Scientific production of Brazilian speech language pathologists in sleep medicine

ABSTRACT

Introduction: Previous diagnosis and intervention in patients with sleep-disordered breathing involves several health professionals. Speech-Language and Hearing Sciences (SLHS) performance has been solidified through scientific production. Objective: To describe the inclusion of Brazilian Speech-Language Pathologists (SLP) in the field of sleep disorders, through the description of studies, scientific publications and participation in scientific events. Data Synthesis: A search and an analysis of the Brazilian SLP publications in the field of sleep disorders were carried out, including articles, monographs, dissertations, thesis and abstracts published in annals of events. The databases Lilacs, SciELO, Pubmed, Google Scholar tool and Lattes platform were accessed, with final search in January 2018. The analysis consisted of a description of the year of publication, type of publication, area of the SLHS, place of publication and/or event. 40 articles were found in national and international journals, from 1999 to 2017. In relation to publications in books, one book about the subject was published in 2009 and eight chapters of books were published. In the monograph format, 21 studies were carried out, there are 13 dissertations and eight thesis. A total of 151 abstracts were published in annals of scientific events, from 2001 to 2017 and 63 lectures were conducted by SLP. Conclusion: The inclusion of Brazilian SLP in the area of sleep disorders has been supported by scientific publications in the format of articles in national and international journals, monographs, thesis, dissertations, books and publications in event annals.

Keywords: Speech; Language; Hearing; Sleep Disorders, Intrinsic; Sleep Apnea, Obstructive.
INTRODUCTION

Sleep disorders are frequent problems and compromise the quality of life and general health of affected patients. Because they are associated with different etiological factors and consequences, the diagnosis and treatment of sleep disorders require interdisciplinary teams. The inclusion of the Speech-Language Pathologists’ (SLP) approach, specifically related to sleep-disordered breathing, has been recommended by several scientific articles, Brazilian SLPs being pioneers in this area.

In 2009, the first Brazilian study for which an SLP was part of the team and led a treatment, a randomized clinical trial, was published in an international scientific journal. The authors demonstrated the effectiveness of oropharyngeal exercises in patients with moderate obstructive sleep apnea (OSA). However, their research started earlier, the authors publishing a monograph in 1999 and an abstract in a national interdisciplinary event in 2001.

Since then, the Brazilian scientific pioneering in the field of sleep disorders has been solidified, with an increasing number of publications of articles, abstracts in annals of scientific events, and lectures given at national and international events.

These publications are essential to disseminate the diagnosis and treatment modalities of SLPs and reinforce the interface with other professionals of the multi-professional team, such as physicians and dentists. The professional activities of SLPs solidify their interactions as being more assertive in the area of diagnosis and treatment of sleep-disordered breathing.

Thus, the objective of the present study was to describe the inclusion of Brazilian Speech-Language and Hearing Science (SLHS) in the field of sleep disorders, by the review of studies and scientific publications, as well as participation in scientific events.

REVIEW OF LITERATURE

The authors conducted a survey and analysis of the publications of Brazilian SLPs, without limits of time, in the field of sleep disorders, including articles, monographs, dissertations, thesis, abstracts published in the annals of events, and lectures.

As a search strategy of scientific articles, the authors assessed the interfaces of the Lilacs, SciELO (The Scientific Electronic Library Online), PubMed, and Google Scholar (referring to the first five pages containing 10 results each), using the following descriptors and free terms:

- 1st search strategy: “speech pathology” AND “apnea”;
- 2nd search strategy: “speech pathology” AND “sleep disorders”;
- 3rd search strategy: “speech pathology” AND “snoring”;
- 4th search strategy: “oropharyngeal exercises” AND “apnea”;
- 5th search strategy: “oropharyngeal exercises” AND “sleep disorders”;
- 6th search strategy: “oropharyngeal exercises” AND “snoring”;
- 7th search strategy: “speech therapy” AND “apnea”;
- 8th search strategy: “speech therapy” AND “sleep disorders”;
- 9th search strategy: “speech therapy” AND “snoring”.

In addition, the authors reviewed the references of the articles to include articles that were missed using the search strategy.

For the inclusion of abstracts published in annals and presentations in events, the authors performed a manual search on the Lattes platform-CAPES of the authors’ names for the included articles. The coauthors were also considered, and their names were included in the search on the Lattes platform.

As inclusion criteria, the authors considered studies that included a Brazilian SLP in the publication team and that addressed all kinds of interactions of SLPs with patients with sleep disorders, from health promotion to assessment and treatment, with no language restriction. Articles not relevant to the proposed theme, as well as those for which all authors were from countries other than Brazil, were excluded.

The analysis consisted of the description of the year of publication, type of publication, area of SLHS, and locale of publication and/or event.

The last access was in January 2018.

RESULTS

Of the articles that were selected (Table 1 and Figure 1), 40 articles were published in national and international journals during the period of 1999 to 2017. Table 2 classifies this material by year of publication, title, and journal.

| Table 1. Results of search strategies in Lilacs, SciELO, and PubMed. |
|--------------------|-----|-----|-----|
|                    | LILACS | SCIELO | PUBMED |
| 1st                | 8     | 3    | 73    |
| 2nd                | 4     | 4    | 116   |
| 3rd                | 7     | 3    | 26    |
| 4th                | 1     | 1    | 17    |
| 5th                | 0     | 1    | 10    |
| 6th                | 1     | 1    | 10    |
| 7th                | 16    | 9    | 235   |
| 8th                | 12    | 4    | 349   |
| 9th                | 11    | 8    | 94    |

Table 3 classifies by year, type of publication, and title of the 21 monographs, 13 dissertations, 8 theses, 1 book, and 8 book chapters that were included.

This search strategy resulted in the location of 214 participations in events of Brazilian SLPs, 63 lectures, and 151 presentations of scientific abstracts during the period from 2001 to 2017. The presentations and lectures occurred, in addition to Brazil, in eight other countries: Canada, the USA, Portugal, Spain, Chile, Peru, Colombia, and Argentina. Table 4 shows the year of the event, name, place of event, organizing institution, and name of the presentation/lecture.

In total, the authors found 97 scientific presentations, 41 lectures, 40 papers, 12 monographs, 12 dissertations, 8 theses, 8 book chapters, and 1 book, specified by year, as shown in Table 5.
Figure 1. Flowchart of the article selection process.
### Table 2. Scientific articles by Brazilian SLPs about sleep disorders, classified by year of publication, title, and journal.

