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Vocal tract discomfort and quality of life in swallowing in the elderly

Desconforto do trato vocal e qualidade de vida em deglutição em idosos

Incomodidad del tracto vocal y calidad de vida en deglución de adultos mayores

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Abstract

Introduction: The process of aging in the human being is due to functional changes in a progressive and degenerative way, by the weakening of defense mechanisms and loss of functional reserves that affect the whole organism. Objective: To characterize the vocal tract discomfort and the quality of life related to swallowing in elderly individuals. Methods: Cross-sectional study, carried out in the medical clinic sector and in the vicinity of an University hospital. Approved by the Research Ethics Committee under No. 1,943,445. The questionnaires related to swallowing were analyzed in two groups: hospitalized elderly (n = 200), older than 60 years, and elderly considered healthy (n = 200), older than 60 years, of both genders. Results: In the healthy elderly, there was a prevalence of females (50,50% n=101) and in the hospitalized there was a prevalence of males (61,50% n=123).The hospitalized elderly presented higher frequency and intensity of sensory symptoms of vocal tract discomfort. Regarding the quality of life in swallowing, the lowest scores were for the domains sleep and fatigue. There was a negative and weak correlation between the sensorial symptoms of vocal tract discomfort and swallowing related to quality of life. Conclusion: The hospitalized elderly presented more symptoms / sensations of vocal tract discomfort with worse impact on swallowing quality of life when compared to healthy elderly.

Keywords: Dysphagia; Aging; Quality of life; Deglutition disorders.

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Resumo

Introdução: O processo do envelhecimento no ser humano se dá por alterações funcionais de forma progressiva e degenerativa, pelo enfraquecimento dos mecanismos de defesa e perda das reservas funcionais que atingem todo o organismo. Objetivo: Caracterizar o desconforto do trato vocal e a qualidade de vida relacionada à deglutição em indivíduos idosos. Métodos: Estudo transversal, realizado no setor de clínica médica e nos arredores do hospital Universitário. Aprovado pelo Comitê de Ética em Pesquisa sob o nº 1.943.445. Foram aplicados os questionários Escala de Desconforto do Trato Vocal e Qualidade de Vida relacionada à deglutição em dois grupos: idosos internados (n=200), acima de 60 anos, e idosos considerados saudáveis (n=200), acima de 60 anos, de ambos os sexos. Resultados: Nos idosos saudáveis houve prevalência do sexo feminino (50,50% n=101) e nos internados houve prevalência do sexo masculino (61,50% n=123). Os idosos internados apresentaram maior frequência e intensidade de sintomas sensoriais de desconforto do trato vocal. Em relação à qualidade de vida em deglutição, os menores escores foram para os domínios sono e fadiga. Houve correlação negativa e fraca entre os sintomas sensoriais de desconforto do trato vocal e qualidade de vida relacionada à deglutição. Conclusão: Os idosos internados apresentaram mais sintomas/sensações de desconforto do trato vocal com pior impacto na qualidade de vida em deglutição, quando comparados a idosos saudáveis.

Palavras-chave: Disfagia; Envelhecimento; Qualidade de vida; Transtornos da Deglutição.

Resumen

Introdution: El proceso del envejecimiento en el ser humano se da por cambios funcionales de forma progresiva y degenerativa, por el debilitamiento de los mecanismos de defensa y pérdida de las reservas funcionales que alcanzan todo el organismo. Objetivo: Caracterizar la incomodidad del tracto vocal y la calidad de vida relacionada a la deglución en individuos adultos mayores. Métodos: Estudio transversal, realizado en el sector de clínica médica y en los alrededores, de un hospital universitario. Aprobado por el Comité de Ética en Investigación bajo el nº 1.943.445. Se utilizaron los cuestionarios Escala de Incomodidad del Trato Vocal y Calidad de Vida relacionada a la deglución en dos grupos: adultos mayores internados (n=200), con mas de 60 años, y adultos mayores considerados sanos (n=200), con mas de 60 años, de ambos los sexos. Resultados: En los ancianos sanos hubo prevalencia del sexo femenino (50,50% n=101) y en los internados hubo prevalencia del sexo masculino (61,50% n=123). Los adultos mayores internados presentaron mayor frecuencia e intensidad de síntomas sensoriales de incomodidad del tracto vocal. En cuanto a la calidad de vida en deglución, los menores escores fueron para los dominios sueño y fatiga. Se observó una correlación negativa y débil entre los síntomas sensoriales de incomodidad del tracto vocal y la calidad de vida relacionada con la deglución. Conclusión: Los adultos mayores internados presentaron más síntomas / sensaciones de incomodidad del tracto vocal con peor impacto en la calidad de vida en deglución cuando comparados a adultos mayores sanos.

