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PREVALENCE OF DYSPHAGIA AND FRAILTY IN ELDERLY INDIVIDUALS: AN EPIDEMIOLOGICAL STUDY

PREVALÊNCIA DE DISFAGIA E FRAGILIDADE EM IDOSOS: UM ESTUDO EPIDEMIOLÓGICO

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Antonio César Matias de Lima[1]

Virvalene Costa de Melo[2]

Vanessa de Melo Mazzarelli[3]

Moisés Simão Santa Rosa de Sousa[4]

Divaldo Martins de Souza[5]

Estelio Henrique Martin Dantas[6]

ABSTRACT

The aim of this study was to verify the prevalence of the risk of dysphagia and frailty in the elderly in the city of Rio de Janeiro. Participants were 76 elderly people, 58 women and 18 men over 60 years of age. The risk of dysphagia was assessed through *the Eating Assessment Tool* (EAT-10), in the Brazilian version of Gonçalves *et al.* (2013). Frailty through the Morley *et al.* frailty scale (2012), translated into the Brazilian version (Aprahamian, *et al.* 2017); the data were treated through descriptive statistics by absolute and relative values and inferential by the chi-square test to compare prevalence and *Spearman's* correlation to verify the association between variables. The results showed a prevalence of 71.1% ($p<0.01$) of the participants without swallowing difficulties; however, some basic clinical signs of difficulty swallowing were recorded, such as coughing, choking, sweating, among others. Regarding frailty, 36.8% of the sample ($p<0.01$) was classified as robust; 50.0% pre-frail and 13.2% fragile; 14.5% reported more than 5 diseases and 14% reported weight loss greater than 5% in the last 6 months. An association of dysphagia, frailty and diseases associated with increased age was observed; as well as the increase in frailty with lower schooling. It was concluded that although the higher prevalence of subjects without dysphagia, there was a significant prevalence of frailty among the elderly, which may predispose to risks for falls and hospitalizations, requiring care regarding their integrity, their health and their quality of life.

Keywords: Frail Elderly; Deglutition Disorders; Fragility

RESUMO

O objetivo deste estudo foi verificar a prevalência de disfagia e risco de fragilidade em idosos da cidade do Rio de Janeiro. Os participantes eram 76 idosos, 58 mulheres e 18 homens com mais de 60 anos de idade. O risco de disfagia foi avaliado pela *Ferramenta de*

Avaliação Alimentar (EAT-10), na versão brasileira, por Gonçalves *et al.* (2013). Fragilidade através da Escala de Fragilidade de Morley et al. (2012), traduzida para a versão brasileira (Aprahamian, *et al.* 2017); os dados foram tratados por estatísticas descritivas por valores absolutos e relativos e inferenciais pelo teste qui-quadrado para comparar a prevalência e a correlação *de Spearman* para verificar a associação entre variáveis. Os resultados mostraram uma prevalência de 71,1% (p<0,01) dos participantes sem dificuldades para engolir; No entanto, alguns sinais clínicos básicos de dificuldade para engolir foram registrados, como tosse, engasgo, suando, entre outros. Quanto à fragilidade, 36,8% da amostra (p<0,01) foi classificada como robusta; 50,0% pré-frágil e 13,2% frágil; 14,5% relataram mais de 5 doenças e 14% relataram perda de peso superior a 5% nos últimos 6 meses. Foi observada uma associação de disfagia, fragilidade e doenças associadas ao aumento da idade; além do aumento da fragilidade com menos escolaridade. Concluiu-se que, apesar da maior prevalência de sujeitos sem disfagia, havia uma prevalência significativa de fragilidade, que pode predispor a riscos de quedas e hospitalizações, exigindo cuidados em termos de integridade, saúde e qualidade de vida.
Palavras-chave: Idosos Frágeis; Distúrbios da deglutição; Fragilidade

1. INTRODUCTION

Aging is a natural process of the human being, in which modifications occur that are inherent. These changes, which are characterized as structural and functional, are called senescence and can vary from individual to individual presenting as loss of muscle groups, decreased functional capacity, psychomotor slowness and decline of recent memory (Baldo, 2019).