| Year | Title                                                                 | Journal                                                                 |
|------|----------------------------------------------------------------------|------------------------------------------------------------------------|
| 2017 | Effects of orofacial myofunctional therapy on the symptoms and physiological parameters of sleep breathing disorders in adults: a systematic review | CEFAC Journal [Portuguese]                                             |
| 2017 | Obstructive sleep apnea and oral language disorders                   | Brazilian Journal of Otorhinolaryngology                                |
| 2017 | Sleep quality and communication aspects in children                   | International Journal of Pediatric Otorhinolaryngology                 |
| 2017 | Sleep quality in children: questionnaires available in Brazil         | Sleep Science                                                           |
| 2017 | Sleep quality in medical student: a comparison across the various phases of the medical course | Brazilian Journal of Pulmonology                                      |
| 2016 | Different craniofacial characteristics predict upper airway collapsibility in japanese-brazilian and white men | Chest (American College of Chest Physicians)                          |
| 2016 | Educational programs applied to obstructive sleep apnea               | Journal of Communication Disorders, Deaf Studies & Hearing Aids       |
| 2016 | Myofunctional therapy improves adherence to continuous positive airway pressure treatment | Sleep & Breathing                                                      |
| 2016 | Oropharyngeal motor functions in pediatric obstructive sleep apnea and implications for myofunctional therapy | International Journal of Pediatric Otorhinolaryngology                 |
| 2016 | Profile of scientific production of obstructive sleep apnea and implications for myofunctional therapy | CEFAC Journal [Portuguese]                                             |
| 2016 | Upper airway collapsibility assessed by negative expiratory pressure while awake is associated with upper airway anatomy | Journal of Clinical Sleep Medicine                                      |
| 2015 | Effects of oropharyngeal exercises on snoring                        | Chest (American College of Chest Physicians)                          |
| 2015 | Health promotion in obstructive sleep apnea syndrome                  | International Archives of Otorhinolaryngology                         |
| 2015 | Myofunctional therapy applied to upper airway resistance syndrome: a case report | GoDAS                                                                 |
| 2015 | The relation between the apnea and hypopnea on sleeping obstruction, oral breathing and obesity emphasizing on speech and voice therapy: a bibliographic study | Journal of Communication Disorders [Portuguese]                        |
| 2015 | Validity and reliability of a protocol of orofacial myofunctional evaluation for patients with obstructive sleep apnea | European Journal of Oral Sciences                                     |
| 2014 | Model of oronasal rehabilitation in children with obstructive sleep apnea syndrome underlying rapid maxillary expansion: research review | Sleep Science                                                          |
| 2014 | Obstructive sleep apnea and dysphagia: case report                   | PET Informs (FOB / USP) [Portuguese]                                   |
| 2014 | Perception of the bed partner and the individual suffering from snoring/asas before and after speech therapy | CEFAC Journal [Portuguese]                                             |
| 2014 | Upper airway collapsibility is associated with obesity and hyoid position | Sleep Medicine                                                        |
| 2013 | Effect of speech therapy as adjunct treatment to continuous positive airway pressure on the quality of life of patients with obstructive sleep apnea | Sleep Medicine                                                        |
| 2013 | Predictors of uvulopalatopharyngoplasty success in the treatment of obstructive sleep apnea syndrome | Sleep Medicine                                                        |
| 2012 | Speech therapy proposals to the snoring patient                      | Journal of Communication Disorders [Portuguese]                        |
| 2012 | Cephalometric analysis of modifications of the pharynx due to maxillary-mandibular advancement surgery in patients with obstructive sleep apnea | International Journal of Oral and Maxillofacial Surgery               |
| 2011 | Phonoaudiological assessment of patients with obstructive sleep apnea | Sleep Science                                                          |
| 2011 | Swallowing dysfunction related to obstructive sleep apnea: a nasal fibroscopy pilot study | Sleep & Breathing                                                      |
| 2010 | An interdisciplinary look at obstructive sleep apnea                  | PET Informs (FOB / USP) [Portuguese]                                   |
| 2010 | Methods for increasing upper airway muscle tone in treating obstructive sleep apnea: systematic review | Sleep & Breathing                                                      |
| 2010 | Speech therapy and sleep apneas: a review                             | CEFAC Journal [Portuguese]                                             |
| 2010 | Speech therapy and snore and sleep apneas                             | CEFAC Journal [Portuguese]                                             |
| 2009 | Effects of oropharyngeal exercises on patients with moderate obstructive sleep apnea syndrome | American Journal of Respiratory and Critical Care Medicine             |
| 2009 | Sleep obstructive sleep apnoea syndrome and the phonoaudiological focus: literature review | CEFAC Journal [Portuguese]                                             |
| 2008 | Methods to increase muscle tone of upper airway to treat snoring: systematic review | Neuro-Psychiatry archives [Portuguese]                                |
| 2007 | Oral myofunctional therapy applied on two cases of severe obstructive sleep apnea syndrome | International Archives of Otorhinolaryngology                         |
| 2007 | Speech therapy in the obstructive sleep apeno-hypopnea syndrome: case report | CEFAC Journal [Portuguese]                                             |
| 2006 | Auditory processing assessment in children with obstructive sleep apnea syndrome | Brazilian Journal of Otorhinolaryngology                             |
| 2004 | Oral breathing and its relation to nocturnal snoring and obstructive sleep apnea syndrome | GoDAS                                                                 |
| 2004 | The relationship between sleep apnea, snoring and oral breathing      | GoDAS                                                                 |
| 2004 | Treatment of obstructive sleep apnea syndrome (OSAS) through orthognathic surgery of mandibular advancement | Brazilian Journal of Orthodontics & Facial Orthopedics [Portuguese] |
| 1999 | Alterations in soft tissue of oropharynx in obstructive sleep apnea patients | GoDAS                                                                 |
### Table 3. Books, book chapters, monographs, dissertations, and thesis in the field of sleep disorders published by Brazilian SLPs, detailed by year of conclusion, type of study, and title.

| Year       | Type            | Title                                                                                     |
|------------|-----------------|-------------------------------------------------------------------------------------------|
| IN PROGRESS| Thesis          | Oral language in obstructive sleep apnea [Portuguese]                                      |
| IN PROGRESS| Thesis          | Orofacial motor control in children with obstructive sleep apnea and primary snoring [Portuguese] |
| IN PROGRESS| Thesis          | Translation and cultural adaptation to Brazilian Portuguese of the quality of life questionnaire (S-AQLI) to obstructive sleep apnea patients [Portuguese] |
| 2017       | Dissertation    | Characteristics of swallowing in individuals with obstructive sleep apnea syndrome [Portuguese] |
| 2017       | Dissertation    | Orofacial misfunctional study in children with obstructive sleep apnea [Portuguese] |
| 2017       | Book Chapter    | Speech, language and hearing sciences in sleep [Portuguese]                                |
| 2016       | Dissertation    | Effect of obstructive sleep apnea on adult hearing [Portuguese]                           |
| 2016       | Dissertation    | Functional characteristics of orofacial musculature in children with and without obstructive sleep apnea [Portuguese] |
| 2016       | Dissertation    | Long-latency auditory evoked potentials in obstructive sleep apnea [Portuguese]            |
| 2016       | Monograph       | Contribution of phonoaudiology to the treatment of snoring in obstructive sleep apnea and hypopnea syndrome [Portuguese] |
| 2016       | Monograph       | Pharyngeal geometry pre and post myofunctional orofacial therapy in Individuals with obstructive sleep apnea [Portuguese] |
| 2015       | Thesis          | Effects of orofacial myofunctional therapy in patients with primary snoring and obstructive sleep apnea in the anatomy and function of the airway [Portuguese] |
| 2015       | Thesis          | Myofunctional orofacial and electromyographic evaluation of patients with obstructive sleep apnea [Portuguese] |
| 2015       | Dissertation    | Immediate effects of semi-fluid usual diet exercises in patients with obstructive sleep apnea syndrome [Portuguese] |
| 2015       | Dissertation    | Rheonomic characteristics and myofunctional assessment in individuals with obstructive sleep apnea syndrome who use CPAP [Portuguese] |
| 2015       | Monograph       | Elaboration of a phonoaudiological screening instrument for the treatment of snoring and OSA-AS [Portuguese] |
| 2015       | Monograph       | Myofunctional orofacial therapy in quality of life of women with obstructive sleep apnea syndrome [Portuguese] |
| 2014       | Thesis          | Effects of orofacial myofunctional therapy on snoring and sleep quality in patients with prior snoring and obstructive apnea in mild to moderate sleep [Portuguese] |
| 2014       | Dissertation    | Comparative analysis of swallowing after surgical treatment of OSA-AS: uvulopalatopharyngoplasty versus expandable pharyngoplasty [Portuguese] |
| 2014       | Dissertation    | Evaluation of swallowing pattern in adult OSA-AS patients [Portuguese]                    |
| 2014       | Dissertation    | Young Doctor Project: health education actions aimed at obstructive sleep apnea and hypopnea syndrome [Portuguese] |
| 2014       | Monograph       | Systematic Review: the contribution of speech therapy in obstructive sleep apnea and hypopnea syndrome [Portuguese] |
| 2014       | Book Chapter    | Evaluation of orofacial motority in patients with obstructive sleep apnea syndrome        |
| 2014       | Book Chapter    | Nocturnal Breathing - from normality to alterations [Portuguese]                           |
| 2014       | Book Chapter    | Snoring and obstructive sleep apnea [Portuguese]                                          |
| 2013       | Monograph       | Effects of speech therapy on snoring [Portuguese]                                         |
| 2013       | Monograph       | Speech-language pathology intervention in obstructive sleep apnea syndrome: state-of-the-art [Portuguese] |
| 2012       | Thesis          | Speech therapy as an adjuvant to treatment with continuous positive airway pressure in patients with obstructive sleep apnea syndrome [Portuguese] |
| 2012       | Dissertation    | Oral and snoring breathing in childhood and adolescence: orofacial structures and musculature [Portuguese] |
| 2012       | Monograph       | Masticatory pattern of patients with obstructive sleep apnea [Portuguese]                  |
| 2012       | Monograph       | Quality of life in individuals with obstructive sleep apnea and hypopnea syndrome and snoring before and after speech therapy [Portuguese] |
| 2011       | Monograph       | Myofunctional orofacial efficacy in the treatment of severe obstructive sleep apnea syndrome [Portuguese] |
| 2011       | Monograph       | Qualify of life in adults with different degrees of obstructive sleep apnea [Portuguese]   |
| 2011       | Monograph       | Speech-language therapy in the patient with apneas: case report [Portuguese]              |
| 2011       | Monograph       | Tongue strength and swallowing pattern in adults with obstructive sleep apnea [Portuguese] |
| 2011       | Book Chapter    | Obstructive sleep apnea syndrome [Portuguese]                                             |
| 2010       | Monograph       | Investigation of speech-language pathology and audiology in obstructive sleep apnea syndrome in the city of Recife [Portuguese] |
| 2009       | Monograph       | Myofunctional therapy in obstructive sleep apnea correlated with surface electromyography data [Portuguese] |
| 2009       | Book            | Apnea and snoring orofacial myofunctional treatment [Portuguese]                          |
| 2008       | Thesis          | Effects of oropharyngeal exercises in patients with moderate obstructive sleep apnea [Portuguese] |
| 2008       | Monograph       | Otorhinolaryngologist's knowledge about speech-language pathology in snoring [Portuguese] |
| 2008       | Monograph       | Sleep broncic in unnasal breathing children 8 to 11 years of age: an association study [Portuguese] |
| 2007       | Book Chapter    | Multifunction System (MFS) - advances in the treatment of OSA-HS [Portuguese]            |
| 2007       | Book Chapter    | Oral respiratory and obstructive sleep apnea-hypopnea syndromes: the role of prevention and early treatment [Portuguese] |
| 2007       | Book Chapter    | Ranonopathy and OSA-HS: phononauiological treatment rehabilitation of the pharyngeal dilator muscles [Portuguese] |
| 2006       | Monograph       | Relationship between myofunctional orofacial disorders and snoring in overweight patients [Portuguese] |
| 2005       | Dissertation    | Evaluation of the efficacy of speech-language intervention - orofacial therapy - in snoring patients with and without obstructive sleep apnea syndrome [Portuguese] |
| 2003       | Monograph       | Characterization of snoring in individuals with and without obstructive sleep apnea hypopnea syndrome [Portuguese] |
| 1999       | Monograph       | Alterations in soft tissue of oropharynx in obstructive sleep apnea patients [Portuguese] |
| Year | Event | Local | Organization | Scientific presentations (poster or oral communication) | Lectures |
|------|-------|-------|--------------|--------------------------------------------------------|----------|
| 2017 | 17th Paulista Congress of Pulmonology and Tisiology | São Paulo/SP- Brazil | SPPT Nov 15-18 | · The multiple clinical faces of Sleep Apnea: Obstructive Sleep Apnea Phenotypes and Implications in treatment [Portuguese][99] | - |
| 2017 | 16th Brazilian Congress of the Brazilian Society of Neuropsychology | São Paulo/SP- Brazil | SBN Nov 17-18 | · Speech language and hearing sciences parameters and perspectives for the rehabilitation of sleep disorders[100] | - |
| 2017 | 16th Brazilian Congress of Sleep | Joinville/SP- Brazil | ABS, ABMS e ABROS Nov 1-4 | · Application of imaging exams to speech-language pathology of sleep [Portuguese][91] · Excessive daytime sleepiness, insomnia and the influence of technologies on adolescents sleep [Portuguese][92] · Health actions during sleep week 2017 in the state of Sao Paulo: screening for obstructive sleep apnea [Portuguese][93] · Speech therapy treatment in OSA with snoring in Angle Class III patient - clinical case presentation [Portuguese][94] · Speech therapy treatment in OSA with snoring in a patient submitted to orthognathic surgery - clinical case presentation [Portuguese][95] · The influence of the use of communication technologies on teenagers sleep [Portuguese][96] · Translation and cultural adaptation to Brazilian Portuguese of the quality of life questionnaire (SAQLI) [Portuguese][97] · Tympanometric findings prior to adenotonsillectomy [Portuguese][98] · Tongue frenulum and sleep complaints: case report [Portuguese][90] | - |

