consumed in the residence 57 (57%) used mineral water and 27 (27%) used filter in their residence for the treatment of water consumed.

In the item has garbage collection 96 (96%) affirmed that they had regular garbage collection in the house; the same value found in the item public lighting in the public way where the house was 96 (96%) affirmed that they had public lighting; as for the house with access to public transport 90 (90%) of the interviewees informed that they had access near the house to public transport. While in the item type of public transport used by respondents the predominance was 79 (79%).

Table 3 shows that among females the most frequent age interval was between 18 and 31 years, the mean age among the women seen in the outpatient clinic was 42.9 years with a standard deviation of ± 18.8 years and a confidence interval (95%) of $38.2 \leq \mu \leq 47.6$.

Table 1. Socioeconomic profile of patients seen in the specialty outpatient clinic in a 2019 Amazon region

	n	%		
Gender				
Female	65	65,0		
Male	35	35,0		
Age (years)				
18 — 31	33	33,0		
32 — 45	30	30,0	Average	43,0
46 — 59	14	14,0	standard deviation	18,1
60 — 73	17	17,0	CI (95%)	$39,4 \leq \mu \leq 46,6$
74 — 87	06	6,0		
Civil status				
Single	54	54,0		
Married	42	42,0		
Stable union	04	4,0		
Schooling				
Unliterate	01	1,0		
Fundamental	25	25,0		
Middle	51	51,0		
Superior	21	21,0		
Graduate	02	2,0		
Family income (in minimum wages)				
No income	06	6,0	Average	1,47
1	67	67,0	standard deviation	0,95
2	01	1,0	CI (95%)	$1,3 \leq \mu \leq 1,7$
>2	26	26,0		
Occupation				
Retired	16	16,0		
Domestic	13	13,0		
Student	13	13,0		
Autonomous	12	12,0		
No occupancy	05	5,0		
Other occupations	27	27,0		
Not informed	14	14,0		
Total	100	100,0		

Source: Authors

Table 2. Housing status profile of patients seen in the specialty outpatient clinic in a region of Amazonia 2019

	N	%		
Origin				
Metropolitan Region of Belém	86	86,0		
Interior of the State	14	14,0		
Housing situation				
Own	76	76,0		
Rented	14	14,0		
Transferred	10	10,0		
Number of people living at home				
1 — 3	46	46,0	Average	3,7
4 — 6	50	50,0	Standard Deviation	1,7
7 — 9	03	3,0	CI (95%)	3,36 ≤ μ ≤ 4,06
10 — 12	01	1,0		
Internet access				
Yes	81	81,0		
No	19	19,0		
Sanitation				
Yes	75	75,0		
No	25	25,0		
Water supply				
Tap	56	56,0		
Artesian well	41	41,0		
Open well	03	3,0		
Water treatment				
Well	06	6,0		
Mineral	57	57,0		
Filtered	27	27,0		
Tap	10	10,0		
Hypochlorite	01	1,0		
Fervent	01	1,0		
Straight from the tap	08	8,0		
It has garbage collection				
Yes	96	96,0		
No	04	4,0		
Public lighting				
Yes	96	96,0		
No	04	4,0		
Housing with access to public transport				
Yes	90	90,0		
No	10	10,0		
Type of transport				
Public transport	79	79,0		
Own vehicle	07	7,0		
Bike	03	3,0		
Other means of transport	08	8,0		
Not informed	03	3,0		
Total	100	100,0		

Source: Authors

Assessing the age distribution of male patients seen in the outpatient clinic, we found the most frequent age range of 32 to 45 years, with a mean of 43.6 years and standard deviation of ± 17, 0 years and confidence interval (95%) of

37.8 ≤ μ ≤ 49,4. The G test was performed and a p-value $P = 0.0001$ was found, thus showing a highly significant difference between the mean ages of female and male individuals.

3.2 Participants' Health Characteristics

Table 4 describes the health condition profile of the participants who sought outpatient care,

where 93 (93%) had no private health plan; 49 (49%) reported not being under medical treatment and 55 (55%) had never undergone surgery.