Palabras clave: Disfagia; Envejecimiento; Calidad de vida; Trastornos de la deglución.

Introduction

Structural and functional changes that may vary for each individual occur in aging, which is a natural process characterized by a decrease in strength, stability, coordination and endurance that can impact in different functions due to sarcopenia and loss of muscular strength, essential factors for adjustments and/or compensations facing physiological stress. There may be an impairment of phonoarticulatory organs and saliva reduction that may impact swallowing biomechanics and daily activities. In addition, elderly are more likely to have laryngeal lesions and vocal changes due to fragility of the vocal folds mucosa, muscles and laryngeal cartilages. Sensory decline should also be taken into account in the elderly population[1,2,3,4].

Changes in muscle composition are expected in the aging process, due to the reduction of coordination and motor unit components, thus changing muscle shape and decreasing fast contracting fibers. There is change in the stomatognathic system and reduction in the amount of saliva, which may increase oral/pharyngeal transit time, as well as the presence of stasis, penetration and/or aspiration in different degrees and the need for changes in food consistency to maintain nutritional support in the elderly. When not handled properly, swallowing changes involve the risk of malnutrition, dehydration, respiratory complications, and impairments related to social, emotional, and quality of life aspects, as well as being a potential cause of death[4,5].

When compared to young people, elderly are also more susceptible to dysphonia due to the fragility of their mucosa, muscles and laryngeal cartilage[3]. It should be noted that physical vulnerability, changes in the respiratory tract or personality factors can cause discomfort and impact with quality of life[6]. Discomfort during voice production may restrict oral communication, being characterized by pain, burning, tightness, dryness, aching throat, itching, sensitive throat, sore throat and/or feeling of lump in the throat. Clinical experience suggests that dysphonic subjects have some discomfort in the vocal tract, probably resulting from overexertion, involving perilaryngeal muscles[7].

Due to the growing elderly population in the world, mainly in Brazil, senescence is being increasingly studied. Elderly care should be based on the maintenance of quality of life, considering the process of losses inherent to aging and the possibilities of prevention, maintenance and rehabilitation of their health status[8]. Therefore, this study aimed to characterize the vocal tract discomfort and the swallowing-related quality of life in the elderly.

Method

Cross-sectional study conducted in the medical clinic sector and in the surroundings of a University hospital. All subjects enrolled in the research were previously informed of the procedures and signed the Free, Prior and Informed consent (FPIC). This study was approved by the Research Ethics Committee of the institution, under the process no. 1.943.445.

The study enrolled elderly patients, older than 60 years, who were hospitalized in the medical clinic, and healthy elderly individuals, older than 60 years, found in the surroundings of the hospital, of both genders. Exclusion criteria included subjects less than 60 years of age, with no oral communication, with some cognitive impairment, healthy individuals with a history of neurological, oncologic and/or cardiac disease and/or any disease that could impact in the swallowing dynamics.

Then, two questionnaires were applied: the Vocal Tract Discomfort Scale (*VTDS*) and the Quality of Life in Swallowing Disorders (*SWAL-QOL*).[9] The VTDS is a tool with a 7-point Likert scale that measures the frequency and intensity of 8 symptoms of discomfort in the vocal tract: burning, tightness, dryness, sore throat, itching, sensitive throat, sore throat and feeling of lump in the throat. The scale analyzes the frequency and intensity of the symptom and the score ranges from "0 to 6". With respect to the frequency of the symptom, "0" corresponds to "never" and "6" to "always". On the other hand, with respect to intensity, "0" refers to "none" and "6" refers to "extreme". The higher the score, the greater the presence of vocal tract discomfort both in frequency and intensity. The SWAL-QOL addresses the impact of dysphagia on the quality of life of individuals. The score ranges from 0 to 100 and it consists of 44 questions that evaluate eleven areas: swallowing as a burden,

eating desire, eating duration, frequency of symptoms, food selection, communication, fear to eat, mental health, social, sleep and fatigue. The lower the score, the worse the swallowing-related quality of life. The values for each response within each domain are summed and the result is divided by the number of questions from the domain analyzed.

