Dysphagia
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ORIGINAL ARTICLE

Validation and Application of the M.D. Anderson Dysphagia Inventory in Patients Treated for Head and Neck Cancer in Brazil

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Abstract Analysis of quality of life (QOL) has revealed that preservation of swallowing, speech, and breathing functions has a direct impact on QOL and that these functions are important patient-reported outcomes. The purposes of this study were to adapt and culturally validate the M.D. Anderson Dysphagia Inventory (MDADI) to the Brazilian Portuguese language and to evaluate QOL related to dysphagia in patients treated for head and neck cancer. This was a cross-sectional study that included 72 adult patients with a mean age of 63 years who were treated for head and neck cancer. Construct validity and reliability analyses were performed through the comparison of the MDADI with three other health-related QOL questionnaires administered at the time of enrollment and MDADI application 2 weeks thereafter, respectively. Reliability was established by assuring both internal consistency (Cronbach's α) and test–retest reliability (intraclass correlation coefficient, ICC). Test–retest reliability for the total score in the MDADI had an ICC greater than 0.795 ($p < 0.001$). The MDADI had significant statistical correlations with the other questionnaires. Patients treated for head and neck cancer had a mean total score of 83 on the MDADI, which is indicative of minimal limitation in overall QOL. In conclusion, the present study validates the adaptation of the MDADI to the Brazilian Portuguese language and provides another tool to evaluate the impact of dysphagia on the QOL of head and neck cancer patients.

Keywords Quality of life · Deglutition · Deglutition disorders · Head and neck neoplasms · Questionnaires

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Dysphagia is a common complication of head and neck squamous cell carcinomas that causes functional and social limitations, nutritional deficiencies, mood disorders, and worsening quality of life (QOL) in patients affected by and treated for the disease. Characterization of this symptom is important in caring for these patients because more than half the patients with head and neck cancer have some degree of dysphagia during treatment [1–3].

Classically, outcome measures for cancer treatment were based on medical eradication of the disease and disease-free survival rates. Survival rates have improved as more aggressive and effective treatments have become available; therefore, global QOL in patients with cancer has been incorporated as an important outcome measure [1–3]. Analysis of QOL has revealed that the preservation of swallowing, speech, and breathing functions has a direct impact on QOL and that these functions are important patient-oriented outcomes [3, 4].

The M.D. Anderson Dysphagia Inventory (MDADI) is a self-administered and validated inventory developed specifically to evaluate the impact of dysphagia on the QOL of English-speaking patients who undergo treatment for head and neck cancer [5]. The MDADI is composed of 20 questions divided in four domains: global, physical, functional, and emotional. The MDADI is scored from 0 to 100, with lower scores indicating a greater impact of dysphagia

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on the patient's QOL. The MDADI has been compared to the swallowing-related QOL (SWAL-QOL) questionnaire, which is a general set of measurements of QOL, but the MDADI is a more specific and easily applied tool for evaluating QOL in head and neck cancer patients. Furthermore, it was shown to be less distressing and, therefore, facilitated patient adherence and accurate self-administration [6].

In Brazil, the incidence of head and neck cancer is estimated to be nearly 14,000 new cases/year [7], which is a heavy burden on the country's health-care system. A specific tool designed to evaluate QOL related to dysphagia in head and neck cancer is not available in Portuguese, which is the language spoken in Brazil. Therefore, the purposes of the present study were to adapt and validate culturally the MDADI to Brazilian Portuguese and to evaluate QOL related to dysphagia in patients treated for head and neck cancer at A. C. Camargo Hospital, which is a major referral center for cancer treatment in Brazil.

Materials and Methods

Translation and Cultural Adaptation

The first step in this study was translation and cultural adaptation of the MDADI questionnaire to the Brazilian Portuguese language. We followed internationally accepted guidelines [8–10]. Two bicultural experts translated the original English version of the MDADI to Portuguese. A third bicultural person compared the two versions, and an iterative consensus was reached. The consensus version of the Brazilian Portuguese translation was sent to two additional bicultural experts, who performed a similar back-translation process (from Brazilian Portuguese to English). This back-translated version was subsequently compared to the original English version to ensure that the translations were accurate. Discrepancies between the original and back-translated versions were resolved by repeating the process as needed.