Table 3. Analysis of the mean age of patients seen in the specialty outpatient clinic in a region of Amazon 2019

Age	Female 64/100 (64,0%)		Male 36/100 (36,0%)		p-value (teste G)
	N	%	N	%	
18 — 31	24	24,0	09	9,0	P = 0,0001
32 — 45	16	16,0	13	13,0	
46 — 59	10	10,0	04	4,0	
60 — 73	09	9,0	08	8,0	
74 — 87	05	5,0	02	2,0	
Average	42,9		43,6		
Standard deviation	18,8		17,0		
CI (95%)	38,2≤μ≤47,6		37,8≤μ≤49,4		

Source: Authors

Table 4. Profile of the health condition of patients seen in the specialty outpatient clinic in a region of Amazonia 2019

	N	%
Has health insurance		
Yes	07	7,0
No	93	93,0
In medical treatment		
Yes	42	42,0
No	49	49,0
Not informed	09	9,0
Performed surgical procedure		
Yes	45	45,0
No	55	55,0
Smoker		
Yes	09	9,0
No	81	81,0
Ex-smoker	10	10,0
Use of alcoholic beverages		
Yes	41	41,0
No	59	59,0
Immunization		
Full	72	72,0
Incomplete	28	28,0
Has allergies		
Yes	23	23,0
No	77	77,0
Types of allergies		
It does not have	77	77,0
Drug	10	10,0
Feed	03	3,0
Other	10	10,0
Total	100	100,0

Source: Authors

Table 5. Food profile of patients seen in the specialty outpatient clinic in a region of Amazon 2019

	n	%		
Number of daily meals				
1 — 2	10	10,0	Average	3,5
3 — 4	79	79,0	Standard Deviation	0,9
5 — 6	09	9,0	CI (95%)	3,32 ≤ μ ≤ 3,67
Not informed	02	2,0		
I eat canned food				
No	59	59,0		
Yes daily	08	8,0		
Yes weekly	33	33,0		
Consumption of fried foods				
No	15	15,0		
Yes daily	23	23,0		
Yes weekly	62	62,0		
Consumption of fruits and vegetables				
No	05	5,0		
Yes daily	52	52,0		
Yes weekly	43	43,0		
Consumption of red meat				
No	02	2,0		
Yes daily	38	38,0		
Yes weekly	60	60,0		
Consumption of white meat				
No	01	1,0		
Yes daily	48	48,0		
Yes weekly	51	51,0		
Consumption of soft drinks				
No	50	50,0		
Yes daily	14	14,0		
Yes weekly	36	36,0		
Practice of physical activities (weekly)				
Non-practical	37	37,0		
1 to 3 times	32	32,0		
4 to 7 times	10	10,0		
Not informed	21	21,0		
Type of physical activity				
You don't practice	37	37,0		
Walk	31	31,0		
Other activities	17	17,0		
Cycling	04	4,0		
Not informed	11	11,0		
Total	100	100,0		

Source: Authors

Among the participants 81 (81%) denied being smokers and 10 (10%) said they were ex-smokers; in the item use of alcoholic beverages 59 (59%) denied being alcoholics; as for the immunization item 72 (72%) said they had complete immunization; 77 (77%) denied any type of allergy and among those who had 10 (10%) were allergic to medication.

3.3 Food Characterization and Physical Activity

Evaluating the food profile of the survey participants, in Table 5 we found that 79 (79%) of the participants had between 3 and 4 meals a day, with a mean of 3, 5 meals, standard deviation of ± 0.9 and CI (95%) of $3.32 \leq \mu \leq 3.67$; as for the consumption of canned food

59 (59%) denied consuming canned food products.

When asked about the consumption of fried food 62 (62%) reported eating fried food weekly; 52 (52.0%) said they consumed fruit and vegetables daily; in the item red meat consumption 60 (60%) said they consumed this type of food weekly; likewise when asked about the habit of consuming white meat (fish and chicken) 51 (51%) reported consuming this food weekly.

About the habit of ingesting soft drinks, 50 (50%) reported not to ingest soft drinks, but 50 (50%) ingested daily or weekly; about the weekly practice of physical activity the majority 37 (37%) did not practice any form of sport and, 32 (32%) practiced from 1 to 3 times a week. Among those who practiced activities, 31 (31%) did walk as a form of physical activity.

4. DISCUSSION

It was evident that among the patients seeking care in the outpatient clinic, the female gender predominates, represented in 65%. Thus, this result is similar to Adamczyk's research [12], who drew the profile of patients seen in an outpatient clinic of a private HEI in the city of Curitiba-PR, and found that the majority of patients seeking the services offered by the outpatient clinic, is female 75%. Showing that there is no discrepancy, between the south and north region, in relation to gender. However, he highlighted that men seek less health services.