The Mann-Whitney U test and Kendall correlation analysis were used for the statistical analysis through the R statistical software, and using the wilcox.test and cor.test functions, respectively. The significance level adopted was ≤0.05.

Results

400 elderly subjects were enrolled in the study. Of these, 200 were healthy and 200 were hospitalized at the medical clinic of the hospital. In the healthy elderly, there was a prevalence of females (50,50% n=101) and in the hospitalized there was a prevalence of males (61,50% n=123). Most of the patients presented different underlying diseases, excluding disorders of oncological and neurological origin. All subjects were older than 60 years (Table 1).

Table 1. Characteristics of the Healthy and Hospitalized Elderly

Profiling		Healthy		Hospitalized	
		N	(%)	N	(%)
Gender	Male	99	(49.5)	123	(61.5)
	Female	101	(50.5)	77	(38.5)
Underlying disease	Neurology	-	-	3	(1.5)
	Oncology	-	-	32	(16.0)
	Other	-	-	165	(82.5)

When compared to the healthy elderly and with respect to VTDS, hospitalized elderly presented higher frequency and intensity of burning, tightness, dryness, aching, sore throat and feeling of lump in the throat. When compared to healthy elderly subjects, itching was the most intense sensory symptom for hospitalized elderly subjects (Table 2).

Concerning the *SWAL-QOL* domains, the elderly hospitalized had the lowest mean scores for sleep and fatigue. All domains, but social and communication, showed statistical differences between hospitalized and healthy elderly (Table 3).

The elderly hospitalized presented a weak negative correlation between 'swallowing as a burden', 'eating desire', 'eating duration', 'frequency of symptoms', 'food selection', 'fear to eat' 'mental health' and the eight sensory symptoms of the VTDS. It also occurred between 'sleep' and 'fatigue' domains and 'tightness' and 'dryness' symptoms. On the other hand, the healthy elderly showed a weak negative correlation between 'sleep' domain and 'tightness' sensory symptom, as well as between 'fatigue' domain and 'itching' symptom (Table 4).

Table 2. Distribution and Comparison of VTDS Sensory Symptoms in Healthy and Hospitalized Elderly

SYMPTOM / SENSATION	FREQUENCY			p-value	STRENGTH			p-value
	Healthy		Hospitalized		Healthy		Hospitalized	
	Grau	n(%)	n(%)		Grau	n(%)	n(%)	
BURNING	0 1 2 3 4 5	200 (100)	196 (98) - 2 (1) 1 (0.5) 1 (0.5) -	0.045*	0 1 2 3 4 5	200 (100)	196 (98) - 2 (1) 2 (1) - -	0.045*
TIGHTNESS	0 1 2 3 4 5	198 (95) 1 (0.5) 1 (0.5)	181 (90.5) 1 (0.5) 11 (5.5) 1 (0.5) 6 (3) -	0.000*	0 1 2 3 4 5	198 (99) 2 (1)	181 (90.5) 1 (0.5) 11 (5.5) 4 (2) 3 (1.5) -	0.000*
DRYNESS	0 1 2 3 4 5	182 (91) 7 (3.5) 11 (5.5)	162 (81) 3 (1.5) 17 (8.5) - 16 (8) 2 (1)	0.005*	0 1 2 3 4 5	182 (91) - 15 (7.5) 1 (0.5) 2 (1)	162 (81) - 23 (7.5) 9 (4.5) 5 (2.5) 1 (0.5)	0.003*
ACHING THROAT	0 1 2 3 4 5	198 (99) 1 (0.5) 1 (0.5)	191 (95.5) - 2 (1) - 6 (3) 1 (0.5)	0.032*	0 1 2 3 4 5	197 (98.5) 3 (1.5)	190 (95) - 7 (3.5) 2 (1) 1 (0.5) -	0.047*
ITCHING	0 1 2 3 4 5	199 (99.5) 1 (0.5)	194 (97) 1 (0.5) - 1 (0.5) 3 (1.5) 1 (0.5)	0.056	0 1 2 3 4 5	200 (100)	194 (97) - 5 (2.5) 1 (0.5) - -	0.014*
SENSITIVE THROAT	0 1 2 3 4 5	199 (99.5) 1 (0.5)	196 (98) - 2 (1) - 2 (1) -	0.177	0 1 2 3 4 5	199 (99.5) 1 (0.5)	196 (98) - 1 (0.5) 1 (0.5) 2 (1) -	0.176
SORE THROAT	0 1 2 3 4 5	200 (100)	195 (97.5) 2 (1) 1 (0.5) 1 (0.5) 1 (0.5) -	0.0248*	0 1 2 3 4 5	200 (100)	195 (97.5) 1 (0.5) 2 (1) - 1 (0.5) 1 (0.5)	0.025*
FEELING OF LUMP IN THE THROAT	0 1 2 3 4 5	200 (100)	191 (95.5) 2 (1) 3 (1.5) - 4 (2) -	0.002*	0 1 2 3 4 5	200 (100)	191 (95.5) - 6 (3) 1 (0.5) 2 (1) -	0.002*