Psychometric Validation

The next step was psychometric validation. We tested the translated version on a consecutive series of patients seen at the head and neck outpatient clinic of A. C. Camargo Hospital between October 2008 and October 2009. Inclusion criteria required adult Portuguese-speaking patients treated for squamous cell carcinoma of the upper aerodigestive tract who had at least 1 year of disease-free survival. Patients with recurrent and/or metastatic disease, as well as illiterate patients, were excluded from the study. Eligible patients were invited to participate in the study, and all participants signed a consent form approved by the Institutional Ethics Committee.

Data Collection

All participants were asked to complete a packet of self-administered questionnaires during the routine outpatient clinic visit; they also received another MDADI questionnaire and were told to return it within 15 days by mail. The 15-day interval was chosen to measure test–retest reliability because this interval was thought to be sufficient time to prevent patients from remembering their responses to the first administration of the scale but not enough time to allow clinically meaningful change to occur. The packet included the following questionnaires: the Brazilian Portuguese version of the MDADI, the Brazilian Portuguese validated form of the University of Washington Quality of Life Questionnaire (UW-QOL) [11], the Brazilian Portuguese version of the Swallowing-related Quality of Life Questionnaire (SWAL-QOL) [12–15], and the Hospital Anxiety and Depression Scale (HAD) [16]. We decided to use these questionnaires, different from the original MDADI study, because the PSS-HN is not validated in the Brazilian Portuguese language, and the UW-QOL questionnaire was designed specifically for head and neck cancer patients, which could provide a more significant construct validity as opposed to the generic survey instrument SF-36. The charts of enrolled subjects were reviewed and demographic, tumor, and treatment data were collected.

Survey Instruments Scoring

The MDADI consists of 20 questions, subdivided into one global question that assesses overall QOL aspects related to swallowing, and three subscales (domains) over which the other 19 items are distributed: emotional (E), physical (P), and functional (F). Five responses are possible to each question (strongly agree, agree, no opinion, disagree, strongly disagree), and each domain item is scored from 1 to 5. All items, except F2, are scored with one point for strongly agree and five points for strongly disagree. The F2 item on the functional domain is scored with five points for strongly agree and one point for strongly disagree. The global question was scored individually, and the mean score of each subscale (emotional, physical, and functional) was multiplied by 20 to obtain a total score with a range from zero (extremely low functioning) to 100 (high functioning). A higher MDADI score is indicative of better day-to-day functioning and QOL.

The University of Washington Quality of Life (UW-QOL) questionnaire is a well-validated, concise, and easy-to-complete and easy-to-interpret disease-specific QOL questionnaire. Each domain item on the UW-QOL

scale is scored from 0 to 100, with the composite score being the mean of the 12 domains. Also, there are three general questions about overall quality of life, scored independently from the 12 domains. A higher score is indicative of better QOL [11, 17].

The HAD scale is a questionnaire with 14 questions used to evaluate the presence of anxiety and depression in patients with physical diseases. The 14 questions are divided into two subgroups (seven questions to evaluate anxiety and seven for depression); the answers to each question range from 0 to 3. The sum of each subgroup denotes the category of the patients: 0–7, noncases; 8–10, doubtful cases; and 11–21, definite cases. In this study we divided the HAD scores into two categories: patients without depression ("noncases") and those who may or definitely have depression ("doubtful" and "definite" cases).

The SWAL-QOL has 44 questions and 11 domains: burden, eating desire, eating duration, symptoms, food selection, communication, fear, mental health, social function, sleep, and fatigue. The patient is asked to describe the frequency of each symptom (always, often, sometimes, hardly ever, or never). The overall score ranges from 0 to 100, and a higher value indicates a better QOL related to swallowing.