For Levorato [13] who researched factors associated with the demand for health services from a gender relational perspective, in Family Health Centers of Ribeirão Preto -SP, evidenced that the low demand for health services by men is a lack of disease (absence of physical symptoms), the time of operation of the health units resembling the working hours. For Gomes, Nascimento and Araújo [14] the factors are lack of access to health services and lack of specialized units for men's health.

Regarding the mean age, it prevailed in 43 years, being characterized in young adults, comparing with the results of Azevedo [15], who analyzed the epidemiological profile of patients in the first consultation of an outpatient clinic of the Federal University of Paraná, and showed that the mean age of patients was 46 years, similar to the results of this study. Thus, it is possible to show that the greatest demand for services is for

young adults, and that there is no difference between the North and South regions.

For the variable marital status, 54% were single, contrary to the results of Adamczyk [12], who showed in his studies that 74% were married, of patients seen at the nursing clinic in Curitiba. Thus, it is shown that marital status varies according to location and profile of the outpatient clinics, for example in the studies of Carvalho et al. [16] who outlined the profile of patients seen in a reference outpatient clinic in HIV, showed that 60.13% are single, and relating that individuals who do not have marital relationships are more exposed to sexually transmitted infections.

In schooling, it was shown that 51% have completed high school, contrary to data from the Human Development Atlas [17], that in Pará the predominant schooling is complete primary education 43.53%, and nationwide also reaching 50.75%. These data show that the level of schooling influences the search for health services, in which in this study the majority has high school, being contrary to the state and national average.

On the income, it prevailed in 67% of even a minimum wage, showing that most have low income, and seek care in the ambulatory because it is free. However, these results do not agree with those of Andriola et al. [18], who outlined the profile of patients seen in an outpatient clinic of the Federal University of Rio Grande do Sul, and showed that 40.1% reported having income between 2 and 3 minimum wages. According to the Human Development Atlas [17] shows that the predominant income in the state of Pará is up to 2 minimum wages in 2010, representing 80.35%. Thus, it is shown that this study found individuals with low income up to 1 minimum wage, explained by the fact that these services are free and easily accessible, but data show that the predominant income of the population is up to 2 minimum wages.

For the occupation, it was shown that 27% referred to other occupations, so there was a limitation in this variable, since it was an open question and they did not specifically define most of the time the type of work performed.

As for the place of housing, 86% and coming from the metropolitan region of Belém, and 76% claims to have their own house, and in relation to the family group 50% has 4 to 6 members. For garbage collection and public lighting, 96% own,

and 56% have running water. Corroborating the results of Silva et al. [19], who analyzed the profile of patients seen in a Basic Health Unit in Cuiabá, where he found that 95.68% had regular garbage collection, and for public lighting 94.86%. However, in relation to the supply of piped water, he showed that 97.70% have access at home.

In the Atlas of Human Development [17] in Pará, it shows that by 2010 tap water reaches 84.70% of households, for garbage collection 91.92%, and for electricity with public lighting 91.89%. In this way, this study shows that access to piped water supply is lower, being a worrying indicator, because basic sanitation represents a very important health condition, since it is related to several means of contamination.

In relation to access to the Internet network, 81% reported having access, either at home or on mobile phones. According to the Brazilian Institute of Geography and Statistics (IBGE) in 2017, the Internet reached 74.9% of households in the country, but in access through mobile networks, cellular 97% [20]. Thus, it is shown that the access to the internet is wide and corroborates with the national data.

When asked about having a private health plan, 93% claimed not to have one, and 49% said they are not currently undergoing medical treatment, as well as 55% reported never having undergone any surgical procedure. In the studies of Tostes, Covre and Fernandes [21] who carry out a documentary study on surgical assistance in Brazil and the Regions, and found that in Brazil 12.3% of health care involved surgery, already in the North region was 3.5%, but noted that 2.7% needs the procedure and has no access. Thus, it is shown that patients who seek outpatient services do not have a health plan, with 51% referring to being in some medical treatment, and regularly attend the outpatient clinic for follow-ups with the health team.