During the aging process can be observed sometimes, decreases in sensory acuity, whether of hearing, vision, smell, taste and / or olfactory. The stomatoglossognatic system may undergo alterations, compromising swallowing and speech of the elderly. The changes that occur in the oral cavity, such as atrophy of the labial muscles, hypertrophy or hypotonia of the tongue, changes in the oral mucosa, decreased saliva flow, dental failures among others, which occur in the aging process, and may bring changes in the physiology of swallowing with advancing age (Jotz, *et al.* 2010).

Presbyphagia refers to all changes in the physiology of swallowing that arise with advancing age, being considered a condition of biological aging, that is, senescent (Venites, *et al.* 2018). Dysphagia can be described as the difficulty in initiating swallowing, or the feeling that solid / or liquid foods are retained in the transition from the mouth to the stomach, therefore it is the perception of the impossibility of the normal passage of swallowed food/liquids (WGO, 2014).

In the search for healthy aging, Luna *et al.* (2022) point to some habits and lifestyle that can favor this walk, among them are: a good and healthy diet, the systematic practice of adequate physical activity, the reduction of toxic health habits, family and social support, healthy recreation for the age group. Longevity is directly related to changes in habits in general, as well as improvement in the treatment of different acute and infectious pathologies, in addition to advances in the early diagnosis and treatment of diseases (Suryadi, 2024).

Another important indicator of the health condition of the elderly is frailty, recognized as a geriatric syndrome in which there is a

reduction in physiological reserves and the homeostatic capacity of the organism to resist stressful situations, resulting from cumulative decline of function in various physiological systems (Venites *et al.* 2018).

The frailty phenotype involves five factors: loss of body mass, fatigue, muscle weakness, physical inactivity, and slow gait. A frail elderly person is classified as one who presents three or more of these components; pre-fragile in the presence of one or two components; and not fragile in the absence of components. Elderly people who do not have any of these parameters are considered robust. (Liberal, *et.al.*, 2017).

According to Pleticosic-Ramírez (2024), obesity, an important factor of prevalence in the elderly, causes frailty, which can considerably limit their physical capacity, level of physical activity, in addition to reducing muscle mass, affecting mobility and reducing overall quality of life. Aging is related to a progressive decrease in physical fitness levels, affecting muscle strength, physical endurance, locomotion capacity, and balance, factors related to the functional capacity of the elderly (Suryadi, 2024).

The presence of dysphagia in elderly people was related to the prevalence of 36.8% with malnutrition and with 55.3% in nutritional risk, which may result in low energy-protein intake in relation to nutritional needs, with progressive loss of body mass and depletion of muscle mass, decreased strength of the muscles responsible for the swallowing process, aggravating the health status of the elderly (Silva *et al.* 2019). In addition, elderly people may present difficulties for locomotion and high risk of falls, due to frailty, consequently ceases to relate in community and the pleasure of eating ends up

being in the background, leading to inappetence and later, to an anoretic picture, with even greater impairment of their nutritional and health status, worsening the picture of frailty (Borrego, *et al.*, 2012).

According to Suryadi (2024), for the elderly, health exercise, in addition to being a component of maintaining physical fitness, preserves the ideal quality of life. With the appropriate choice, the necessary care and safety, the elderly can benefit physically and mentally throughout the aging process, favoring stress control, becoming fundamental for the prevention of risk factors related to cardiovascular and metabolic diseases, which are not uncommon in this population.

Thus, it is important to evaluate frailty in the elderly as a way to monitor the functional aging process, with a view to better understanding this phenomenon and better develop intervention strategies to mitigate the impacts of aging on the health and quality of life of the elderly, as well as to apply these strategies in the search for an improved quality of life and health of the elderly.

In view of the problem presented, the objective of this study was to evaluate the prevalence of the risk of dysphagia and frailty in a sample of elderly people.

2. MATERIAL AND METHOD

The research consists of a cross-sectional, descriptive, field study with a qualitative approach. The sample included 76 elderly people of both sexes (58 women and 18 men) aged 60 years or older, living in the city of Rio de Janeiro, Chosen casually. The sample size was defined using the GPower 3.1.9.4 program, using the chi-square

family tests with a size effect of 0.5, probability of error of 0.05, test power of 0.95, in 80 participants, where 4 dropped out at the last moment, which included participants with dysphagia, over 60 years of age, of both genders and who showed interest in participating in the investigation.

An anamnesis was performed to better characterize the sample regarding gender, age group, education, occupation, with whom they live, smoking and pre-existing diseases.