Reliability

Reliability was established by assuring both internal consistency (Cronbach's α) and test–retest reliability (intraclass correlation coefficient, ICC) at 2 weeks in the absence of interim treatment. Internal consistency is considered good if α approximates 0.70 but does not exceed 0.90, as anything over this value implies the presence of potential redundant items [18]. Test–retest reliability was measured with the ICC [19].

Construct Validity

The three forms of validity are content, criterion, and construct. Content validity was established with a rigorous approach to item development in the original form and is maintained by a rigorous process of translation and back-translation. The criterion validity is determined by comparison with a "gold-standard" instrument, which is difficult in this scenario because there is no "gold-standard" instrument to evaluate QOL related to dysphagia in head and neck cancer patients. Construct validity is present if the scale behaves according to hypothesized relationships. We hypothesized that the global score of the MDADI should correlate with the global question about overall QOL of the UW-QOL. We also hypothesized that higher depression scores and larger tumors would correlate with decreased MDADI scores. Additionally, we performed a thorough analysis of the influence of the clinical and therapeutic data on the results obtained from the MDADI.

Statistical Analysis

Pearson's correlation coefficient and Spearman's rho were used to evaluate the correlations between continuous and ordinal variables, respectively. The nonparametric Mann–Whitney and Kruskal–Wallis tests were used to compare means between the groups. The statistical analysis was performed using version 12.0 of the SPSS statistical program for Windows (SPSS, Inc., Chicago, IL, USA).

Results

Translation and Cultural Adaptation

Translation of the MDADI from English to Brazilian Portuguese was performed with slight modifications to maintain semantic equivalence such that some words were substituted for others with the same meaning in order to achieve better communication. The negative sentences were grammatically changed to affirmative in order to avoid confusing double-negative sentences, e.g., "I do not feel self-conscious when I eat" was changed to "I feel self-conscious when I eat." The research team did not find it necessary to remove any of the 20 items from the original English version; therefore, the Portuguese version was assembled with 20 questions arranged in four domains: global (one question), emotional (six questions), physical (eight questions), and functional (five questions) (Appendix).

Sample Characteristics

Seventy-two consecutive patients, mostly male patients with a mean age of 63 years, were included in the test of this version. The larynx was the most frequent primary tumor site, and most patients presented with stage T1–T2 neoplasms. Most were treated by surgery exclusively or by surgery followed by radiotherapy (Table 1).

Reliability and Construct Validity

The Cronbach's α obtained for each domain of the MDADI (global, emotional, functional, and physical) was within the optimum range (Table 2). The test–retest reliability for the total score for the MDADI had an ICC greater than 0.795 ($p < 0.001$) (Fig. 1), which is considered good.

Construct validity was evaluated according to the hypothesis that patients with higher scores on the HAD-D scale should score lower on the MDADI. The mean score on the MDADI for the doubtful and definite cases of depression

Table 1 Demographic and clinical characteristics ($N = 72$)

Variable	Category	*N* (%)
Gender	Male	60 (83.3)
	Female	12 (16.7)
Age (years)	Range	33–77
	Median	62.3
	Mean ± SD	63 ± 9.537
Primary tumor site	Oral cavity	18 (25.0)
	Oropharynx	15 (20.8)
	Larynx	34 (47.2)
	Hypopharynx	5 (6.9)
Clinical T stage	T1–2	40 (55.6)
	T3–4	32 (44.4)
Clinical N stage	N0	43 (59.7)
	N1	10 (13.9)
	N2	9 (12.5)
	N3	3 (4.2)
	N*x*	7 (9.7)
Clinical M stage	M0	72 (100)
Treatment	Surgery	23 (31.9)
	RT	11 (15.3)
	Surgery + RT	17 (23.6)
	Surgery + RT + CHT	5 (6.9)
	RT + CHT	16 (22.2)