For smoking 81% reported not to be, already in alcohol 59% reported not to consume alcoholic beverages. In the studies of Andriola [18], with patients from an outpatient clinic in Porto Alegre, he identified that 34.4% declared to be smokers, while in alcoholism 31.1% consume alcoholic beverages. Thus, these results are close to the

results of this research. However, they corroborate with data from the National Cancer Institute (INCA), which in 2013 found that the prevalence of smoking in Brazil was 14.7% [22].

The immunization picture was still investigated, where according to the report, 77% claimed to be up to date with the vaccines. On allergies 10% reported drug-related allergies. About the vaccination picture, these results corroborate with the studies by Domingues and Teixeira [23], who evaluated the vaccination coverage in Brazil, and found that in 2012 the adherence rate was 70.10%. Regarding allergies, it was not possible to find current data on prevalence.

Regarding eating habits, it was shown that 79% eat 3 to 4 meals/day, 59% reported not consuming canned food, 62% consume frying weekly, 95% consume fruit and vegetables, 60% report consuming red meat weekly and 38% daily, and 50% consume soft drinks. As such, it is characterized as an inadequate diet. In a study that evaluated the markers of healthier eating in Brazil, conducted in 2013, which found that the majority of the Brazilian population has an inadequate diet, but highlighted a finding that 71.9% consume beans, already fruit and vegetables 37.6%, and fish 54.6%.

Regarding physical activities, 37% reported being sedentary, and 21% did not report it. This result is similar to a study conducted to analyze the profile of patients seen in a clinic in Porto Alegre, and showed that 43% reported being sedentary, as well as 63.8% reported consuming 3 to 4 meals/day. Thus, sedentary lifestyle combined with inadequate diet are predictors for obesity, CD, Metabolic Syndrome (MS) [15].

In this perspective, it was shown that SHD directly influence the health process disease of this population, since related to housing condition, schooling, access to health and eating habits and physical activities, have intimate repercussions on the health of individuals. Relevant points of this study, such as: low income, running water, inadequate diet and sedentariness, are determinants that impact health, which may have repercussions on the increase of CNTD, and consequently on morbidity and mortality.

5. CONCLUSION

It is concluded that the epidemiological profile of the users of the outpatient clinic is predominantly characterized by being women, single, with an average level of schooling of one minimum wage of income, single, most of them from the metropolitan region of Belém, who have their own house, living with 3 to 7 people per household, most of them with running water, electric light, with garbage collection and access to public transportation and internet. They are young adult users, aged between 18 and 45, who do not have a health plan, and seek some health treatment.

As for the health profile, these are people who mostly do not smoke, but use alcoholic beverages, do not engage in any physical activity and have immunization on time. They eat an average of three meals a day, consume frying and soft drinks.

It shows the clear characteristics of individuals living in a developing country, showing the social vulnerabilities related to basic sanitation, education and income. In this way, it has a direct impact on the quality of life, showing the inadequate and sedentary diet, being factors that have a direct impact on health. On immunization, thanks to the health policies in Brazil of access to health for all by the Unified Health System free of charge, it offers the vaccine schedule to all, minimizing the risk of immunopreventable diseases, however, they present the risk for the development of chronic non transmissible diseases, such as cardiovascular diseases, which are the main cause of deaths in Brazil and in the world.

This study provides data for the development of interventions in relation to Health Promotion and Education, since it shows the vulnerabilities that the community faces and that have a direct impact on the health-disease process.

CONSENT

The objective of the study was presented to all participants, and all participants who agreed to participate in this research signed the informed consent form, in accordance with resolution 466/12, which deals with research with human beings in Brazil. All the participants signed two copies of the Term of Free and Informed Consent (FIC), in which one copy

remained with the researchers and the other with the participant. The FIC had information about the objectives of the trial, risk and benefits for the participant and the preservation of privacy and confidentiality of participant data.

ETHICAL APPROVAL

This study complied with resolution 466/12, which is a study with human beings, being submitted to the Brazil Platform, and approved by the Ethics and Research Committee (ERC) of the University Center of Maranhão (UNICEUMA) with the CAAE: 99133418.1.0000.5084. Parecer number: 2,956,507. The FIC had information about the objectives of the trial, risk and benefits for the participant and the preservation of privacy and confidentiality of participant data. This study complied with resolution 466/12, which is a study with human beings, being submitted to the Brazil Platform, and approved by the Ethics and Research Committee (ERC) of the University Center of Maranhão (UNICEUMA) with the CAAE: 99133418.1.0000.5084.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
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