Table 4. Scientific presentations and lectures of Brazilian SLPs at events, according to the year, name, place of the event, organizing institution, and name of the study/lecture.
| Year | Event | Location | Organizing Body | Presentations |
|------|-------|----------|----------------|--------------|
| 2017 | 14th World Sleep Congress | Prague, Czech Republic | World Sleep Society | - Effectiveness of orofacial myofunctional therapy in obstructive sleep apnea in adults: systematic review
- Effects of physical activity on quality of life and sleep quality in CPAP users
- Electromyography analyses during DISE: applicability in hypoglossal nerve stimulation
- Syntax consciousness and obstructive sleep apnea
- Sleep awareness week 2017: actions of health promotion in the interior of São Paulo state |
| 2017 | 25th Brazilian Congress of Speech language and hearing sciences | Salvador/BA, Brazil | SBFa Sep 12-15 | - Comparative Study of the Conservative and Surgical Treatments of Obstructive Sleep Apnea [Portuguese]
- Effectiveness of orofacial myofunctional exercises in the treatment of snoring and sleep apnea: a case study [Portuguese]
- Effectiveness of orofacial miofunctional therapy in obstructive sleep apnea in adults: systematic review [Portuguese]
- Findings of videoendoscopy of deglutition in obstructive sleep apnea syndrome: Case report [Portuguese]
- Language and aspects of premature children's sleep [Portuguese]
- Obesity: risk factor for obstructive sleep apnea [Portuguese]
- Obstructive Sleep Apnea Syndrome and swallowing: oral myofunctional, respiratory and neuromuscular coordination aspects [Portuguese]
- Perception of the quality of life of patients with obstructive sleep apnea syndrome [Portuguese]
- Sleep disorders: a proposal of health education for the elderly [Portuguese]
- The sleep quality of the patient that snore [Portuguese] |
- Myofunctional therapy for adult snoring and OSA: Changes in tongue fat and airway in a RCT
- Pathways to update standards of care: How myofunctional therapy works in OSA
- Practices of orofacial motricity in respiratory sleep disorders [Portuguese]
| Year | Event                                                                 | Location            | Organization         | Abstracts                                                                                           |
|------|-----------------------------------------------------------------------|---------------------|----------------------|-----------------------------------------------------------------------------------------------------|
| 2017 | 15th Academic Seminary of the Speech language and hearing sciences    | São Paulo/SP-Brazil | FCMSCSP              | Changes in sleep in orofacial motricity [Portuguese]                                               |
|      | Course                                                                 |                     |                      |                                                                                                     |
|      |                                                                        |                     |                      | - Deleterious oral habits in children with respiratory complaints during sleep [Portuguese]       |
|      |                                                                        |                     |                      | - Obstructive sleep apnea and metasynthetic ability [Portuguese]                                     |
|      |                                                                        |                     |                      | - Obstructive sleep apnea in young adults with pharyngeal flap [Portuguese]                         |
|      |                                                                        |                     |                      | - Participation of Brazilian Speech language and hearing sciences in Sleep Science [Portuguese]     |
|      |                                                                        |                     |                      | - Sleep Week 2017: health promotion in the interior of São Paulo [Portuguese]                       |
|      |                                                                        |                     |                      | - Tongue function in patients with Obstructive Sleep Apnea Syndrome [Portuguese]                   |
| 2017 | 24th COFAB                                                            | Bauru/SP-Brazil     | Department of Speech- |                                                                                                     |
|      |                                                                        |                     | language and hearing  |                                                                                                     |
|      |                                                                        |                     | sciences - USP-FOB     |                                                                                                     |
|      |                                                                        |                     | Aug 16-19             |                                                                                                     |
|      |                                                                        |                     |                      | -                                                                                                    |
| 2017 | 2nd Ibero-American Orofacial Motricity Symposium                      | Madrid-Spain        | University Complutense |                                                                                                     |
|      |                                                                        |                     | of Madrid and Institute|                                                                                                     |
|      |                                                                        |                     | EPAP Jun 16-17        |                                                                                                     |
|      |                                                                        |                     |                      | - Stomatognathic alterations, OSAS and phonaudiological intervention in interdisciplinary approach    |
|      |                                                                        |                     |                      | [Spanish]                                                                                           |
| 2017 | 10th Brazilian meeting of Orofacial Motricity                        | Belo Horizonte-Brazil | ABRAMO Jun 1-3       |                                                                                                     |
|      |                                                                        |                     |                      | - Myofunctional orofacial aspects in patients with obstructive sleep apnea syndrome [Portuguese]   |
|      |                                                                        |                     |                      | - OSAS in childhood [Portuguese]                                                                   |
|      |                                                                        |                     |                      | - Speech language and hearing sciences in obstructive sleep apnea: literature review [Portuguese]   |
|      |                                                                        |                     |                      | - Speech language and hearing sciences performance in obstructive sleep apnea and hypopnea syndrome  |
|      |                                                                        |                     |                      |                                                                                                     |
| 2017 | 15th Speech language and hearing sciences week                        | Campinas/SP-Brazil  | UNICAMP May 22-26    |                                                                                                     |
|      |                                                                        |                     |                      | - Speech language and hearing sciences view: performance in snoring and sleep apnea [Portuguese]    |
| 2017 | 15th Academic Journal of Speech language and hearing sciences         | Belo Horizonte-Brazil | PUC May 18-19        |                                                                                                     |
|      |                                                                        |                     |                      | - Interdisciplinary action and respiratory sleep disorders [Portuguese]                            |
| 2017 | 3rd International Congress of Speech language and hearing sciences    | Rosario-Argentina   | National University of |                                                                                                     |
|      | and Meeting of Latin American Integration                            |                     | Rosario May 10-13    |                                                                                                     |
|      |                                                                        |                     |                      | - Advances in Orofacial Motricity: “sleep disorders” [Spanish]                                    |
| Year | Event                          | Location            | Details                                                                 |
|------|-------------------------------|---------------------|-------------------------------------------------------------------------|
| 2017 | 2nd AAMS Congress             | Chicago - USA       | AMOS: orofacial myofunctional evaluation for obstructive sleep apnea [Portuguese]153 |
|      |                               |                     | Case report: Speech language and hearing sciences intervention in oropharyngeal hypofunction: case report [Portuguese]154 |
|      |                               |                     | Case report: Speech language and hearing sciences treatment of obstructive sleep apnea with snoring: a case report [Portuguese]155 |
|      |                               |                     | Correlation enters the oropharyngeal cross-sectional area and the severity of obstructive sleep apnea [Portuguese]156 |
|      |                               |                     | Importance of the anamnestic data of snoring complaint in children with adapted deglutition in the initial phase of mixed dentition [Portuguese]157 |
|      |                               |                     | Obese and Sleep Respiratory Disorders: quantitative analysis and associations [Portuguese]158 |
|      |                               |                     | Obstructive sleep apnea in young adults with cleft lip and palate is related to maxillomandibular discrepancies [Portuguese]159 |
|      |                               |                     | REM-sleep apnea-hypopnea index predominance in subjects with cleft lip and palate and obstructive sleep apnea [Portuguese]160 |
|      |                               |                     | Respiratory symptoms and nasalance of speech after resection of the pharyngeal flap [Portuguese]161 |
| 2016 | 15th Brazilian Congress of Sleep | São Paulo/SP-Brazil | · How to select the patient: Speech-language pathology [Portuguese]162 |
|      |                               |                     | · Multidisciplinary Treatment of Obstructive Sleep Apnea (OSA) based on clinical cases [Portuguese]163 |
|      |                               |                     | · Orofacial myofunctional evaluation [Portuguese]164 |
|      |                               |                     | · Phenotype of the patient with OSA [Portuguese]165 |
|      |                               |                     | · Post-surgical speech language hearing sciences rehabilitation [Portuguese]166 |
| Year | Event Description | Location | Date | Abstracts/Notes |
|------|-------------------|----------|------|----------------|
| 2016 | 18<sup>th</sup> International Congress of Odontology of BAHIA/10<sup>th</sup> Speech language and hearing sciences Seminary | Salvador/BA- Brazil | ABO- BA Nov 2016 | - |
| 2016 | 24<sup>th</sup> Brazilian Congress of Speech language and hearing sciences | São Paulo/SP- Brazil | SBF Oct 2016 | - |