To assess the risk of dysphagia, the *Eating Assessment Tool* (EAT-10) was used, in the Brazilian version of Gonçalves *et al.* (2013), which was applied by an experienced physical therapist. The identification of the risk of dysphagia aims to provide information about functionality, emotional impact and physical symptoms that a swallowing problem can cause in an individual's life.

The EAT-10 brings an important contribution to the identification of the risk and symptoms of dysphagia, with consequent early indication of multidisciplinary intervention and clinical follow-up of the treatment. Thus, a three-point score in the questionnaire is already indicative of the risk of dysphagia, and the patient should be referred for speech evaluation of swallowing. The EAT 10 is composed of ten questions, of which three refer to the functional domain, for example, "I need to make strength to drink liquids"; three are related to the emotional domain (psychological effect), for example, "My problem swallowing takes away my pleasure from eating"; and four refer to the physical domain (organic symptoms), for example, "My problem swallowing makes me lose weight."

To assess the frailty of the elderly, the frailty scale of Morley *et al*. was used. (2012), translated into the Brazilian version (Aprahamian, *et al.* 2017). The Frail scale is entirely based on self-report and consists of 5 simple questions. The answers to the questions consist of yes or no, being assigned 1 point for any affirmative answer. Four of them are based on Fried's Frailty Phenotype, and one based on the number of diseases. According to the score, the subjects can be classified as: Robust (zero points), Prefragile (one to two points) or Fragile (three points).

The scale also assesses the presence of fatigue (Do you feel tired?); muscular endurance (Can't climb a flight of stairs?); aerobic capacity, (Can't walk block?); burden of disease (Do you have more than five diseases?); and weight loss (Have you lost more than 5% of your weight in the last six months?).

The data were treated through the statistical package SPSS 25.0 and for the descriptive statistics the absolute and relative values of the variables were adopted to indicate the prevalences and for the inferential statistics the chi-square test was adopted for the comparison of the prevalences and the *Spearman* correlation test to verify the association between the variables studied, A $p<0.05$ was adopted for statistical inferences.

3. FINDINGS

Tables one to eight present the data obtained in the study, as well as the descriptive and inferential statistical analyses related to the study.

Table 1

General characteristics of the sample, absolute and relative

prevalence and comparison of prevalence (chi-square)

		Prevalence		Comparison	
Variable	**Indexes**	**Absolute**	**Relative**	**x2**	***p***
Gender	Female	58	76,3	21,05	<0,01*
	Male	18	23,7		
Age Group	60 to 69 yers	30	39,5	1,37	0,50
	70 to 79 yers	22	28,9		
	80 or more yers	24	31,6		
Schooling	Illietarte	11	14,3	24,50	<0,01*
	Up to 8 yers	20	26,3		
	demore than 8 yers	45	59,2		
Occupation	Retired	63	82,9	32,90	<0,01*
	Non-retired	13	17,1		
Who you live with	Alone	12	15,8	5,16	0,16
	Companion	19	25,0		
	Family	26	34,2		
	Carer	19	25,0		

He is Smoker	No	74	97,4	68,21	0,01*
	Yes	2	2,6		
Pre-existing diseases	No	17	22,4	59,18	0,01*
	Hypertension	14	18,4		
	Diabetes Mellitus	2	2,6		
	Osteoporosis	7	9,2		
	Cancer	2	2,6		
	Kidney disease	1	1,3		
	two diseases	18	23,7		
	Three diseases	5	6,6		
	Four diseases	4	5,3		
	Five diseases	5	6,6		
	Six diseases	1	1,3		

Table 1 shows that the sample had a significantly higher prevalence of female participants, with more than eight years of schooling, retired, living with family members, non-smokers and with arterial hypertension or with two pre-existing diseases.

Table 2

Sample characteristics related to falls and hospitalizations, absolute and relative prevalence and comparison of prevalence (chi-square)

		Prevalence		Comparison	
Variable	**Indexes**	**Absolute**	**Relative**	**x2**	***p***
Occurrence of falls	Não Sim	56 20	73,7 26,3	59,18	<0,01*
Number of falls	1 - 5	20	100,0	---	---
Occurrence of hospitalizations	No Yes	69 7	90,8 9,2	50,58	<0,01*

Table 2 shows a significantly higher prevalence of absence of falls and hospitalizations among the research participants. However, even in lower prevalences, falls were worrisome in the studied group, since in absolute numbers, 20 subjects reported the occurrence of falls, and seven hospitalizations occurred as a consequence of falls.

