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Quality of life in swallowing in healthy elderly

Qualidade de vida em deglutição em idosos saudáveis

ABSTRACT

Purpose: To understand the self-perception of healthy elderly regarding possible swallowing difficulties. **Methods:** Participants were 104 seniors, 62 women and 42 men, ranging in age from 60 to 88 years (mean 70.6), who reported good general health, no history of degenerative diseases, neurological or any other diseases that could influence swallowing participated. All subjects underwent cognitive and emotional screening and presented satisfactory conditions for both. A questionnaire to gather general and health information, and the protocol SWAL-QOL were applied. The data were statistically analyzed. **Results:** Most domains of the SWAL-QOL showed mean numbers close to the maximum score (100 points), indicating a positive perception of the elderly about quality of life related to swallowing. Individuals with dentures showed better rates in most domains when compared to non-users. Individuals who self-reported ill-fitting dentures had lower scores for the domains "burden", "eating duration" and "frequency of symptoms". Men and women differed only in the domains "sleep" and "fatigue", for which women had lower mean scores. There was no correlation between the SWAL-QOL scores obtained and the variables age and monthly income. **Conclusion:** Healthy elderly, in general, do not self-report significant changes in the quality of life related to swallowing. Moreover, there is no reduction of quality of life related to swallowing as age advances. Well-adjusted dentures minimize impairment related to swallowing.

RESUMO

Objetivo: Conhecer a autopercepção de idosos saudáveis frente às possíveis dificuldades de deglutição. **Métodos:** Participaram 104 idosos, 62 mulheres e 42 homens, com idades entre 60 e 88 anos, que autorreferiram bom estado de saúde geral, sem histórico de doenças degenerativas, neurológicas ou quaisquer outros acometimentos que pudessem influenciar na deglutição. Todos passaram por rastreios cognitivo e emocional e apresentaram condições satisfatórias em ambos. Foi aplicado um questionário para levantamento de dados gerais e de saúde, e o protocolo SWAL-QOL. Os dados foram analisados estatisticamente. **Resultados:** A maior parte dos domínios do SWAL-QOL apresentou médias próximas ao valor máximo possível (100 pontos), indicando autopercepção positiva dos idosos quanto à qualidade de vida em deglutição. Idosos usuários de prótese dentária apresentaram melhores índices na maior parte dos domínios, quando comparados aos não usuários. Indivíduos que autorreferiram prótese mal adaptada obtiveram menores escores nos domínios deglutição como um fardo, duração da alimentação e frequência de sintomas. Homens e mulheres diferenciaram-se apenas nos domínios "Sono" e "Fadiga", em que mulheres apresentaram médias inferiores. Não houve correlação entre os escores obtidos no SWAL-QOL e as variáveis idade e renda. **Conclusão:** Idosos saudáveis, em geral, não autorreferem alterações significativas quanto à qualidade de vida em deglutição. Além disso, não há redução da qualidade de vida em deglutição à medida que há o avanço da idade. A prótese dentária, quando bem adaptada, minimiza prejuízos referentes à deglutição.

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INTRODUCTION

The interest for studies about Quality of Live (QOL) has been increasing in many areas of human activity in recent years. Although the term QOL is also used as cliché in newspaper's headlines, it is significantly used to disclose health services and has its relevance published in scientific articles and numerous websites.

The concept of quality of life is subjective, multidimensional and influenced by several aspects related to education, economy and sociocultural aspects, and there is no consensus regarding its definition⁽¹⁾. However, for a better understanding of the subject, the perception of the individual concerning their own health should be taken into account, so that effective intervention measures can be applied.

Although there is not a consensus regarding the definition of QOL, most authors state that expectations, standards and concerns regarding the physical, social, psychological and spiritual domains should be contemplated in its evaluation, aiming to capture the personal experience of each individual^(2,3). Moreover, the opinion of the patients about their position in life should be considered, both in the social context and in the system of values in which they live and in relation to their goals.

As hard as defining quality of life, it is to characterize its impact in front of a disease faced by the individual. Generally, the elderly face difficulties due to the aging process and it is common that this has a negative impact in their daily activities^(4,5). Some of the modifications caused by aging are alterations of the orofacial motricity, voice, hearing, language and swallowing^(6,7).