*Significant values (<0.05) in the Mann-Whitney U test.
Legend: VTDS = Vocal Tract Discomfort Scale

Table 3. Caracterization of SWAL-QOL Domains in Healthy and Hospitalized Elderly

Domain	Elderly	Median	Average	Standard Deviation	Min-Max	p-value
Swallowing as a burden	Healthy	100	100	0	100-100	0.000*
	Hospitalized	100	90.5	23.95	0-100	
Eating desire	Healthy	100	100	0	100-100	0.000*
	Hospitalized	100	93.29	14.70	0-100	
Eating duration	Healthy	100	100	0	100-100	0.000*
	Hospitalized	100	93	15.98	0-100	
Frequency of symptoms	Healthy	100	99.68	1.35	91.07-100	0.000*
	Hospitalized	96.43	93.21	8.99	60.71-100	
Food selection	Healthy	100	100	0	100-100	0.000*
	Hospitalized	100	97.75	10.76	0-100	
Communication	Healthy	100	99.88	1.25	87.50-100	0.569
	Hospitalized	100	99.75	3.54	50-100	
Fear to eat	Healthy	100	99.88	1.77	75-100	0.000*
	Hospitalized	100	97.97	7.70	37.50-100	
Mental health	Healthy	100	100	0	100-100	0.000*
	Hospitalized	100	97.78	8.85	30-100	
Social	Healthy	100	100	0	100-100	0.32
	Hospitalized	100	99.83	2.47	65-100	
sleep	Healthy	100	91.31	18.60	0-100	0.000*
	Hospitalized	100	81.81	25.92	0-100	
Fatigue	Healthy	100	98.21	7.03	33.33-100	0.000*
	Hospitalized	75	77.71	17.30	25-100	
Total Score	Healthy	100	99	2.19	84.85-100	0.000*
	Hospitalized	95.48	92.96	8.72	51.63-100	

*Significant values (<0.05) in the Mann-Whitney U test.
Legend: SWAL-QOL = Quality of Life in Swallowing Disorders

Table 4. Correlation between frequency and intensity of VTDS symptoms with the SWAL-QOL protocol domains