Table 3

Sample characteristics related to swallowing, absolute and relative prevalence and comparison of prevalence (chi-square)

		Prevalence		**Comparison**	
Variable	**Indexes**	**Absolute**	**Relative**	**x2**	***p***
Difficulties	No	54	71,1	54,03	<0,01*

to swallow	Yes	22	28,9		
The difficulty makes lose weight	Not a problem It’s a small problem	62 6	81,6 7,9	129,90	<0,01*
	It’s a reasonable problem	4	5,3		
	It’s a big pblem	4	5,3		
Doesn't allow eating	Not a problem	66	86,8	155,26	<0,01*
Away from home	It's a small problem	5	6,6		
	It's a reasonable problem	2	2,6		
	It's a big problem	3	3,9		
It makes an effort to drinking liquid	Not a problem It’s a small problem	64 6	84,2 7,9	142,53	<0,01*
	It's a reasonable problem	2	2,6		

	It's a big problem	4	5,3		
It makes an effort toFaz força para swallow	Not a problem It's a small problem	62 7	81,6 9,2	181,37	<0,01*
solid food	It's a reasonable problem	3	3,9		
	It's a bibber problem	1	1,3		
	It's a big problem	3	3,9		
It makes an effort to	Not a problem	56	73,7	96,95	<0,01*
swallow medicine	It's a small problem	10	13,2		
	It's a reasonable problem	5	6,6		
	It's a big problem	5	6,6		
Pain when swallowing	Not a problem	69	90,8	175,45	<0,01*
	It's a small problem	3	3,9		

	It's a bigger problem	2	2,6		
	It's a big problem	2	2,6		
It takes away the pleasure of eating	Not a problem It's a small problem It's a reasonable problem It's a bigger problem It's a big problem	67 3 2 1 3	88,2 3,9 2,6 1,3 3,9	220,84	<0,01*
Food Engages in the Throat	Not a problem It's a small problem It's a reasonable problem It's a big problem	58 8 6 4	76,3 10,5 7,9 5,3	107,16	<,01*
Cough when eating	Not a problem It's a small problem It's a reasonable problem It's a bigger problem It's a big problem	53 10 7 1 5	69,7 13,2 9,2 1,3 6,6	120,32	<0,01*

Swallowing is stressful	Not a problem It's a small problem It's a reasonable problem It's a bigger problem It's a big problem	64 5 2 1 4	84,2 6,6 2,6 1,3 5,3	196,50	<0,01*

Table 3 shows a significantly higher prevalence of participants without swallowing difficulties, of participants who did not present weight loss problems due to their difficulties in swallowing, with no problem to eat outside the home, without any problem to drink liquids, without any problem to swallow solid foods, without any problem to swallow medicines, No pain when swallowing, no problem of loss of pleasure in eating, no problem of having food hitched in the throat, that do not cough when eating and that has no problem of stress when swallowing.

Table 4

Sample characteristics related to tiredness, absolute and relative prevalence and comparison of prevalence (chi-square)

		Prevalence		**Comparison**	
Variable	**Indexes**	**Absolute**	**Relative**	**x2**	***p***
Feel tired	No Yes	43 33	56,6 43,4	1,32	0,25
It's tiring to climb a	No Yes	52 24	68,4 31,6	10,32	<0,01*

flight of stairs					
It's hard to walk a block	No Yes	43 33	56,6 43,4	1,32	0,25

Table 4 shows a significant prevalence of participants who do not feel tired when climbing a flight of stairs.

Table 5

Other sample characteristics, absolute and relative prevalence and comparison of prevalence (chi-square)

		Prevalence		**Comparison**	
Variable	**Indexes**	**Absolute**	**Relative**	**x2**	***p***
Had more than 5 illnesses	No Yes	65 11	85,5 14,5	38,37	<0,01*
Lost more than 5% weight in the last 6 months	No Yes	62 14	81,6 18,4	30,32	<0,01*

Table 5 shows a significant prevalence of participants who do not have more than five pre-existing diseases and who have not lost more than 5% of body weight due to swallowing difficulties, which suggests that the sample had a low prevalence of participants with more than 5 diseases and who did not present problems with excessive weight loss, indicating that these variables may have a low influence on the results of the study.