The Brazilian ministry of health created an ordinance that defends the rights of the elderly, establishing integrated actions focusing on the promotion of active and healthy aging⁽⁸⁾. In the document, it is considered that the concept of health for the elderly goes beyond the presence or absence of a disease, as demonstrated by their condition of autonomy and Independence, that is, by their "functional capability"⁽⁹⁾. However, the heterogeneity in aging must be considered, especially when the perception of the elderly is emphasized. This way, the healthy and "successful" aging is a complex category, which involves the individual capability of adaptation and change in the biological, psychological and social aspects. The process involves multiple factors and, therefore, studies with purely physical/biological measures marginalize other determinant health modifiers⁽¹⁰⁾.

It is necessary to clarify that an adapted deglutition is different than an altered deglutition. The first is related to presbyphagia, which corresponds to natural, physiological aging of the swallowing mechanism. The second is related to dysphagia itself, which refers to difficulty coordinating chewing, swallowing and breathing movements, caused mainly by: strokes, brain trauma, head and neck cancer, brain tumors and dementias⁽¹¹⁾.

The signs of presbyphagia can be presented in different forms, mainly compromising one or another phase of swallowing. Some of the modifications common to the elderly that

can cause negative impact are: alteration of the lip sealing, slow oral passage, accumulation of residue in the vestibule, reduced chewing strength and reduced larynx elevation^(12,13).

Such morphological and functional alterations can be aggravated if associated to problems of the oral cavity, such as tooth loss, which is the most common complaint in the elderly regarding swallowing^(14,15). The dental prosthetics emerged to solve this problem⁽¹⁶⁾, but the benefits depend directly on its adaptation⁽¹⁷⁾. The ill-adjusted denture, can create discomfort such as eating difficulty, alteration of speech intelligibility and esthetic dissatisfaction⁽¹⁷⁾. It is worth mentioning that there are variations within and between subjects, since aging and its change on quality of life do not elapse only from the biological process. Other aspects, mainly socioeconomic and psychological, determine such variety⁽¹⁸⁾.

In Speech-language pathology, there already are several clinical protocols to assess swallowing. However, few emphasize the real impact of this alteration on the quality of life of the patient. The Quality of Life in Swallowing Disorders – SWAL-QOL⁽¹⁹⁾ was developed in the United States. In Brazil it was translated and validated on 2009⁽²⁰⁾. Such protocol is constituted by 44 questions which evaluate 11 domains (Swallowing as a burden; Desire to eat; Eating duration; Frequency of symptoms; Food selection; Communication; Fear to eat; Mental health; Social function; Sleep; and Fatigue). It is an important tool to monitor the efficacy of the speech-language pathology treatment from the point of view of the patient. It is also sensitive to differ swallowing of healthy individuals from dysphagic patients and allows us to understand the real impact of the alterations experienced by the elderly during nourishment. This way, it is possible to give direction to the management of patients and to the reflections about an adequate professional performance with this population⁽¹¹⁾.

Taking into consideration the few studies that investigate the quality of life in swallowing in the elderly and understanding that the aging process can bring social disadvantage, we sought, with this study, to understand the profile of the elderly regarding presbyphagia. We believe that the results will allow the development of new strategies of health care in benefit of the elderly population.

Considering the exposed, the present study had the purpose of assessing the quality of life in swallowing in healthy elderly, using the SWAL-QOL protocol, and relating the indexes with the variables related to the age range, gender, socioeconomic level, and use and adaptation of dentures.

METHODS

The present study was approved by the Ethics Committee of the Universidade Estadual do Centro-Oeste, COMEP/I, under process number 032/2011. All the participants signed the Informed Consent (IC), according to the resolution 196/96 of the National Commission of Research Ethics (CONEP).

This is an observational, prospective and cross-sectional study. The initial population corresponded to 112 elderly individuals, who regularly attend an entertainment club of the

cities Guaraniáçu and Irati, both located in the State of Paraná. However, the final sample was composed by 104 individuals, since eight failed the initial tests that determined the inclusion and exclusion in the study.

As inclusion criteria, the following aspects were considered: age equal or superior to 60 years; presenting good cognitive and emotional conditions, refer good general health, even in the presence of diseases common in the aging process such as high blood pressure, high cholesterol, diabetes and altered triglycerides, etc. We adopted as exclusion criteria: self-report of neurological, neoplastic and psychiatric diseases or other pathologies that could influence the swallowing process; previous or current speech-language pathology treatment due to a swallowing problem.