		VTDS							
SWAL-QOL	**Elderly**	**Burning**	**Tightness**	**Dryness**	**Aching Throat**	**Itching**	**Sensitive Throat**	**Sore Throat**	**feeling of lump in the throat**
Swallowing as a burden	Healthy p- value*	-	-	-	-	-	-	-	-
	Hospitalized p-value*	**-0.33** 0.000*	**-0.56** 0.000*	**-0.62** 0.000*	-0.41 0.000*	**-0.35** 0.000*	**-0.33** 0.000*	**-0.33** 0.000*	**-0.32** 0.000*
Eating desire	Healthy p-value*	-	-	-	-	-	-	-	-
	Hospitalized p-value*	**-0.27** 0.000*	**-0.35** 0.000*	**-0.38** 0.000*	**-0.27** 0.000*	**-0.32** 0.000*	**-0.27** 0.000*	**-0.30** 0.000*	**-0.34** 0.000*
Eating duration	Healthy p-value*	-	-	-	-	-	-	-	-
	Hospitalized p-value*	**0.29** 0.000*	-0.33 0.000*	**-0.34** 0.000*	**-0.31** 0.000*	**-0.34** 0.000*	**-0.30** 0.000*	**-0.31** 0.000*	**-0.36** 0.000*
Frequency of symptoms	Healthy p-value*	-	0.03 0.709	0.01 0.877	0.03 0.709	0.02 0.792	0.02 0.792	-	-
	Hospitalized p-value*	**-0.19** 0.002*	**-0.41** 0.000*	**-0.48** 0.000*	-0.29 0.000*	**-0.20** 0.001*	**-0.20** 0.002*	**-0.16** 0.01*	**-0.18** 0.004*
Food selection	Healthy p-value*	-	-	-	-	-	-	-	-
	Hospitalized p-value*	**-0.21** 0.002*	**-0.34** 0.000*	**-0.37** 0.000*	**-0.29** 0.000*	**-0.17** 0.017*	**-0.22** 0.001*	**-0.31** 0.000*	**-0.30** 0.000*
Communication	Healthy p-value*	-	0.01 0.887	0.03 0.656	0.01 0.887	0.01 0.92	0.01 0.92	-	-
	Hospitalized p-value*	0.01 0.886	0.02 0.746	-0.13 0.063	0.02 0.828	0.01 0.860	0.01 0.886	0.01 0.873	0.02 0.828
Fear to eat	healthy p-value*	-	0.01 0.92	0.02 0.756	0.01 0.92	0.01 0.944	0.01 0.944	-	-
	Hospitalized p-value*	**-0.34** 0.000*	**-0.50** 0.000*	**-0.48** 0.000*	**-0.44** 0.000*	**-0.24** 0.000*	**-0.33** 0.000*	**-0.28** 0.000*	**-0.19** 0.005*
Mental health	Healthy p-value*	-	--	-	-	-	-	-	-
	Hospitalized p-value*	**-0.42** 0.000*	**-0.45** 0.000*	**-0.56** 0.000*	**-0.32** 0.000*	**-0.24** 0.001*	**-0.32** 0.000*	**-0.16** 0.024*	**-0.17** 0.012*
Social	Healthy p-value*	-	-	-	-	-	-	-	-
	Hospitalized p-value*	0.01 0.886	0.02 0.746	-0.13 0.063	0.02 0.828	0.01 0.860	0.01 0.886	0.01 0.873	0.02 0.828
Sleep	Healthy p-value*	-	**-0.20** 0.004*	-0.01 0.917	-0.07 0.321	-0.11 0.114	0.04 0.604	-	-
	Hospitalized p-value*	-0.06 0.395	**-0.20** 0.002*	**-0.20** 0.002*	-0.08 0.201	0.01 0.865	-0.06 0.376	0.01 0.891	-0.07 0.263
Fatigue	Healthy p-value*	-	0.03 0.637	-0.01 0.899	0.03 0.637	**-0.20** 0.005*	0.02 0.739	-	-
	Hospitalized p-value*	-0.07 0.237	**-0.19** 0.002*	**-0.22** 0.000*	-0.11 0.084	-0.05 0.383	-0.13 0.046*	-0.04 0.524	-0.11 0.09

Legend: *VTDS* = Vocal Tract Discomfort Scale; *SWAL-QOL* = Quality of Life in Swallowing Disorders.
Blank cells: value was not obtained due to the zero standard deviation of some symptoms.
Bold: significant correlation values by Kendall test.
-p-value was not obtained due to the zero standard deviation of some symptoms.
* p-value < 0.05.

Discussion

One of the limitations of the study is the lack of data from old habits, such as smoking and alcoholism, which may affect signs and symptoms, as well as the quality of life.

This study made it possible to notice male prevalence among hospitalized elderly, which may be related to poor health status, pre-existing comorbidities, and gender-specific behavioral issues that depend on cultural and social factors, such as behavior health care, smoking, alcoholism, diet, work

environment, physical activity, body weight, among others.[11]. Such issues are represented by the population in general, since women are considered to be more likely to adopt preventive practices while men are more likely to resort to healing practices[12].