SD standard deviation; *x* ignored; *RT* radiotherapy; *CHT* chemotherapy

Table 2 Cronbach's α coefficients for total score on MDADI subscales

Instrument	No. of items	Cronbach's α
MDADI global	1	0.697
MDADI emotional	6	0.824
MDADI functional	5	0.706
MDADI physical	8	0.785
MDADI total score	19	0.812

was 69.9, whereas patients without depression presented with a mean score of 85, thereby resulting in a statistically significant difference (Kruskal–Wallis test, $p = 0.01$). Furthermore, a comparison between total scores from the MDADI and the UW-QOL questionnaire revealed statistically significant results on the Kruskal–Wallis test and Spearman's correlation ($p < 0.01$, $r_s = 0.704$). There was also significant correlation between global QOL and total means obtained on the MDADI ($p = 0.01$, $r_s = 0.703$) (Table 3). Comparisons of the total MDADI with each domain of the SWAL-QOL revealed strong, moderate, and some weak Pearson's correlations, all of which were statistically significant (Table 4).

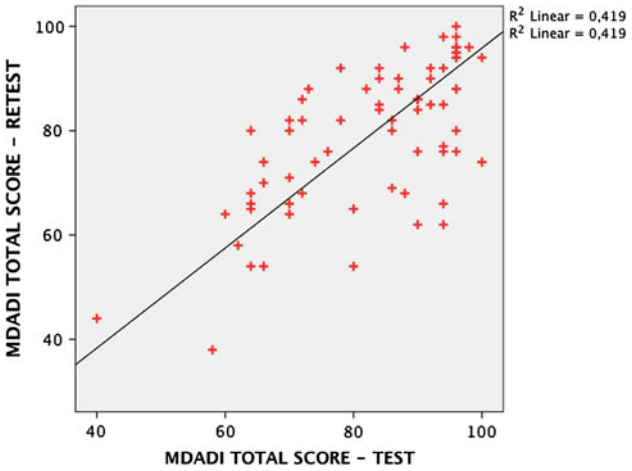

Fig. 1 MDADI test–retest data (ICC = 0.795); *ICC* intraclass correlation coefficient

Table 3 Correlation between UW-QOL global quality-of-life questionnaire and mean MDADI total score ($p < 0.05$)

	UW-QOL global	*N*	MDADI T (mean ± SD)
MDADI T	1 (Excellent)	12	93 ± 5.427
	2 (Very good)	23	85.13 ± 11.178
	3 (Good)	19	82.42 ± 13.426
	4 (Mean)	14	76.64 ± 15.320
	5 (Bad)	3	71.33 ± 2.309
	6 (Very bad)	1	58

QOL = quality of life; MDADI T = MDADI total score; *N* = number of patients; SD = standard deviation

MDADI Results

Patients treated for head and neck cancer had a mean total score of 83.13 on the validated Brazilian Portuguese version of the MDADI, which is indicative of minimal limitation in overall QOL [20]. Evaluation of each individual domain yielded mean scores of 87.19 for emotional, 88.69 for functional, and 75.23 for physical well-being, indicating minimal limitation in the emotional and functional domains and moderate limitation in the physical domain (data not shown). Women scored worse on the total MDADI, which was greatly influenced by differences in the physical domain (Table 5), but we did not observe differences in the overall test or individual domains when patients older than 65 years were compared with younger patients. Although we did not observe a statistically significant difference in individual MDADI domains between patients with early-stage and advanced tumors, there was a trend toward worse total MDADI QOL in patients with more advanced tumors. In contrast, the presence of metastasis significantly correlated with decreased QOL in

Table 4 Correlation between total MDADI score and SWAL-QOL items ($p < 0.001$)

SWAL-QOL items	MDADI T	p	Correlation
Burden	0.595	<0.001	Moderate
Eating desire	0.605	<0.001	Moderate
Eating duration	0.454	<0.001	Weak
Symptoms	0.665	<0.001	Moderate
Food selection	0.679	<0.001	Moderate
Communication	0.418	<0.001	Weak
Fear	0.484	<0.001	Weak
Mental health	0.509	<0.001	Moderate
Social	0.719	<0.001	Strong
Sleep	0.285	0.015	Without correlation
Fatigue	0.461	<0.001	Weak

all single domains and global scores of the MDADI. Additionally, patients who underwent either cervical lymph node dissection or combined surgery plus radiotherapy also had worse total MDADI scores (Table 5).