For the reliability of inclusion or exclusion of the patients, cognitive and emotional screenings, comprehending the following steps were performed:

- Appliance of a cognitive screening questionnaire, MMSE – Mini-Mental State Examination⁽²¹⁾. It is a brief test, comprising items related to temporal orientation (five points), spatial orientation, register of three words (three points), attention and calculation (five points), recollection of the three words (three points), language (eight points) and visual constructive capacity. The score of the MMSE can vary between zero point (highest level of cognitive impairment) and a maximum of 30 points (best cognitive capacity). Educational level and age range are variables of great influence in the MMSE punctuation. The screening is considered altered when the score is not compatible with the expected, depending on the years of schooling. Therefore, for the illiterate, scores bellow 13 points are considered altered; for individuals with average education (up to eight years of formal schooling), scores bellow 18 points are considered altered; for individuals with high level education (more than eight years of schooling), scores bellow 26 points are considered altered. This way, individuals with altered MMSEs were excluded from the research. From the total of 112 elderly individuals, seven failed the MMSE.
- Appliance of the Geriatric Depression Scale (GDS)⁽²²⁾ for emotional screening. The GDS has a long and a short version, comprising 30 and 15 questions, respectively. Both are internationally and widely used in the global geriatric evaluation. The version used in this study was the long one. The score zero is attributed when the individual's response is different than the option marked in bold letters (answers that indicate emotional adequacy), and one point is attributed when the answer is equal to the one marked in bold (answers that indicate emotional difficulty). Some of the questions contained in the GDS are: "Are you basically satisfied with your life?"; "Have you dropped many of your activities and interests?"; "Do you feel that your life is empty?". The sum above 10 points indicate suspicion of depression. Therefore, individuals who presented the GDS scores higher than 10 points, two out of the 112, were excluded from the study. It is noteworthy that one of these individuals also failed on the cognitive screening.

The data was collected at two elderly clubs, maintained by the city halls of the cities Guaraniáçu and Irati (PR), between January and March of the year 2011. Such places were chosen in order to approximate the study to the "healthy elderly" category determined by the Ministry of Health⁽⁸⁾.

The elderly were approached during breaks of entertainment activities in which they participated such as bingos, handicraft, games, etc. The average time for filling the four questionnaires (Identification questionnaire, MMSE, Depression scale, and SWAL-QOL) varied between 15 and 20 minutes. All the procedures of data gathering were performed by one researcher, who did not have previous contact with any of the participants. The application of the questionnaires and protocols was performed individually with each subject. The questions were read to the elderly, who referred one of the answer options and that answer was marked by the researcher.

After the screening related to the inclusion and exclusion of the elderly, a brief questionnaire was applied by the researchers, containing the identification data, age, gender, monthly family income, use of dentures and data related to general health. The age range of the 104 participants included in the final sample varied between 60 and 88 years (mean 70.64), being 42 men and 62 women. The mean monthly income was estimated in R\$ 1178.55. Further data related to the characterization of the subjects, as well as the results of the screening test were obtained (pre-collection) (Table 1).

Following the identification questionnaire, the elderly answered the protocol "Quality of Life in Swallowing" (SWAL-QOL)⁽¹⁸⁾, constituted by 44 questions, which evaluate 11 domains: burden, eating desire, eating duration, symptoms, food selection, communication, fear, mental health, social functioning, sleep and fatigue. The elderly answered about the frequency in which each question of each domain occur using the Likert Scale (almost always, often, sometimes, hardly ever and never). The total score of each domain can vary from 0 to 100: the lower the score, the worst quality of life related to swallowing. The scores of each answer in each domain were summed and the results were divided by the number of questions of the domain analyzed. The SWAL-QOL protocol has also four additional questions, related to possible modifications or adaptation needs of the elderly during the eating process. Therefore, this is a study self-reported evaluation of quality of life, which is recommended by the literature⁽²³⁾ due to the complexity of the theme. Individuals who report worst quality of life have greater mortality risks in comparison to the individuals who report good quality of life⁽²³⁾.

The data of the questionnaires (Identification and SAWL-QOL) were charted, and then the variables were selected according to the purpose of the study. The statistical analysis was performed using the ANOVA test, Pearson's Correlation, Correlation Test and Qui-Square test. The significance level adopted was 0.05 (5%), with statistic confidence intervals of 95%.