Sleep quality questionnaires for the pediatric population used in Brazil [Portuguese]<sup>163</sup>

Speech and Hearing Intervention in Oropharyngeal Hypofunction: Case Report [Portuguese]<sup>165</sup>

Undervised polysomnography helps planning adenotomigalalectomy? [Portuguese]<sup>166</sup>

Week of sleep and speech language and hearing sciences: dissemination and awareness about sleep in Brazil [Portuguese]<sup>167</sup>

What are the role of questionnaires? Berlin and Epworth in the research of the association of chronic obstructive pulmonary disease and syndrome of obstructive sleep apnea [Portuguese]<sup>168</sup>

· Food intake of patients with obstructive sleep apnea: literature review<sup>171</sup>
· Orofacial miofunctional characteristics in patients with snoring and obstructive sleep apnea<sup>176</sup>
· Orofaciofunctional therapy as adjuvant to the treatment of upper airway resistance syndrome: a case report<sup>177</sup>
· Protocol of evaluation for obstructive sleep apnea: systematic review<sup>178</sup>
· Relationship between obesity and sleep psychic aspects<sup>179</sup>
· Scientific production on snoring: analysis of Brazilian speech language hearing sciences<sup>180</sup>

Interdisciplinary symposium—diagnosis and treatment of sleep disorders: Speech language hearing sciences approach [Portuguese]<sup>184</sup>

Respiratory sleep disorders in young and middle-aged adults with cleft lip and palate assessed by validated questionnaires and nocturnal polysomnography: effect of age [Portuguese]<sup>162</sup>

Sleep quality questionnaires for the pediatric population used in Brazil [Portuguese]<sup>163</sup>

Speech and Hearing Intervention in Oropharyngeal Hypofunction: Case Report [Portuguese]<sup>165</sup>

Undervised polysomnography helps planning adenotomigalalectomy? [Portuguese]<sup>166</sup>

Week of sleep and speech language and hearing sciences: dissemination and awareness about sleep in Brazil [Portuguese]<sup>167</sup>

What are the role of questionnaires? Berlin and Epworth in the research of the association of chronic obstructive pulmonary disease and syndrome of obstructive sleep apnea [Portuguese]<sup>168</sup>
| Year | Event                                                                 | Location             | Date        | Sessions                                                                 |
|------|-----------------------------------------------------------------------|----------------------|-------------|--------------------------------------------------------------------------|
| 2016 | 2nd Ibero-American Orofacial Motricity and 3rd American Meeting     | Santa Marta, Colombia | CMOL Sep 15-17 | insertion and contribution of speech-language pathology in sleep disorders [Spanish] <sup>1</sup>  
|      |                                                                       |                      |             | Obstructive sleep apnea and oral language in children [Spanish] <sup>2</sup>  
|      |                                                                       |                      |             | Sleep quality in children: differences in the questionnaires used in Brazil [Spanish] <sup>3</sup>  
|      |                                                                       |                      |             | Sleep quality in children: review of the questionnaires used in Brazil [Spanish] <sup>4</sup>  
|      |                                                                       |                      |             | Unassisted childhood polysomnography [Spanish] <sup>5</sup>  
| 2016 | 10<sup>th</sup> Congress of ALAT                                     | Santiago, Chile      | ALAT Jul 6-9 | Obstructive sleep apnea and oral language in children [Spanish] <sup>6</sup>  
| 2016 | Meeting of Orofacial Motricity                                       | Bauru/SP, Brazil     | ABRAMO Jun 3-4 | Comparative analysis of respiratory symptoms related to sleep in children with cleft lip and palate and pharyngeal flap [Portuguese] <sup>7</sup>  
|      |                                                                       |                      |             | Production of Brazilian speech therapist in sleep disorders area [Portuguese] <sup>8</sup>  
|      |                                                                       |                      |             | Relationship between respiratory symptoms and nasalance of talk in young adults with cleft lip palate fissure <sup>9</sup>  
|      |                                                                       |                      |             | Self-reported orofacial myofunctional aspects of freshmen undergraduate students in Speech Language Pathology and Audiology at UFS [Portuguese] <sup>10</sup>  
| 2016 | 2<sup>nd</sup> Congress of speech language and hearing sciences of the Faculty of Medicine of UFMG | Belo Horizonte, Brazil | UFMG May 19-21 | Speech language and hearing sciences treatment on respiratory sleep disorders [Portuguese] <sup>11</sup>  
| 2016 | 9<sup>th</sup> Postgraduate meeting of UNESP                         | Botucatu/SP, Brazil  | UNESP-FMB May 18-19 | Obstructive sleep apnea and oral language [Portuguese] <sup>12</sup>  