Global and single domains for the MDADI were also evaluated according to primary tumor sites, including the mouth, oropharynx, larynx, and hypopharynx. Patients with primary hypopharynx tumors had decreased scores on the total MDADI (75.2) and on the global (74.6), functional (79), and physical (69.7) domains, and patients with primary mouth tumors had decreased scores in the emotional domain (64), although these differences were not statistically significant (data not shown).

Only two patients from this cohort were being feed by nasoenteral tubes at the time of completing the questionnaire, and those patients reported lower total MDADI scores than patients fed by mouth ($p < 0.05$).

Discussion

Assessment of QOL related to dysphagia is important to objectively score patient-oriented outcomes, and it has been increasingly used as a follow-up tool in head and neck cancer clinics. We have successfully adapted and validated a Portuguese adaptation of the original version of the MDADI, and we subsequently used this tool to demonstrate in a cohort of patients treated for head and neck cancer that QOL related to dysphagia is worse in females, in those with metastasis, and in patients who underwent either neck lymph node dissection or combined surgery plus radiotherapy treatment. Evaluation of QOL related to dysphagia enables objective scoring of patients' daily needs and feeding difficulties and, therefore, is vital in guiding the rehabilitation team in assessing and following patients' progress in a longitudinal reintegration program [11, 14, 21, 22]. Evaluation of QOL in head and neck cancer patients is an important outcome measure and should include domains that reflect the disease and treatments' impact on feeding, swallowing, speech, communication, and appearance. To address these criteria adequately, it is imperative to use specific questionnaires rather than encompass the activities of daily living and social life in addition to the questionnaires being available and validated in the patient's native language [23].

Adequate evaluation of the reliability of a specific questionnaire protocol involves analysis to determine internal consistency and test–retest reliability (intraclass correlation coefficient, ICC) for all of the psychometric measures. The internal consistency of a specific questionnaire is evaluated according to each domain, assuming that individual questions in each domain correspond to the same topic. It is known that the internal consistency coefficient increases with an increasing number of questions for a specific domain [24], and the internal consistency coefficient is best evaluated with Cronbach's α coefficient. An optimum Cronbach's α coefficient should range between 0.70 and 0.80. At this study, this coefficient was 0.69 for the global domain, 0.82 for the emotional domain, 0.70 for the functional domain, and 0.78 for the physical domain, which are results that can be considered satisfactory.

The reliability of a questionnaire for a foreign language is determined using the test–retest method in which the same individual is asked to answer the same questionnaire with a specific time frame between each assignment. The test–retest validation is considered adequate when the ICC is above 0.70 [25]. Although the value obtained in this validation study (0.795) was below the original value obtained for the English version for the MDADI (0.960) [26], the ICC is still in the optimum range and validates use of the Portuguese language version of the MDADI.

The results of the Portuguese version of the MDADI were further correlated with the UW-QOL, SWAL-QOL, and HAD-D scales for psychometric validation. The depression score on the HAD scale was inversely correlated with the results on the Portuguese version of the MDADI, i.e., the higher the QOL indicated by the inventory, the lower the chances of a patient's presenting with symptoms of depression. This finding is in accordance with previous studies that suggest that emotional, social, and familiar well-being have a direct influence on the development of depression in patients treated for head and neck tumors [15, 27].

There was also a strong correlation between the overall score on the Portuguese version of the MDADI and the swallowing domain of the UW-QOL questionnaire ($p < 0.01$), and also with the general question about overall quality of life of the UW-QOL, which corroborates the