RESULTS

Regarding the scores obtained by the 104 participants in

Table 1. Results of the screening tests and characterization of the final sample (n=104)

Screening	n	%
Mini Mental State (MMSE)		
Passed	105	92.9
Failed	8*	7.1
Geriatric Depression Scale (GDS)		
Passed	111	98.2
Failed	2*	1.8
Final total in the sample	104	100
Age range (in years)		
60 to 65	22	21.1
66 to 69	27	26
70 to 74	23	22.1
75 to 79	20	19.3
80 to 84	7	6.7
85 to 89	5	4.8
Self-reported general health state		
Excellent	19	18.3
Great	34	32.7
Good	38	36.5
Fair	13	12.5
Self-reported diseases**		
High blood pressure	54	51.9
Diabetes	15	14.4
High cholesterol	19	18.3
Joint problems	8	7.7
Arthritis, arthrosis, osteoporosis	19	18.3
Denture		
Yes	94	9
No	10	91
Well-adapted	82	87.2***
Poorly-adapted	12	12.8***

* one subject failed both tests (MMSE and GDS); **the individual could refer more than one disease; ***related to the total of 94 individuals with dentures

the 11 domains of the SWAL-QOL protocol, it was observed that most obtained mean scores close to the maximum of 100 points, indicating little or no self-reported interference by the

elderly (Figure 1). The domain with the highest scores was the “Social functioning”, and the one with the lowest was the “Eating duration”.

Regarding the mean total scores in the SWAL-QOL protocol, in the comparison between genders, we only observed differences in the domains sleep (domain 10) and fatigue (domain 11). In both, men obtained higher scores than women, that is, presented better indexes of quality of life (Table 2). It is noteworthy that these two domains, for which differences were observed, do not have a direct relationship with the eating process. In all the other domains, men and women presented similar mean scores.

The mean scores obtained by the elderly in the SWAL-QOL protocol were related to the use of dentures. There was difference in the domain “frequency of symptoms”, in which elderly with dentures presented higher scores in comparison with non-users (Table 3). We emphasize that the domain “frequency of symptoms” investigate, among other aspects, complaints related to the oral phase of swallowing, such as chewing aspects, for example.

The 93 elderly that mentioned the use of dentures were questioned about the conditions of adaptation of these dentures. The ones who referred good adaptation presented differences in relation to the ones who reported ill-adaptation in the mean scores obtained in the domains burden, eating duration and frequency of symptoms (Table 4).

The correlations between the following variables were performed: scores obtained in the 11 domains of the SWAL-QOL protocol, age and mean monthly family income. There was no correlation between the domains of the SWAL-QOL and the age of the participants, that is, elderly of all ages involved in the study (60 to 88 years) presented similar scores regarding the quality of life in swallowing. The same occurred in the relationship of the SWAL-QOL domains and the mean monthly family income, that is, regardless of the income, the self-perception of the elderly regarding quality of life in swallowing was very similar (Table 5).

Due to the fact that the number of participants is not equally distributed in the different age ranges (Table 1), the correlation test was complemented by the Analysis of Variance (ANOVA), which compared the 11 domains of the SWAL – QOL protocol to the categorical variable referring to each one

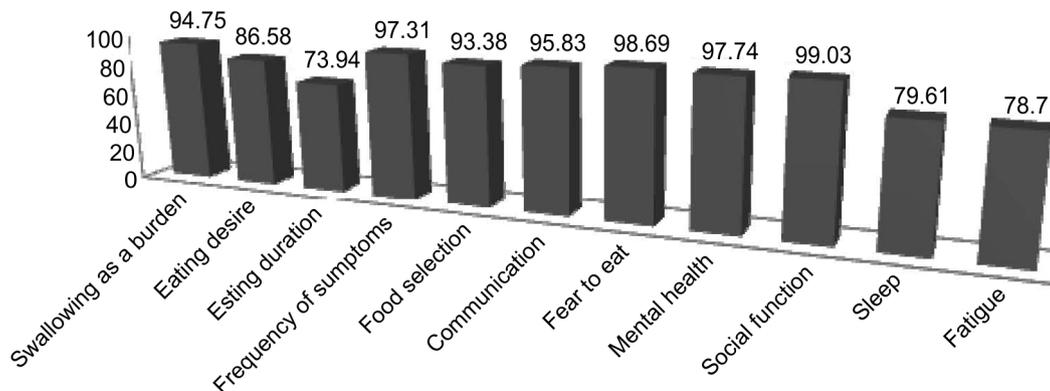


Figure 1. Distribution of the mean scores obtained by the elderly in the domains of the SWAL-QOL protocol

Table 2. Distribution of the mean scored obtain on the domains of the SWAL-QOL protocol according to gender