Table 6

Sample characteristics related to Dysphagia and Frailty, absolute and relative prevalence and comparison of prevalence (chi-square)

		Prevalence		**Comparison**	
Variable	**Indexes**	**Absolute**	**Relative**	**x2**	***P***
Dysphagia	No risk	56	73,7	52,24	<0,01*
	At risk	20	26,3		
Fragility	Robust	28	36,8	15,90	<0,01*
	Prefragile	38	50,0		
	Fragile	10	13,2		
Dysphagia and frailty	No risk	56	73,7	52,24	<0,01*
	At risk	20	26,3		

Table 6 shows a significant prevalence of participants without risk of dysphagia, with frailty in pre-fragile index and without risk of dysphagia and frailty combined.

Table 7

Spearman's Correlation Indexes for Dysphagia

Variable	**r**	***p***
Age	0,39	<0,01*

Gender	0,05	0,66
Schooling	-0,15	0,19
Occupation	-0,19	0,10
Who you live with	021	0,07
Smoke	0,03	0,78
Associated diseases	0,39	<0,01*
Occurrence of falls	0,25	0,03*
Number of Meetings	---	---
Hospitalization	0,28	0,01*
Fragility	0,55	<0,01*

Table 7 shows significant correlations between the degree of dysphagia and several variables studied. It was observed that with increasing age there is a significant increase in the degree of dysphagia, with the increase in the number of pre-existing diseases there is a significant increase in the degree of dysphagia, with the increase in the occurrence of falls there is a significant increase in the degree of dysphagia, with the increase in the number of hospitalizations there is a significant increase in the degree of dysphagia and with the increase in frailty there is a significant increase in the degree of dysphagia.

Table 8

Spearman Correlation Indexes for Frailty

Variable	**r**	***p***
Age	0,34	<0,01*

Gender	-0,17	0,14
Schooling	-0,25	0,03*
Ocupação	-0,28	0,01*
Who you live with	0,17	0,14
Smoke	-0,01	0,92
Associated diseases	0,29	0,01*
Occurrence of falls	0,24	0,03*
Number of Meetings	---	---
Hospitalization	0,24	0,04*

Table 8 shows significant correlations between the degree of frailty and several variables studied. It was observed that with increasing age there is a significant increase in the degree of frailty, the lower the level of education there is a significant increase in the degree of frailty, in retirees there is a significant increase in the degree of frailty, the greater the number of pre-existing diseases there is a significant increase in the degree of frailty, the greater the frailty there is a significant increase in the number of falls and the greater the number of hospitalizations occurs a significant increase in the degree of frailty.

4. DISCUSSION

In the present study, the sample was randomly determined and consisted mostly of women.

In 2019 the world population aged 65 and over was estimated at 703 million, with a projection for 2050 of 1.5 billion, and will be

represented by 54% of women (United Nations, 2019). For Brazil, in 2018, the population over 65 years old was estimated at 19.2 million, with projections for 2060 of 58.2 million (IBGE, 2018).

In relation to the occupation by the elderly, both in men and women the participation in paid work is lower as age increases; being more prevalent for those with better education and good self-rated health, regardless of other factors (Castro, *et al.* 2019).

A cross-sectional study involving 204 elderly people found that 78.43% lived with their families and 21.57% lived alone (Simieli *et al.* 2019). Although the population of elderly people living alone is growing in the world and in Brazil, most people in this age group prefer to live with their children, due to the bonds of affection and the social obligation of the family. Family support is fundamental for well-being, being essential for healthy aging (Perseguino, *et al.* 2017).

In the present study, only two elderly people reported smoking. In another study involving 1,345 individuals aged 60 years or older, there was a proportion of smokers and former smokers 12.9 and 54.7% for males; 11.0 and 25.2% for females; and 11.8 and 37.2% for the total study population. For both sexes, with increasing age, the proportion of smokers decreased (Gonçalves, *et al.* 2018).

Regarding pre-existing diseases, in the present study the highest prevalence (18.4%) was arterial hypertension, followed by diabetes mellitus, osteoporosis, cancer and kidney disease, all considered NCDs (Chronic Non-Communicable Diseases). In another study involving a similar population, (77.71%) elderly with systemic arterial hypertension, (38.04%) with osteoarthrosis, (36.95%) with diabetes, (23.36%) with depression, (20.65%) with osteoporosis, (13.04%) with

dyslipidemia, (7.6%) with anxiety, (4.89%) anemia of chronic diseases, (4.34%) with a type of neoplasia, (3.26%) with chronic lung disease, (3.26%) with musculoskeletal disease, (1.63%) with Parkinson's and (1.63%) with Alzheimer's (Simieli, *et al.* 2019).