In both groups, most of the elderly had no vocal tract discomfort; however, when there was vocal tract discomfort, burning, tightness, dryness, sore throat, aching throat and feeling of lump in the throat were the most frequent and intense symptoms. Dryness had the greater impact in both groups. The presence of laryngeal symptoms can cause discomfort that can impact the subject both in oral communication and swallowing[13]. There are few studies in healthy subjects associating both functions[14]

The findings of this study are in line with a study conducted with teachers, in which dryness also was the most frequent/intense sensorial symptom; however it is important to notice that the study sample composed of teachers is quite different in the physiological aspects. The most frequent pre-operative sensory discomfort of the vocal tract in patients submitted to thyroidectomy was "dryness" and, in the post-operative period, it was "itching". No evidence has been found in the literature to explain such discomforts; however it is believed that dryness may be associated with vocal demand and/or lack of hydration[16]. The occurrence of these discomforts in the vocal tract can be caused by several facts, such as the natural manifestation of vocal aging, the reduced lubrication of the vocal tract, the use of drugs, or it may be the result of gastroesophageal reflux that may have higher incidence in this age group.

It is believed that hospitalized elderly have limited physiological reserves and are more likely to develop problems[17]. Although it is not possible to determine precisely how much and how the discomfort of the vocal tract affects the lives of the elderly, such discomfort should be considered and investigated to ensure a more comprehensive and relevant approach according to the patient's needs, as these discomfort affect in their daily lives[15] .

Quality of life is a subjective and multidimensional concept that can be influenced by variables, such as physical, psychological, economic and socio-cultural condition, whose perception varies among subjects[18]. This study presented scores close to 100 (maximum score) in both groups, indicating a positive perception regarding swallowing-related quality of life. However, the elderly hospitalized had the lowest mean scores for sleep and fatigue.

Sleep changes are physiological and its consequences are undeniable for the elderly when associated with some disease. Sleep changes are one of the most frequently reported complaints by adult individuals, with increasing prevalence throughout life, reaching its peak in the elderly population. Over 50% of the individuals over 65 years old present sleep-related complaints with a higher incidence in female subjects. Aging presents numerous risk factors for the development of sleep disorders[19,20]. The elderly hospitalized with diagnoses of several diseases had the lowest mean scores for sleep in this study.

Fatigue is another symptom reported by the elderly. Clinical, physical, functional, psychoemotional, and lifestyle factors, as well as changes in the concentrations of inflammatory mediators, may be associated with fatigue, which has multifactorial perspective and is poorly studied[21,23,23,24,25]. Some authors report that physical deconditioning can start on the second day of hospitalization, making patients vulnerable to muscle weakness and immobility[26,27]. Prolonged bed rest increases the chance of fatigue[17]. These data are in line with data found concerning fatigue in this study.

According to Cassol, Galli, Zamberlan and Dassie-Leite (2012),[28] healthy elderly subjects present a positive perception with respect to swallowing-related quality of life. Men and women differ only in "Sleep" and "Fatigue" domains, in which women presented lower means. However, there was no analysis by gender in this study.

Individuals with head and neck cancer, vascular diseases, neurological diseases, degenerative diseases and obstructive respiratory diseases present worse perception of quality of life[18]. This data is in line with the data found in this study, in which the lowest means occurred in fatigue and sleep domains for hospitalized elderly, although the overall score of the protocol was good, thus showing a positive perception of swallowing-related quality of life.

No studies have been found in literature that correlate sensory symptoms of vocal tract discomfort with swallowing-related quality of life. This study found a weak negative correlation in this population; however, it is believed that vocal tract discomforts found had no impact on the swallowing-related quality of life in the elderly subjects studied.

Most of the elderly did not report difficulties related to swallowing. It can be inferred that mild symptoms, such as occasional coughs, difficulties in chewing and throat clearing, when associated with an adaptation to the aging process of the structures involved in swallowing, are factors considered by the elderly as part of the natural aging process, so there is no specific swallowing-related complaint[29].

It is essential to monitor and conduct prevention and/or health promotion strategies in order to identify symptomatology that may affect not only the functionality of subjects, but also impact their quality of life. Similarly, it is essential to promote training of other health professionals who are part of the multidisciplinary team.

Future studies should include age, smoking and alcohol habits, as well as other factors that may impact sensory signs and symptoms of the vocal tract, and the swallowing-related quality of life.

Conclusion

Most of the healthy elderly did not report symptoms/sensations of vocal tract discomfort, but among those who presented, dryness was the most frequent symptom/sensation and mild in intensity. The hospitalized elderly presented higher frequency and mild intensity of burning, tightness, dryness, aching throat, sore throat and feeling of lump in the throat. With respect to swallowing-related quality of life for the elderly hospitalized, the impact was greater in the sleep and fatigue domains.

There was a weak negative correlation between vocal tract discomfort and swallowing-related quality of life in both groups.

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