	Gender	Mean	Median	SD	n	p-value
1. Swallowing as a burden	Female	92.7	100	18.2	62	0.119
	Male	97	100	9.5	42	
2. Eating desire	Female	84.5	95.8	21.2	62	0.552
	Male	86.6	100	23.1	42	
3. Eating duration	Female	70.2	75	31.1	62	0.129
	Male	79.3	100	28.2	42	
4. Frequency of symptoms	Female	91.9	99.1	12.3	62	0.247
	Male	94.2	100	11.4	42	
5. Food selection	Female	91.8	100	20.3	62	0.242
	Male	95.5	100	13.5	42	
6. Communication	Female	95.2	100	16.2	62	0.688
	Male	96.4	100	11.5	42	
7. Fear to eat	Female	97	100	9.7	62	0.133
	Male	99.4	100	2.7	42	
8. Mental health	Female	96.3	100	12.6	62	0.072
	Male	99.9	100	0.8	42	
9. Social function	Female	98.4	100	10	62	0.305
	Male	100	100	0	42	
10. Sleep	Female	72.8	75	29.4	62	0.047*
	Male	83.6	100	26	42	
11. Fatigue	Female	73.6	75	27	62	0.034*
	Male	83.7	91.6	20.7	42	

* Significant values ($p < 0.05$) – ANOVA test

Note: SD = standard deviation

Table 3. Distribution of the mean scored obtain on the domains of the SWAL-QOL protocol according to the use of dentures

	Denture	Mean	Median	SD	n	p-value
1. Swallowing as a burden	Não	88.6	100	19.7	11	0.169
	Sim	95.2	100	14.7	93	
2. Eating desire	Não	89.8	100	20	11	0.496
	Sim	84.8	100	22.1	93	
3. Eating duration	Não	85.2	100	22.9	11	0.189
	Sim	72.5	75	30.7	93	
4. Frequency of symptoms	Não	85.5	98.2	18.6	11	0.026*
	Sim	93.7	100	10.7	93	
5. Food selection	Não	93.2	100	10.3	11	0.951
	Sim	93.3	100	18.6	93	
6. Communication	Não	89.8	100	20	11	0.157
	Sim	96.4	100	13.6	93	
7. Fear to eat	Não	97.7	100	5.1	11	0.911
	Sim	98	100	8	93	
8. Mental health	Não	99.5	100	1.5	11	0.52
	Sim	97.5	100	10.4	93	
9. Social function	Não	100	100	0	11	0.663
	Sim	98.9	100	8.2	93	
10. Sleep	Não	77.3	87.5	28.9	11	0.997
	Sim	77.2	100	28.5	93	
11. Fatigue	Não	85.6	91.6	17.9	11	0.285
	Sim	76.8	75	25.7	93	

* Significant values ($p < 0.05$) – ANOVA test

Note: SD = standard deviation

Table 4. Distribution of the mean scored obtain on the domains of the SWAL-QOL protocol according to the adaptation of the dentures

	Well-adapted	Mean	Median	SD	n	p-value
1. Swallowing as a burden	No	82.3	100	30.4	12	0.001*
	Yes	97.1	100	9.7	82	
2. Eating desire	No	85.4	87.45	15.1	12	0.967
	Yes	84.9	100	23	82	
3. Eating duration	No	54.2	56.25	39.3	12	0.024*
	Yes	75.5	75	28.5	82	
4. Frequency of symptoms	No	84.8	87.45	13.8	12	0.001*
	Yes	95.1	100	9.5	82	
5. Food selection	No	89.6	100	22.5	12	0.423
	Yes	94	100	17.9	82	
6. Communication	No	93.8	100	21.7	12	0.478
	Yes	96.8	100	12.1	82	
7. Fear to eat	No	97.9	100	4.1	12	0.956
	Yes	98.1	100	8.4	82	
8. Mental health	No	100	100	0	12	0.380
	Yes	97.2	100	11	82	
9. Social function	No	100	100	0	12	0.628
	Yes	98.8	100	8.7	82	
10. Sleep	No	80.2	81.25	21	12	0.732
	Yes	77	100	29.5	82	
11. Fatigue	No	70.8	79.15	31.7	12	0.37
	Yes	77.7	75	24.7	82	

* Significant values (p<0.05) – ANOVA test

Note: SD = standard deviation

Table 5. Correlation (%) between the scores obtained in the SWAL-QOL domains, age and family monthly income