<sup>1</sup> Speech language and hearing sciences assistance in cases of apnea in the city of João Pessoa <sup>13</sup>  
<sup>2</sup> Speech language hearing sciences therapy and therapeutic adherence in obstructive sleep apnea syndrome <sup>14</sup>  
<sup>3</sup> Study of snoring in healthy elderly <sup>15</sup>  
<sup>4</sup> Interdisciplinary treatment of obstructive sleep apnea syndrome [Spanish] <sup>16</sup>  
<sup>5</sup> Obstructive sleep apnea: interdisciplinary approach [Portuguese] <sup>17</sup>
| Year | Event | Location | Date | Abstracts |
|------|--------|----------|------|-----------|
| 2016 | 1st International Congress of Portuguese Society of Speech Therapy | Santo Tirso, Portugal | SPTF May 13-15 | Interfaces of speech and hearing pathology in orofacial motor: new areas of intervention (OSA)  
Obstructive sleep apnea: evidence of orofacial myofunctional therapy [Portuguese] |
| 2016 | 7th International Symposium of Surgery Sleep and Breathing | São Paulo, SP, Brazil | ISSS and FORL Apr 15-16 | Effects of oropharyngeal exercises on snoring and OSA [Portuguese] |
| 2016 | 4th Brazilian Congress of Electromyography and Kinesiology | Ribeirão Preto, SP, Brazil | University of São Paulo-Ribeirão Preto Apr 14-16 | Electromyographic activity of masseter and temporal muscles in patients with obstructive sleep apnea [Portuguese] |
| 2015 | Event in commemoration of the Speech-Language Pathologist's Day "Speech-language pathology - a promising area" | Recife, Brazil | CRFa 4th region Dec 10 | Speech language hearing sciences in the treatment of Obstructive Sleep Apnea and Snoring [Portuguese] |
| 2015 | 14th International Symposium on Sleep and Breathing | Porto de Galinhas, PE, Brazil | ISSS and FORL Oct 15-28 | |
| 2015 | 15th Brazilian Congress of Sleep | Porto de Galinhas, PE, Brazil | ABS, ABMS and ABROS Oct 28-31 | A transdisciplinary approach to OSAHS in the speech language and hearing sciences clinic: a case study [Portuguese]  
Children with language impairment: deleterious oral habits and sleep complaints [Portuguese]  
Scientific publications on speech language and hearing sciences aimed at obstructive sleep apnea [Portuguese]  
Speech language and hearing sciences therapy applied to four cases with obstructive sleep apnea syndrome [Portuguese]  
Speech-language and hearing sciences therapy for the treatment of OSAHS [Portuguese] |
| 2015 | 23rd Brazilian Congress of Speech language and hearing sciences and 9th International Congress of Speech and Hearing Therapy | Salvador, BA, Brazil | SBFa Oct 14-16 | Correlation between degree of daytime sleepiness and nasal volume in OSA patients: a pilot study [Portuguese]  
“Update on Sleep-disordered breathing” with five subtopics, including “Speech language and hearing sciences and OSA - discussing the evidence in the evaluation and clinical practice” [Portuguese]  
Interdisciplinary symposium: “Treatment of obstructive sleep apnea beyond CPAP” with the lecture “Myofunctional exercises” [Portuguese]  
Interdepartmental symposium 1: the choice of exercises in orofacial myofunctional disorders: snoring, apnea and facial paralysis [Portuguese] |
| Year | Event | Location | Host | Abstracts |
|------|-------|----------|------|----------|
| 2015 | 44th International Association of Orofacial Myology Congress | Lake Buena Vista, USA | IAOM | · Orofacial myofunctional therapy in the quality of life of women with obstructive sleep apnea syndrome [Portuguese] \(^{153}\) · Snoring and quality of life in young adults [Portuguese] \(^{154}\) · Speech-language pathology in snoring: a case report [Portuguese] \(^{155}\) |
| 2015 | AAMS 1st Congress | Los Angeles - USA | AAMS Sep 9-13 | - |
| 2015 | COFAB 22th Speech language and hearing sciences Congress of Bauru | Bauru/SP - Brazil | Department of Speech-Language Pathology-FOB/USP Aug 26-29 | · Cancer and Obstructive sleep apnea [Portuguese] \(^{151}\) · Deleterial and delayed habits and sickness related to sleep in children with language change \(^{22}\) · Level of evidence and area of speech therapy in scientific publications on obstructive sleep apnea [Portuguese] \(^{221}\) |
| 2015 | 1st American Encounter and 2nd Ibero-American Meeting of Orofacial Motricity | Lima - Peru | CMOL Jun 26-27 | - |
| 2015 | 3rd Journey of Orthognathic Surgery and Orthodontics | São Paulo/ SP - Brazil | IEP/HSL May 23-24 | - |
| 2015 | American Thoracic Society International Conference | Denver - USA | ATS May 15-20 | · Effects of Oropharyngeal Exercises on Snoring: A Randomized Trial \(^{226}\) |
| 2015 | 8th Brazilian Meeting of Orofacial Motricity | João Pessoa / PE - Brazil | ABRAMO May 15-16 | · Has cleft type an effect on pharyngeal flap outcomes? \(^{228}\) · Speech Therapy contributions in Obstructive Sleep Apnea Syndrome: An Integrative Review \(^{227}\) · The use of acoustic pharyngometry in the diagnosis of obstructive sleep apnea: a systematic review [Portuguese] \(^{150}\) · The use of acoustic rhinometry in the diagnosis of obstructive sleep apnea: a systematic review [Portuguese] \(^{151}\) |