Table 5 Mean MDADI scores according to variables

Variable	MDADI global	MDADI emotional	MDADI functional	MDADI physical	MDADI total
Gender					
Male ($N = 60$)	82.67 ± 27.176	88.33 ± 14.071	89.90 ± 13.686	77.07 ± 15.498	84.48 ± 12.937
Female ($N = 12$)	65.00 ± 34.245	81.50 ± 13.833	82.67 ± 19.095	66.04 ± 12.498	76.33 ± 12.608
P	0.103	0.077	0.224	0.024	0.031
Age					
<65 years ($N = 43$)	78.60 ± 30.674	86.09 ± 15.559	88.14 ± 15.284	74.66 ± 16.653	82.33 ± 14.011
>65 years ($N = 29$)	81.38 ± 26.689	88.83 ± 11.887	89.52 ± 14.319	76.07 ± 13.919	84.31 ± 11.914
P	0.723	0.12	0.598	0.747	0.674
T stage					
T1–T2 ($N = 40$)	83.00 ± 24.620	88.45 ± 15.018	90.40 ± 14.459	77.14 ± 16.532	84.85 ± 14.092
T3–T4 ($N = 32$)	75.62 ± 33.595	85.62 ± 13.095	86.56 ± 15.208	72.84 ± 14.049	80.97 ± 11.743
P	0.412	0.136	0.120	0.203	0.060
N stage					
N0 ($N = 43$)	88.84 ± 22.383	90.98 ± 11.342	92.19 ± 11.278	80.26 ± 14.568	87.19 ± 10.985
N+ ($N = 22$)	70.91 ± 31.306	81.09 ± 17.454	84.82 ± 16.661	67.89 ± 13.849	77.45 ± 14.355
P	0.007	0.007	0.041	0.001	0.003
Education					
Elementary ($N = 29$)	80.69 ± 30.930	86.69 ± 15.769	89.52 ± 15.507	73.67 ± 15.878	82.79 ± 14.226
High school ($N = 20$)	85.00 ± 21.398	89.00 ± 12.773	88.90 ± 13.210	79.03 ± 13.819	85.10 ± 12.152
Superior ($N = 22$)	75.45 ± 32.031	87.18 ± 13.218	87.27 ± 16.125	74.86 ± 16.242	82.36 ± 13.000
P	0.527	0.891	0.724	0.498	0.737
Treatment					
Surgery ($N = 23$)	80.87 ± 27.947	87.13 ± 13.589	91.65 ± 10.849	76.67 ± 16.688	84.52 ± 12.406
Radiotherapy ($N = 11$)	89.09 ± 18.684	92.73 ± 11.841	91.64 ± 10.652	85.00 ± 14.304	89.18 ± 11.071
Combined ($N = 38$)	76.32 ± 31.829	85.63 ± 15.030	86.05 ± 17.476	71.53 ± 14.059	80.53 ± 13.727
P	0.612	0.151	0.438	0.027	0.042
Neck dissection					
Yes ($N = 40$)	72.50 ± 32.875	84.85 ± 13.250	88.40 ± 14.684	72.23 ± 15.616	81.23 ± 12.288
No ($N = 32$)	88.75 ± 20.280	90.13 ± 14.932	89.06 ± 15.206	78.98 ± 14.792	85.50 ± 13.998
P	0.037	0.017	0.700	0.068	0.044

Values are mean ± SD (standard deviation). Variables are gender ($N = 72$), age ($N = 72$), T stage ($N = 72$), N stage ($N = 65$), education ($N = 71$), treatment ($N = 72$), and cervical neck dissection ($N = 72$)

sensitivity of both instruments to measure the negative impact of dysphagia on the patient's quality of life.

Comparisons between this version of the MDADI and the SWAL-QOL resulted in distinct correlation values, which ranged from weak (four domains) to moderate (five domains) and strong (one domain); all correlations were statistically significant ($p < 0.05$). The social domain of the SWAL-QOL was strongly correlated with the overall MDADI results, which is expected because the MDADI is known to be a more sensitive and reliable tool for evaluating the influence of dysphagia on emotional and psychological aspects of health. These different correlations might be explained by the inclusion of patients with variable tumor sites among the different studies, as it is known that tumor site greatly influences chewing, swallowing, speech, aesthetics, and emotional state [11, 21, 22, 28]. We believe that correlations between MDADI subscales and SWAL-QOL could be stronger for some domains; however, for the purpose of this validation study, such correlations were not necessary.