		Age	Income	1**	2**	3**	4**	5**	6**	7**	8**	9**	10**
1. Swallowing as a burden	Correlation	8.60	10.90										
	p-value	0.384	0.271										
2. Eating desire	Correlation	-1.70	13.20	12.10									
	p-value	0.86	0.181	0.222									
3. Eating duration	Correlation	11.00	4.20	36.90	30.00								
	p-value	0.265	0.675	<0.001*	0.002*								
4. Frequency of symptoms	Correlation	-4.90	18.40	74.10	21.20	46.40							
	p-value	0.618	0.062	<0.001*	0.031*	<0.001*							
5. Food selection	Correlation	8.90	12.50	32.50	14.00	40.50	46.10						
	p-value	0.37	0.208	0.001*	0.156	<0.001*	<0.001*						
6. Communication	Correlation	-6.90	12.20	37.60	2.00	25.70	50.40	5.70					
	p-value	0.485	0.216	<0.001*	0.843	0.009*	<0.001*	0.563					
7. Fear to eat	Correlation	-0.60	6.90	54.50	13.40	34.70	56.30	69.90	11.20				
	p-value	0.951	0.485	<0.001*	0.175	<0.001*	<0.001*	<0.001*	0.258				
8. Mental health	Correlation	6.40	10.60	39.00	21.20	35.90	45.40	69.30	7.60	82.60			
	p-value	0.518	0.285	<0.001*	0.031*	<0.001*	<0.001*	<0.001*	0.446	<0.001*			
9. Social function	Correlation	8.30	2.50	26.10	9.50	17.80	24.90	48.10	-3.80	67.90	52.90		
	p-value	0.401	0.804	0.007*	0.337	0.071	0.011*	<0.001*	0.705	<0.001*	<0.001*		
10. Sleep	Correlation	4.00	22.00	-0.40	7.30	10.90	-0.40	5.20	-1.80	-3.30	-6.00	1.00%	
	p-value	0.684	0.025*	0.971	0.463	0.273	0.972	0.6	0.859	0.74	0.543	0.923	
11. Fatigue	Correlation	-3.20	23.10	40.70	17.10	22.00	48.80	12.80	20.60	31.10	20.90	4.60	0.30
	p-value	0.748	0.019*	<0.001*	0.083	0.026*	<0.001*	0.196	0.037*	0.001*	0.034*	0.645	0.973

*Significant values (p<0.05) – Pearson's Correlation and Correlation Test

** Regarding the domains 1 to 11 of the SWAL-QOL protocol, specified in column 1

of the six age ranges previously determined (60 to 64 – 22 subjects; 65 to 69 – 27 subjects; 70 to 74 – 23 subjects; 75 to 79 – 20 subjects; 80 to 84 – seven subjects; 85 a 89 – five subjects). The results corroborated the data of the correlation test, indicating that there was no relation between the age advance and the decrease of the indexes of the SWAL-QOL protocol (all p values were higher than 0.05).

Still, through the test cited above, it was possible to verify some positive correlations between the different domains of the SWAL-QOL, that is, as the mean of a determined domain increased, the score of the other also became higher. This was observed, for example, between the domains burden and symptoms, indicating that the higher the number of symptoms, such as coughs, choking and chewing difficulties, the easier it is for the elderly to deal with their swallowing problem.

As mentioned in the item methods, the SWAL-QOL has additional questions, regarding the need of adaptations performed by the elderly during the eating process. The results indicated that most of the elderly did not report the need of changes in the eating dynamics regarding the consistency of the food during meals. Through the analysis with the Qui-square test, we observed that of the 140 individuals, only one referred commonly ingesting softer food ($p=0.00$) and four mentioned ingestion of mildly or moderately thickened liquids ($p=0.00$).

DISCUSSION

The SWAL-QOL^(19,20) is a sensible self-evaluation instrument that allows the understanding of the real impact of the alterations experienced in meals and of the perception of an individual about quality of life in swallowing. Starting from the idea that the elderly can present difficulties related to swallowing due to the laryngeal modifications related to aging, we chose to investigate how this group of individuals evaluate themselves regarding eating, both directly and indirectly.

We point out that the subjects of the research attended clubs for the elderly, which approaches them to definition of “healthy” established by the Ministry of Health, emphasizing the autonomy and independence^(8,9). This way, our results possibly reflected the data of a population with better quality of life. This, because the literature⁽²⁴⁾ describes that physical exercises and social practices, present in centers and acquaintanceship clubs, improve quality of life. Still, it is possible to observe, in all analysis, that the standard deviation scores obtained were considerably high. We believe that this happened precisely due to so much heterogeneity present in the aging process and due to the subjectivity involved in the self-evaluation process, which depend on many variables.

In the present study, the means obtained by the elderly in the 11 domains investigated in the protocol were very close to the maximum punctuation of 100 points, that is, maximum quality of life. The elderly, in general, did not report difficulties related to swallowing and/or eating. It is possible that mild symptoms such as casual coughs, chewing difficulty and secretions, are considered by them as part of the natural aging process, and for that reason, do not create great bothers and

concerns, as an international study showed, in which the healthy elderly took part in the control group and also answered the SWAL-QOL protocol⁽²⁵⁾.