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| Year | Event                                                                 | Location          | Organizers/Groups                                      | Topics                                                                 |
|------|----------------------------------------------------------------------|-------------------|--------------------------------------------------------|------------------------------------------------------------------------|
| 2015 | 1st Ibero-American Symposium on Orofacial Motricity                   | Porto, Portugal   | A-AMS, ABRAMO, LAOM, SPTE, SBF, General Council of Speech-language Colleges | - Effect of Speech-Language therapy for patients with obstructive sleep apnea syndrome [Portuguese] |
|      |                                                                      |                   |                                                        | · Influence of Speech language hearing sciences treatment on the quality of life of individuals with OSAS [Portuguese] |
|      |                                                                      |                   |                                                        | · Rhinomanometric characteristics and nasal aeration in individuals with OSAHS treated with CPAP; an evaluation proposal [Portuguese] |
| 2014 | 23rd Brazilian Congress of Speech language and hearing sciences      | Joinville, SC, Brazil | SBF                                                    | Nasopharyngeal dimensions in subjects with or without pharyngeal flap |
|      |                                                                      |                   |                                                        | · Panel discussion on snoring and apnea [Portuguese] |
| 2014 | 7th Brazilian Meeting of Orofacial Motricity                          | São Paulo, Brazil  | ABRAMO                                                 | · Obstructive sleep apnea in legislation [Portuguese] |
|      |                                                                      |                   |                                                        | · Sleep disturbances and behavioral profile in individuals with complaints of language disorders [Portuguese] |
|      |                                                                      |                   |                                                        | · Workshop: Speech language and hearing sciences for Snoring and Apnea [Portuguese] |
| 2014 | 21st Speech language and hearing sciences Journey of Bauru            | Bauru, SP, Brazil  | USP-FOB                                                | · Speech language and hearing sciences assessment in Obstructive Sleep Apnea [Portuguese] |
|      |                                                                      |                   |                                                        | · Speech language and hearing sciences treatment in snoring and obstructive sleep apnea [Portuguese] |
| 2014 | 1st Speech language and hearing sciences symposium applied to Sleep  | São Paulo, Brazil  | ABS                                                    | · Orofacial myofunctional therapy for obstructive sleep apnea and snoring [Spanish] |
| 2014 | 22nd Annual Meeting of the Spanish Sleep Society                      | San Sebastian, Spain | Spanish Sleep Society                                | · Evaluation and Speech Pathology approach in OSA [Portuguese] |
| 2013 | 11th Congress of Sao Paulo Sleep Medicine                             | São Paulo, Brazil  | APM and AMB                                            | · Analysis of validity in adults of the expanded protocol of orofacial myofunctional evaluation with scores |
|      |                                                                      |                   |                                                        | · Assessment of surface EMG infra-hyoid muscle activity in apneic patients compared to healthy subjects; A pilot study |
| 2013 | 5th World Congress on Sleep Medicine                                  | Valencia, Spain    | WASM                                                   | -                                                                      |
| Year | Event Title | Location | Organization | Articles |
|------|-------------|----------|--------------|---------|
| 2013 | International Pediatric Sleep Association Congress | Porto Alegre/RS - Brazil | IPSA | - Electronic tutor about obstructive sleep apnea syndrome: development and evaluation of a health collaborative network<sup>293</sup> - Orofacial myofunctional evaluation with scores in subjects with obstructive sleep apnea<sup>290</sup> - Orofacial myology therapy: a case report of upper airway resistance syndrome<sup>291</sup> - Predictors of uvulopalatopharyngoplasty success in the treatment of obstructive sleep apnea syndrome<sup>292</sup> |
| 2013 | VI Brazilian Meeting of Orofacial Motricity | Fortaleza/CE - Brazil | ABRAMO | - Health promotion in obstructive sleep apnea syndrome: literature review<sup>294</sup> - The ability of OMES-E to discriminate the orofacial condition of healthy adults with Obstructive Sleep Apnea and association between variables<sup>295</sup> - Evaluation of Snoring and Obstructive Sleep Apnea<sup>296</sup> |
| 2013 | 28<sup>th</sup> International Meeting of Audiology | Salvador/BA-Brazil | ABA | - Auditory alterations and sleep disorders: literature review [Portuguese]<sup>297</sup> |
| 2013 | 21<sup>st</sup> Brazilian Congresso of Speech-language pathology and 2nd Ibero-American of Speech-language Pathology | Porto de Galinhas/PE-Brazil | SBF | - Construction of a questionnaire estimating the level of knowledge about obstructive sleep apnea syndrome [Portuguese]<sup>298</sup> - Obstructive sleep apnea syndrome and oropharyngeal dysphagia: clinical case [Portuguese]<sup>299</sup> - Speech-language pathology intervention in obstructive sleep apnea syndrome: state-of-the-art [Portuguese]<sup>300</sup> |
| 2013 | 13<sup>th</sup> International Symposium on Sleep and Breathing | Montreal-Canada | ISSS e FORL Foundation of Otolaryngologist | - Tongue fatigability is associated to pharyngeal closing pressure<sup>301</sup> |
| 2013 | 29<sup>th</sup> World Congress of the IALP | Turin - Canada | IALP | - Effect of speech therapy as adjunct treatment to CPAP on the quality of life of patients with obstructive sleep apnea<sup>302</sup> - Oropharyngeal exercises improved adherence to continuous positive airway pressure treatment<sup>303</sup> |
| Year | Conference Name | Location | Organization | Abstracts |
|------|-----------------|----------|--------------|----------|
| 2013 | International Association of Orofacial Myology | Orlando - USA | - | Moment of therapeutic discharge of the patient with sleep disorder [Portuguese] |
| 2013 | 45º Brazilian Congress of Otolaryngology and Cervical-Facial | São Paulo/SP - Brazil | ABORL-CCF | - |
| 2013 | XX Brazilian Congress of Speech language and hearing sciences | Brasilia/DF - Brazil | SBF | Analysis of the national production on Obstructive Sleep Apnea Syndrome in a speech pathology perspective [Portuguese] |
|      |                  |          |              | Chewing pattern of patients with Obstructive Sleep Apnea Syndrome [Portuguese] |
|      |                  |          |              | Myofunctional orofacial evaluation in subjects with obstructive sleep apnea [Portuguese] |
|      |                  |          |              | Oral breathing is associated with obstructive sleep apnea severity [Portuguese] |
| 2012 | Bauru Journey of Speech language and hearing sciences | Bauru/SP - Brazil | USP- FOB | The maximum isometric tongue strength and the classification of mallampati in individuals with obstructive sleep apnea syndrome [Portuguese] |
| 2012 | V Brazilian Meeting of Orofacial Motricity | Curitiba/PR - Brazil | ABRAMO | - |
| 2012 | 4th International Congress of the Association of Sleep Medicine | Quebec/Canada | WASM | Snoring and apnea - How do I treat? [Portuguese] |
| 2011 | 19º Brazilian Congress of Speech language and hearing sciences and 8º International congress of Speech language and hearing sciences | São Paulo/SP - Brazil | SBF | Apnea and Speech-language pathology: Proposal for pharyngeal stimulation [Portuguese] |
|      |                  |          |              | Electromyographic characterization of deglutition in individuals with and without clinical swallowing changes [Portuguese] |
|      |                  |          |              | Evaluation of chewing on patients with obstructive sleep apnea syndrome [Portuguese] |
|      |                  |          |              | Speech-language pathology indication in obstructive sleep apnea and hypopnea syndrome in the city of Recife [Portuguese] |
|      |                  |          |              | Tongue strength and swallowing pattern in men with obstructive sleep apnea [Portuguese] |
|      |                  |          |              | Speech Pathology therapy in obstructive sleep apnea syndrome [Portuguese] |
| Year | Event                                                                 | Location          | Organizer | Authors                                                                                           |
|------|------------------------------------------------------------------------|-------------------|-----------|---------------------------------------------------------------------------------------------------|
| 2011 | XIII Brazilian Congress of Sleep                                        | Belo Horizonte - Brazil | ABS       | Speech-language pathology therapy in obstructive sleep apnea syndrome [Portuguese]²⁰¹              |
| 2011 | VIII Sleep Medicine Congress of São Paulo                               | São Paulo/SP - Brazil | APM e AMB | Speech-language therapy in OSA [Portuguese]²⁰²                                                  |
| 2011 | XXXVII Week of Studies of the Faculty of Speech language and hearing sciences at the Center for Life Sciences | Campinas/SP - Brazil | PUC-Campinas | Snoring and apnea [Portuguese]²⁰³                                                                |
| 2011 | IV Brazilian Meeting of Orofacial Motricity                            | Natal/RN-Brazil    | ABRAMO    |                                                                                                  |
| 2010 | XVI Annual Scientific Meeting                                           | Poconé/MT-Brazil  | ABFCOC    | Oral breathing - snoring and apnea [Portuguese]²⁰⁴                                              |
| 2010 | 18º Brazilian Congress of Speech-language hearing sciences              | Curitiba/PR-Brazil | SBF²      |                                                                                                  |
| 2010 | 20th Congress of the European Sleep Research Society                   | Lisboa - Portugal  | ESRS      | Assessment of orofacial motricity in obstructive sleep apnea patients: a comparison between patients with and without nasal alterations. [Portuguese]²⁰⁵ |
| 2010 | II Congress of Speech language and hearing sciences hospital            | Belém/PA- Brazil   | Tuiuti University of Parana | Speech-language pathology actuation in snoring and Sleep Apnea [Portuguese]²⁰⁶                |
| 2009 | 17º Brazilian Congress of Speech language and hearing sciences and 1o Ibero-American Speech language hearing sciences Congress | Salvador/BA- Brazil | SBF²      | - Analysis of tongue and soft palate evaluation in patients with obstructive sleep apnea syndrome [Portuguese]²⁰² - Oral myofunctional therapy in patients with severe obstructive sleep apnea [Portuguese]²⁰³ - Sleep bruxism in oronasal breathing children 8 to 11 years of age: an association study [Portuguese]²⁰⁴ - Speech-language pathology treatment in Obstructive Sleep Apnea and Hypopnea Syndrome: Clinical case report [Portuguese]²⁰⁵ |
| Year | Event | Location | organizer | Title [Language] |
|------|-------|----------|-----------|-----------------|
| 2009 | 3rd World Sleep Congress | São Paulo/SP - Brazil | WASM | Phonoaudiological assessment of patients with obstructive sleep apnea [Portuguese] |
| 2008 | 16th Brazilian Congress of Speech language and hearing sciences | Campos do Jordão/SP - Brazil | SBF | Acting of brazilian speech therapist together with patients with obstructive sleep apnea syndrome (OSAS) [Portuguese] |
| 2007 | 5º FORL Foundation of Otolaryngologist Congress | São Paulo | FORL | Obstructive Sleep Apnea-Hypopnea Syndrome: orofacial motricity [Portuguese] |
| 2006 | XV Brazilian Congress of Speech language and hearing sciences | Gramado - Brazil | SBF | Evaluation of the orofacial motricity and the impact on the quality of life of individuals with Obstructive Sleep Apnea and Hypopnea Syndrome [Portuguese] |
| 2005 | X Brazilian Congress of Sleep | Curitiba/PR - Brazil | ABS | Acoustic characterization of snoring in different rates of obstructive sleep apnea and hypopnea [Portuguese] |
| 2005 | XIII Brazilian Congress of Speech language and hearing sciences | Santos/SP - Brazil | SBF | Evaluation of the stomatognathic system in patients with obstructive sleep apnea and hypopnea syndrome [Portuguese] |
| 2004 | XII Brazilian Congress of Speech language and hearing sciences | Foz do Iguaçu/PR - Brazil | SBF | Characterization of snoring in individuals with and without obstructive sleep apnea-hypopnea syndrome [Portuguese] |
| 2004 | 3rd Annual Symposium: Care of the Professional Voice | Filadélfia/PE-USA | The Voice Foundation | Characterization of snoring in people with Obstructive Sleep Apnea Syndrome [Portuguese] |
| 2003 | IX Journey of Speech language and hearing sciences | Marília/SP - Brazil | UNESP-Marília | Speech-language pathology attendance in a case of obstructive sleep apnea submitted to orthognathic surgery [Portuguese] |
Production of brazilian SLPs in sleep