A cross-sectional study aimed at studying frailty in a sample of 1,413 elderly individuals recorded that, of this total, 1,397 suffered falls in the previous year. The authors also emphasize that fractures, immobility, restriction of activities, institutionalization, health decline, psychological damage, risk of death, as well as increased health care costs are the most common consequences of falls in the elderly, with losses of autonomy and independence being more directly affected (Duarte, *et al.* 2019).

The incidence of falls in a sample of 345 elderly people in the urban area of Uberaba-MG was 37.1%, being 20% recurrent and 17.1% in a single event, and the results on the occurrence of falls and recurrent falls were associated with worse physical performance and fear of falling. In this sense, it is evident the need for articulation between multiprofessional health teams at all levels of care, especially in primary care, in order to detect elderly people with potential risks of falls and with a previous history and also to minimize their occurrence (Souza, *et al.* 2019).

Research on hospitalization, mortality and lethality due to falls in the elderly in Brazil revealed that the average rates of hospitalization and mortality due to falls in the period from 1998 to 2015 were, respectively: 15.04 hospitalizations/100,000 inhabitants/month and 0.67 deaths/100,000 inhabitants/month. The national rates of hospitalization, mortality and lethality were increasing in the period, in most regions, except for the lethality between 60 and 69 years,

which decreased by 5%. There were 1,192,829 hospitalizations due to falls in public/insured hospitals in Brazil. There were 54,673 deaths due to accidental falls during the study. The overall mortality rate increased in all Brazilian regions and in Brazil, with an increasing trend in all age groups nationally. The Southeast region was the only one with mortality rates higher than those of Brazil (Stolt, *et al.* 2020).

Some basic clinical signs may be noticed when there is difficulty swallowing: coughing, choking, sweating, dyspnea, cyanosis, wet voice, throat clearing and sneezing. They may suggest a possible bronchoaspiration, which is defined as the inhalation of gastric contents, food particles, liquids, or fluids in the larynx and lower respiratory tract. However, it is important to know that, in some cases, silent aspiration can happen, in which there is entry of content into the airway without the person having a noticeable reaction at the moment (Moro, 2019).

Assessing the nutritional status associated with the presence of dysphagia in hospital admission in 12 elderly people, six with dysphagia and six without dysphagia, it was verified that no dysphasic patient was classified as having normal nutritional status, observing a relationship between the presence of dysphagia and the risk of malnutrition. Regarding caloric intake (Kcal), the dysphasic individuals ingested on average 1403.93 Kcal and the non-dysphasic group 1912.50 Kcal (p= 0.144) (Silva, *et al.* 2019). Therefore, there is a relationship between the occurrence of dysphagia and nutritional status. The greater the difficulty of swallowing, the greater the impairment of the nutritional status of the patient (Dutra, *et al.*, 2019).

A study involving patients over 65 years of age hospitalized for trauma-orthopedic fractures, with verbal responsiveness, showed that 58% of the individuals presented restrictions of food consistencies due to oropharyngeal dysphagia. The prevalence of oropharyngeal dysphagia was six for every ten individuals, with frailty, advanced age, multiple diseases and deficient oral conditions being the risk factors for the alteration. There was also a risk of functional decrease among those aged 70 years or older, with worse dental conditions, decreased global functionality, associated neurological diseases and with perception of swallowing changes (Delevatti, *et al.*, 2020).

In a cross-sectional study with 110 healthy elderly people with a mean age of 71 years, of both sexes, identified 41 (37.27%) individuals at risk of dysphagia, most of whom were male (n = 26; 63.41%) and aged 70 years or older (n = 25; 60.98%). There was no statistical relationship between risk of dysphagia, gender and age group (Ferraz, *et al.* 2020).

The early identification of the risk of dysphagia can maximize the primary/secondary performance and the speech therapy intervention as early as possible, minimizing functional changes and optimizing the quality of life of individuals (Chatindiara, *et al.* 2018).