Regarding the domain “Eating Duration”, which involves the questions “It takes me longer to eat than other people” and “It takes me forever to eat a meal”, we observed that the mean scores obtained were relatively low (73.94). It is possible that the elderly, due to the alterations caused by age, such as general reduction of the body’s muscle strength⁽²⁶⁾ and the need to use dentures⁽¹⁴⁾, self-evaluate the duration of their eating in comparison to an earlier period of their life. Moreover, the increase of the duration of eating can be a necessary adaptation so that the aspects regarding the other domains of the SWAL-QOL are maintained with high indexes. Therefore it is possible that other complaints regarding swallowing do not occur because the individual found in increasing the duration of eating a way of minimizing the effects.

Although there are few researches, especially in Brazil, with the SWAL-QOL protocol, some inferences can be made from the results obtained in this study. When we compared the values obtained by the healthy elderly to other populations, in completely dysphagic individuals (in different levels and different foundation pathologies), we observed great differences, being that the proven dysphagia, generally, result in very inferior mean scores^(20,27).

In the validation study of the SWAL-QOL protocol in Brazil⁽²⁰⁾, the author obtained significantly lower scores (worst quality of life) in groups of individuals with head and neck cancer, neurological vascular diseases, degenerative diseases and obstructive respiratory diseases. In the referred study, individuals with mild dysphagia, presented mean scores from 50.3 to 77.1 points in the 11 domains of the SWAL-QOL, whereas in our work, the lower means occurred around 75 points, however only in the domains Fatigue and Sleep. In the present study, all the other domains presented very higher means, close to the maximum score of the protocol (100 points).

Another study, about quality of life related to swallowing in cancer patients⁽²⁷⁾, found scores between 63 and 88 points in the 11 domains. The worst medians were obtained in the domains burden (63 pints), communication (63 points), mental health (65 points), social function (65 points) and frequency of symptoms (63 points). Our study with healthy elderly, presented the following mean values: burden (94.5), communication (95.7 points), mental health (97.7 points), social function (99.0 points) and frequency of symptoms (92.8 points). Such differences points, once again, that the self-perception about quality of life in swallowing of healthy elderly is highly superior that the self-perception of proven dysphagic individuals.

Our results, that indicate elevated scores in healthy elderly, corroborate a study developed to investigate the quality of life with the advance of age and with Parkinson’s disease⁽²⁵⁾, using SWAL-QOL. The authors concluded that there are no differences regarding the means presented by the healthy elderly and healthy young adults, that is, the normal aging process do not affect swallowing. However, when these two groups were compared with individuals with Parkinson’s disease, the

values presented by the latter were inferior (worst quality of life), especially with the advance of the disease.

In the article cited above⁽²⁵⁾, the advance of age was not considered an influence factor in the quality of life of healthy people, since the older elderly presented differences in the self-evaluation in comparison to young adults. In our study, we also observed no decrease in the scores or worsen on quality of life related to swallowing as the age of the elderly advances, that is, 89 year old individuals evaluated themselves similarly to 60 year old individuals, regarding eating. Therefore, we can infer that healthy individuals, regardless of age, respond similarly to the SWAL-QOL protocol.

As mentioned in the item "Results", due to the non-egalitarian distribution of individuals in the pre-defined age ranges, we contemplate the correlation analysis with a test that compares a quantitative variable (in this case, the mean indexes of each domain of the SWAL-QOL) with a categorical variable (in this case, the six pre-determined age ranges). Although the results of this additional evaluation corroborate the data of the correlation test, we suggest that, in further studies, the sample is constituted by older individuals, especially in the age range close to 90 years. Then, it will be possible to verify more clearly the matter of quality of life in swallowing related to the age advance of the elderly.

For the additional questions of the SWAL-QOL protocol, regarding the possible modifications of the food consistency of the elderly, almost every participant referred ingesting food of all consistencies, without the need of adaptation for softer food, for example. The same occurred regarding the ingestion of liquids, being that only five participants referred to prefer liquids a little of moderately more thickened. Such data reinforce the high indexes obtained by the elderly in the 11 domains of the SWAL-QOL. It is possible that if the elderly did not need modifications regarding the type of food, their self-evaluation about quality of life in this matter is satisfactory.

Another study investigated the self-perception of the elderly regarding presbyphagia, using other instruments⁽²⁸⁾. The research was performed with independent elderly, ranging in age from 65 years, institutionalized and with low income, using the Dysphagia Inventory (MDADI), which evaluates the physical, functional and emotional domains. The authors referred that 15% of the individuals referred swallowing difficulties and 23.4% reported to believe that the dysphagia is a part of aging. Moreover, the scores obtained in the MDADI varied from 16 to 19 points less than the scores obtained by the population in general. Here, we consider that the institutionalization can be an important factor in the self-perception of individuals about quality of life, both generally and in swallowing. In our study, all the participants were independent and not institutionalized, factor that may have been crucial for the differences in the results.