| Year | Articles | Monographs | Dissertations | Thesis | Book chapters | Book | Scientific presentations | Lectures | TOTAL/year |
|------|----------|------------|---------------|--------|---------------|-----|--------------------------|----------|-------------|
| 1999 | 1        | 1          | -             | -      | -             | -   | -                        | -        | 2           |
| 2000 | -        | -          | -             | -      | -             | -   | -                        | -        | -           |
| 2001 | -        | -          | -             | -      | -             | -   | 1                        | -        | 1           |
| 2002 | -        | -          | -             | -      | -             | -   | -                        | -        | -           |
| 2003 | -        | 1          | -             | -      | -             | -   | 4                        | -        | 5           |
| 2004 | 3        | -          | -             | -      | -             | -   | 2                        | -        | 5           |
| 2005 | -        | 1          | -             | -      | -             | -   | 2                        | -        | 3           |
| 2006 | 1        | 1          | -             | -      | -             | -   | 1                        | -        | 3           |
| 2007 | 2        | -          | -             | -      | 3             | -   | 2                        | -        | 7           |
| 2008 | 1        | 2          | -             | 1      | -             | -   | 4                        | -        | 8           |
| 2009 | 2        | 1          | -             | -      | -             | -   | 1                        | 5        | 9           |
| 2010 | 4        | 1          | -             | -      | -             | -   | 6                        | 1        | 12          |
| 2011 | 2        | 5          | -             | -      | 1             | -   | 7                        | 4        | 19          |
| 2012 | 1        | 2          | 1             | 1      | -             | -   | 5                        | 1        | 11          |
| 2013 | 3        | 2          | -             | -      | -             | -   | 18                       | 4        | 27          |
| 2014 | 4        | 1          | 3             | 1      | 3             | -   | 6                        | 7        | 25          |
| 2015 | 5        | 2          | 2             | 2      | -             | -   | 18                       | 12       | 41          |
| 2016 | 6        | 2          | 4             | -      | -             | -   | 37                       | 13       | 62          |
| 2017 | 5        | -          | 2             | -      | 1             | -   | 34                       | 20       | 62          |
| In progress | - | - | - | 3 | - | - | - | - | 3 |
| TOTAL/type | 40 | 21 | 13 | 8 | 8 | 1 | 151 | 63 | 305 |

**DISCUSSION**

SLHS involves activity in the prevention, assessment, diagnosis, and treatment of speech, language, social communication, cognitive communication, and swallowing disorders in children and adults. Therefore, performance in sleep disorders is based on the interface of the areas of competence, especially concerning voice, breathing, chewing, swallowing, and human communication in general. Any performance should be based on scientific evidence. Thus, the authors reviewed the participation of Brazilian SLPs in treatment of sleep disorders, targeting the best benefits for the patient.
Among the 40 articles found, only 12 of them were published in journals that presented impact factor, a fact that is related to the low citation index of the journals focused on SLHS\textsuperscript{316} (Figure 1, Table 1, and Table 2).

Carrying out randomized studies and publication in a journal with high international impact resulted in greater interest for further investigations in scientific research in Brazil, with the development of techniques of orofacial myofunctional therapy in moderate OSA\textsuperscript{5}. In 2015, a systematic review and meta-analysis\textsuperscript{317} showed that from a total of nine studies involving outcomes with reported polysomnography and sleepiness of adult patients, four of these studies were by Brazilians.

The publication of a randomized trial of techniques of orofacial myofunctional therapy in moderate OSA in an international journal with high impact encouraged Brazilian SLPs to conduct further scientific research in this area\textsuperscript{6}. A high number of dissertations realized in public federal or state institutions were published in the years 2012, 2014, and 2015 (see Table 3). Therefore, a systematic review and meta-analysis of the outcomes of myofunctional therapy in obstructive breathing disorders during sleep in adults, published in 2015\textsuperscript{17}, showed that from a total of nine studies, four were conducted by Brazilian SLPs.

As highlighted in Table 4, the lectures and presentations occurred at events organized by national and international associations/societies with strong scientific participation in the areas of both SLHS and sleep. The most frequent location of the events was Brazil, but we found participation in eight other countries (two from Europe, two from North America, and four from South America).

The number of scientific productions in this area more than doubled from 2010 to 2011; however, the highest production rates were observed in 2015 and 2016 (Table 5). Certainly, the advance in the knowledge of sleep medicine and its widespread dissemination in the media are notorious and are generating the interest of health professionals from all areas, including SLPs.

The search strategy of this article was not designed to provide any systematic or comprehensive results, but rather to provide an overview of the Brazilian contribution to the field. Future research employing a proper systematic review methodology is warranted in order to gather together and summarize all the available evidence in a broad a comprehensive manner.

There are innumerable public health problems related to sleep disorders, affecting occupational cases\textsuperscript{1-3} and interfering in everyday life\textsuperscript{318,319}. Although the most frequent SLP approach refers to sleep-breathing disorders, we may note a growing interest for further investigations in scientific research in Brazil, with the development of techniques of orofacial myofunctional therapy in moderate OSA\textsuperscript{5}. In 2015, a systematic review and meta-analysis\textsuperscript{317} showed that from a total of nine studies involving outcomes with reported polysomnography and sleepiness of adult patients, four of these studies were by Brazilians.

The publication of a randomized trial of techniques of orofacial myofunctional therapy in moderate OSA in an international journal with high impact encouraged Brazilian SLPs to conduct further scientific research in this area\textsuperscript{6}. A high number of dissertations realized in public federal or state institutions were published in the years 2012, 2014, and 2015 (see Table 3). Therefore, a systematic review and meta-analysis of the outcomes of myofunctional therapy in obstructive breathing disorders during sleep in adults, published in 2015\textsuperscript{17}, showed that from a total of nine studies, four were conducted by Brazilian SLPs.

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Although the most frequent SLP approach refers to sleep-breathing disorders, we may note a growing interest in the understanding of the relationship of sleep disorders with other complaints and disorders, such as attention deficit disorder, written language disorders, hearing loss, and so on\textsuperscript{19}.

The efficacy of orofacial myofunctional therapy is still questioned, and SLPs’ interventions are not widely recognized nationally or internationally. The main reason for this is the lack of randomized studies that evaluate its efficacy for the treatment of sleep-disordered breathing, for improvement of the quality of life, and/or for the improvement of adherence to CPAP\textsuperscript{17}. Likewise, most published studies are recent and present transversal evaluations or short-term follow-up results. There is a need for long-term follow-up studies and posterior reviews to enhance the evidence; thus, studies of the performance of SLPs in sleep disorder treatment should be encouraged.

CONCLUSIONS

Brazilian SLHS shows a pioneering approach in the performance of SLPs in diagnosis and treatment of sleep disorders, mainly obstructive breathing disorders during sleep. This statement is supported by the increasing number of scientific publications in the formats of articles in national and international journals, monographs, thesis, dissertations, books, and abstracts in annals of events, most of these at interdisciplinary events of national and international scope. Scientific articles are published in journals of the area of SLHS, thus remaining with a lower dissemination. Efforts to improve the publications in multidisciplinary journals with a higher impact factor should be made.