With aging the swallowing function presents a decline, due to physiological changes, such as decrease in laryngeal elevation, increase in motor response time, impairment in pharyngeal peristalsis and opening of the esophageal sphincter (Cuppari, 2014).

A study conducted with 55 normal volunteers, separated into a younger and an older group, aged between 19 and 55 and 56 and 77,

respectively. Videofluoroscopic evaluation of swallowing was performed after ingestion of 5ml and 10ml of liquid barium sulfate. The aim of this study was to evaluate the hypothesis that individuals before 80 years of age have compensations that keep swallowing safe and efficient. The study concluded that the highly viscous liquid crosses the pharynx faster in older individuals, suggesting an adaptation of the swallowing function to compensate for the aging process (Nascimento, *et al.* 2015)

The ratio of elderly people with dysphagia is 10% in hospitalized patients and 30 to 60% in patients followed at home. The risk of developing dysphagia is increased in patients undergoing orotracheal intubation for more than 48 hours (Cuppari, 2014).

This is a descriptive, longitudinal study that traced the cognitive profile of a group of institutionalized elderly people, identified the factors associated with the cognitive decline presented and classified swallowing alterations and dysphagia risk, being observed that 41.2% had normal swallowing, 35.3% with mild oropharyngeal dysphagia and 23.5% with functional swallowing. The result of the study directly related the time of schooling to the result of the mini-mental state examination, that is, the shorter the time of schooling, the greater the possibility of cognitive deficit. Formal study can potentiate these functions by making the brain more resilient and flexible. The process of brain degeneration can be slowed or even prevented, for this cognitive stimulation is essential, and its maintenance is important for autonomy and independence of the elderly (Salles, *et al.* 2018).

A significant association was found between age, body mass index (BMI) and previous hospitalizations with the Frailty Syndrome. A

significant association was observed between the Frailty Syndrome and the following factors of hospitalization: complications, time, death, rehospitalization and death on rehospitalization (Silva, 2018). Therefore, it is possible that elderly classified as frail were more likely to have the outcome of mortality and develop a greater number of complications and length of hospital stay and had more readmissions than patients considered non-frail.

The higher frequency of frailty with some factors, among them: increasing age, marital status (not having a partner), presence of a caregiver, osteoarticular disease, history of hospitalization and falls in the last 12 years. (Sheep, *et al.* 2017).

5. CONCLUSION

Dysphagia is a disorder that makes it difficult or impossible to swallow solid or liquid foods, and can cause serious nutritional problems in the elderly, severely compromising their condition by making them fragile due to the reduction of physiological reserves and the homeostatic capacity of the body to resist stressful situations, resulting from the cumulative decline of function in various physiological systems.

In the present study, although the highest prevalence was of individuals without dysphagia, there was a significant prevalence of frailty among the elderly. An association of dysphagia, frailty, and diseases associated with increasing age was observed; as well as the increase in frailty with lower schooling, which suggests, for example, that it informs them;' To the extent and knowledge are associated factors, capable of minimizing the disorder and its associated risks.

Symptoms such as coughing, choking, sweating, dyspnea, cyanosis, wet voice, throat clearing, and sneezing have been reported by the elderly, and are described in the literature as basic clinical signs when swallowing is difficult.

With the findings observed in the study, the associated characteristics that favor the increase in dysphagia and frailty are perceived, as well as those that act as preventive and risk reduction capable of generating physiological benefits, where the significant correlation between the presence of frailty in the sample and the substantial increase in the risks of falls and hospitalizations stands out. These conclusions reinforce the urgent need to direct specific care to preserve the integrity, health, and quality of life of these elderly people.

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[1] Docente da Universidade do Estado do Pará, antoniocesarml64@gmail.com, https://orcid.org/0000-0002-3243-2866

[2] Docente da Universidade do Estado do Pará, lenecostamelo@gmail.com, https://orcid.org/0000-0002-4830-9475

[3] Docente da Universidade Candido Mendes, vanessa.mazzarelli@gmail.com, https://orcid.org/0009-0004-2143-9992

[4] Docente da Universidade do Estado do Pará, moisesuepa@gmail.com, https://orcid.org/0000-0002-0684-2079

[5] Docente da Universidade do Estado do Pará, divaldodesouza21@gmail.com, https://orcid.org/0000-0001-9621-3470

[6] Docente da Universidade Tiradentes-SE, estelio_henrique@unit.br, https://orcid.org/0000-0003-0981-8020