Patients with more advanced disease, lymph node metastasis, and the need for combined surgery and radiotherapy tend to have lower scores on QOL questionnaires [5, 29–31]. This result was seen in our cohort (Table 5). Furthermore, our patients with compromised lymph nodes scored significantly worse on the overall and emotional domains of the MDADI, in accordance with previous publications that suggest that the severity of swallowing-related dysphagia is directly correlated with tumor size, type, resection size, and treatment effects [32–34].

With respect to the location of the primary tumor, patients with hypopharynx neoplasms had lower scores on all MDADI domains, although the difference in scores of those with neoplasms at other locations was not statistically significant. Similar results were found in a retrospective study of 73 patients treated for hypopharyngeal carcinoma in which dysphagia was the most severe acute and long-term adverse event that was reported (50 % of patients), with a score of 34 on the Quality of Life—Head and Neck 35 Questionnaire (EORTC QLQ H&N35) [35]. Another study of 110 laryngectomy patients proposed to evaluate whether dysphagia affects laryngectomees' QOL functioning and psychological well being. The results showed that laryngectomees with dysphagia had lower scores on the questions that address overall QOL (UW-QOL) over the past 7 days from the questionnaire application [36].

Although only two patients in our cohort were being fed nasoenterally, both had much lower scores on the overall MDADI (mean = 63) compared to the rest of the cohort. This difference is indicative of the major influence that the presence of a feeding tube has on QOL, mainly due to social exclusion and meal-related events. Although we have not used an outcome measure of diet for the patients' analysis, it is expected that some of them have a restricted diet with respect to consistencies, as head and neck cancer treatment is associated with the decreased scores in normalcy of diet [37, 38].

In conclusion, the present study validates the Brazilian–Portuguese language version of the MDADI. This provides another tool to evaluate the impact of dysphagia on the QOL of head and neck cancer patients.

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Conflict of interest The authors declare that they have no conflicts of interest or financial ties to disclose.

Appendix

Questionário de Disfagia M. D. Anderson (MDADI)

Nome: _____

Data: _____

Este questionário pergunta sobre sua habilidade de engolir (deglutir). Estas informações irão nos auxiliar a entender como você se sente em relação à sua deglutição. As questões que seguem foram preparadas por pessoas que têm problema com sua deglutição. Alguns dos itens podem ser relevantes para você.

Por favor, leia cada questão e marque a resposta que melhor reflete sua experiência na última semana.

Minha capacidade de deglutição limita minhas atividades diárias

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

E2. Eu tenho vergonha dos meus hábitos alimentares

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

F1. As pessoas têm dificuldade de cozinhar para mim

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

P2. É mais difícil engolir no fim do dia

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

E7. Sinto-me inseguro quando me alimento

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

E4. Eu estou triste pelo meu problema de deglutição

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

P6. Deglutir é um grande esforço

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

E5. Deixo de sair de casa por causa do meu problema de deglutição

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo( )Discordo totalmente

F5. Meu problema de deglutição tem me causado perda de rendimentos financeiros

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

P7. Eu levo mais tempo pra comer por causa do meu problema de deglutição

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

P3. As pessoas me perguntam, "Porque você não pode comer isto?"

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

E3. Outras pessoas se irritam por causa do meu problema de deglutição

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

P8. Eu tenho tosse quando eu tento beber líquidos

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

F3. Meus problemas de deglutição atrapalham minha vida pessoal e social

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

F2. Eu me sinto à vontade para sair pra comer com meus amigos, vizinhos e parentes

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

P5. Eu limito minha alimentação por causa da minha dificuldade de deglutição

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

P1. Perco peso devido ao meu problema de deglutição

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

E6. Eu tenho baixa auto-estima por causa do meu problema de deglutição

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

P4. Eu sinto que estou conseguindo deglutir uma grande quantidade de alimentos

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

F4. Eu me sinto isolado por causa dos meus hábitos de alimentação

( )Concordo totalmente ( )Concordo ( )Sem opinião ( )Discordo ( )Discordo totalmente

Obrigado por completar este questionário!

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