Regarding the comparison between genders, men had higher scores than women (better quality of life) in the domains sleep and fatigue. During the natural aging process, generally, women present greater risk of developing insomnia⁽²⁹⁾, which can be related to several factors such as anxiety and hormonal changes^(29,30). Even with this difference between genders, in

the other domains (burden, symptoms, eating duration, etc.), for which the relation with eating is more direct, men and women presented similar scores. Such findings indicate that the alterations regarding sleep and fatigue do not have negative repercussion in quality of life in swallowing of healthy female elderly. Moreover, it is possible that the elderly adapt themselves to the changes of the body caused by aging, and for this reason, did not report complaints regarding this aspect⁽¹²⁾.

Loss of teeth is very common in the elderly and the dentures emerged the resolve this problem^(14,15). In our study, 89.4% of the elderly used dentures. In the comparison between individuals with and without dentures, there was no difference regarding most of the domains of the SWAL-QOL (10 domains). This indicated that the use of dentures contributes for the maintenance of a healthy eating in the elderly, corroborating other studies about the matter^(15,16). The only domain that presented difference was "Symptoms", which investigates, among other aspects, the satisfaction regarding mastication and the oral phase of swallowing. Therefore, although the use of dentures does not generate alteration of the quality of life, their use can change the elderly's perception regarding mastication.

When we think of the benefits that a denture can bring, it is important to consider that it should be well-adapted for the patient. When the adaptation is compromised, there may be: muscular and osseous instability; difficulties to speak, difficulties to chew and swallow, and decreased tasting sensation⁽¹⁴⁻¹⁷⁾. In the present study, when the domains of the SWAL-QOL protocol were related to the adaptation of dentures (self-reported by the patient), it was possible to observe that there were differences in the domains "burden", "eating duration" and "frequency of symptoms". Elderly with well-adapted dentures had higher means in comparison to elderly who referred problems with the dentures' adaptation. This data corroborate studies that mention the drawback caused by ill-adaptation of dentures in the oral functions, such as chewing, speech and swallowing, and also in the facial esthetics, in addition to interferences in quality of life^(15,16).

Regarding the monthly income, in the present study, the prevailing stratum were the C and D. Partly, this is due to the locations of the data collection, where retired elderly went to. When these two strata are compared, the self-evaluation of the elderly of both was similar. Therefore, it is important to point out, that even if being from different social backgrounds, healthy elderly do not report alteration of quality of life regarding swallowing. Although we had positive correlations confirmed, new studies should include the participation of elderly with different socioeconomic profiles, in order to contribute for a greater elucidation of this finding.

We finalize this discussion reinforcing the idea that the elderly who participated in the present study, in addition to reporting themselves as healthy, did not have any type of disease that could interfere in swallowing, also presenting normal cognitive and emotional characteristics. In this sense, we point out the importance of further studies about self-evaluation of swallowing, with elderly in other conditions (lowered cognitive functions, dementia conditions, depressive

characteristics, etc). This will allow that further relations are established and that we are able to act assertively with each type of patient. Moreover, new research should relate the scores of self-evaluation with the results of the speech-language pathology evaluation (clinical and instrumental), so that we have greater subsidy for the delimitation of our clinical practice.

CONCLUSION

Generally, healthy elderly do not self-report significant alterations regarding quality of life in swallowing. The increase of duration of eating, referred by the elderly, is probably related to a necessary adaptation so that difficulties during swallowing will not occur. The reported difficulty regarding fatigue and sleep seem to be related to the natural aging process in the female gender. Few inferences were made concerning specific difficulties during the act of eating and need of changes during such activity. Moreover, there is no deterioration of swallowing related to quality of life as age advances. Well adapted dentures does not cause impairment on quality of life related to swallowing.

Our results make us question if the difficulties related to eating and swallowing can occur exclusively due to the aging process or if they are mainly related to diseases that, generally, undertake the elderly. In this sense, further studies that provide a more detailed elucidation on presbyphagias are needed.

We emphasize the need of new research, that contemplate the elderly with different profiles regarding the socioeconomic level, types of occupational and entertainment activities during life, and cognitive and/or emotional difficulties encountered during the assessment. Moreover, having a larger number of older individuals aged around 80 and 90 years, can make the correlation test results more robust and better elucidated.

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