REFERENCES

1. Krieger J, McNicholas WT, Levy P, De Backer W, Douglas N, Marrone O, et al. Public health and medicolegal implications of sleep apnoea. Eur Respir J. 2002;20(6):1594-1601.
2. Akkoyunlu ME, Kart I, Uładag M, Bayram M, Alisha G, Özçelik H, et al. Relationship between symptoms of obstructive sleep apnea syndrome and traffic accidents in the city drivers. Tuberk Toraks. 2013;61(1):33-7.
3. Rajaratnam SM, Barger LK, Lockley SW, Shea SA, Wang W, Landrigan CP, et al. Sleep disorders, health, and safety in police officers. JAMA. 2011;306(23):2567-78.
4. Zanacanella E, Haddad FM, Soares CPF, Duarte BB, Nakasato A, Oliveira LAMP, et al. Obstructive sleep apena and primary snoring treatment. Braz J Otorhinolaryngol. 2014;80(1 Supl. 1):S17-S28.
5. Guimarães KC, Drager LF, Genta PR, Marcondes BF, Lorenzi-Filho G. Effects of oropharyngeal exercises on patients with moderate obstructive sleep apena syndrome. Am J Respir Crit Care Med. 2009;179(10):962-6.
6. Guimarães KCC. Alterations in soft tissue of oropharynx in obstructive sleep apena patients [Portuguese] [Monograph]. São Paulo: CEFAC Instituto; 1999.
7. Guimarães KCC. Trabalho fonoaudiológico em pacientes que roncam. Hypnos (São Paulo). 2001;2(39).
8. Ferreira NSA. As pesquisas denominadas “estado da arte”. Educ Soc. 2002;23(79):257-72.
9. Merry AF, Ethics, Industry, and Outcomes. Semin Cardiothorac Vasc Anesth. 2008;12(1):7-11.
10. Kayamori F, Bianchini EMG. Effects of orofacial myofunctional therapy on the symptoms and physiological parameters of sleep breathing disorders in adults: a systematic review. Rev CEFAC. 2017;19(6):868-78.
11. Corrêa CC, Cavalheiro MG, Maximino LP, Weber SAT. Obstructive sleep apnea and oral language disorders. Braz J Otorhinolaryngol. 2017;83(1):98-104.
12. de Castro Corrêa C, José MR, Andrade EC, Fanemian MR, Fukushiro AP, Berretin-Felix G, et al. Sleep quality and communication aspects in children. Int J Pediatr Otorhinolaryngol. 2017;100:57-61.
13. Cavalheiro MG, Corrêa CC, Maximino LP, Weber SAT. Sleep quality in children: questionnaires available in Brazil. Sleep Science. 2017;10(4):154-60.
14. Corrêa CC, Oliveira FK, Pizzamiglo DS, Oortolán EVP, Weber SAT. Sleep quality in medical students: a comparison across the various phases of the medical course. J Bras Pneumol. 2017;43(4):285-9.
15. Schorr F, Kayamori F, Hirata RP, Danzi-Soares NJ, Gebrim EM, Moriya HT, et al. Different Craniofacial Characteristics Predict Upper Airway collapsibility in Japanese-Brazilian and White Men. Cleft Palate J. 2016;149(3):737-46.
16. Corrêa CC, Berretin-Felix G, Blasca WQ. Educational program applied to obstructive sleep apnea. Commun Disord Deaf Stud Hearing Aids. 2016;4(2):1-6.
17. Dutêna G, Santos-Silva R, Trukinas E, Haddad FML, Santos R, Bommarito S, et al. Myofunctional therapy improves adherence to continuous positive airway pressure treatment. Sleep Brent. 2017;21(2):387-95.

Sleep Sci. 2018;11(3):183-210
18. de Felício CM, da Silva Dias FV, Folha GA, de Almeida LA, de Souza JF, Anselmo-Lima WT, et al. Orofacial motor functions in pediatric obstructive sleep apnea and implications for myofunctional therapy. Int J Pediatr Otorhinolaryngol. 2016;90:5-11.

19. Corrêa CC, Watanabe ST, Maximo LP. Profile of scientific production of obstructive sleep apnea in interface of speech and language pathology. Rev CEFAC. 2016;18(5):209-21.

20. Hirata RP, Schorr F, Kayamori F, Moriya HT, Romano S, Insalaco G, et al. Upper airway collapsibility assessed by negative expiratory pressure while awake is associated with upper airway anatomy. J Clin Sleep Med. 2016;12(10):1339-46.

21. Ieto V, Kayamori F, Montes MI, Hirata RP, Gregório MG, Alencar AM, et al. Effects of oropharyngeal exercises on snoring: a randomized trial. Chest. 2015;148(5):683-91.

22. Corrêa CC, Blasca WQ, Berretin-Felix G. Health promotion in obstructive sleep apnea syndrome. Int Arch Otorhinolaryngol. 2015;19(2):166-70.

23. Corrêa CC, Berretin-Felix G. Myofunctional therapy applied to upper airway resistance syndrome: a case report. Cadis. 2015;27(6):604-9.

24. Silva MMM, Tavares TE, Pinto VSR. The relation between the apnea and hypopnea on sleeping obstruction, oral breathing and obesity emphasizing on speech and voice therapy: a bibliographic study. Distúrbios Comum. 2015;27(2):355-61.

25. Folha GA, Valera FC, de Felício CM. Validity and reliability of a protocol of orofacial myofunctional evaluation for patients with obstructive sleep apnea. Eur J Oral Sci. 2015;123(3):165-72.

26. Levini I, Lorusso P, Capriglioni A, Magnani A, Diaféria G, Bittencourt L, et al. Model of myofunctional rehabilitation in children with obstructive sleep apnea syndrome undergoing rapid maxillary expansion: Research review. Sleep Med. 2014;15(4):225-33.

27. Quadros IA, Corrêa CC. Obstructive sleep apnea and dysphagia: case report [Portuguese]. PET Informa. 2014;24(7):2-14.

28. Matsurama E, Tonisti GAB, Vacina ALC, Inocêncio LB, Guimarães KCC, Nembrini SK. Perception of the bed partner and the individual suffering from snoring/osas before and after speech therapy. Rev ECEFAC. 2014;16(3):907-16.

29. Genta PR, Schorr F, Eickert DJ, Gebrim E, Kayamori F, Moriya HT, et al. Upper airway collapsibility is associated with obesity and hystoid position. Sleep. 2014;37(10):1673-8.

30. Diaféria G, Baldu L, Santos-Silva R, Bombomari S, Tufik S, Bittencourt L. Effect of speech therapy as adjunct treatment to continuous positive airway pressure on the quality of life of patients with obstructive sleep apnea. Sleep Med. 2013;14(7):628-35.

31. Braga A, Grechi TH, Eickel A, Vieira BB, Inakawa CE, Kupper DS, et al. Predictors of uvulopalatopharyngoplasty success in the treatment of obstructive sleep apnea syndrome. Sleep Med. 2013;14(12):1266-71.

32. Kronbauer KF, Trezza PM, Gomes CF. Speech therapy proposals to the patient with and without obstructive sleep apnea syndrome (OSAS) through orthognatic surgery of mandibular advancement. J Bras Ortop Odont Fac. 2014;16(3):907-16.

33. Genta PR, Schorr F, Eickert DJ, Gebrim E, Kayamori F, Moriya HT, et al. Upper airway collapsibility is associated with obesity and hystoid position. Sleep. 2014;37(10):1673-8.

34. Diaféria G, Baldu L, Santos-Silva R, Bombomari S, Tufik S. Bittencourt L. Effect of speech therapy as adjunct treatment to continuous positive airway pressure on the quality of life of patients with obstructive sleep apnea. Sleep Med. 2013;14(7):628-35.

35. Braga A, Grechi TH, Eickel A, Vieira BB, Inakawa CE, Kupper DS, et al. Predictors of uvulopalatopharyngoplasty success in the treatment of obstructive sleep apnea syndrome. Sleep Med. 2013;14(12):1266-71.

36. Kronbauer KF, Trezza PM, Gomes CF. Speech therapy proposals to the patient with and without obstructive sleep apnea syndrome (OSAS) through orthognatic surgery of mandibular advancement. J Bras Ortop Odont Fac. 2014;16(3):907-16.

37. Genta PR, Schorr F, Eickert DJ, Gebrim E, Kayamori F, Moriya HT, et al. Upper airway collapsibility is associated with obesity and hystoid position. Sleep. 2014;37(10):1673-8.

38. Diaféria G, Baldu L, Santos-Silva R, Bombomari S, Tufik S, Bittencourt L. Effect of speech therapy as adjunct treatment to continuous positive airway pressure on the quality of life of patients with obstructive sleep apnea. Sleep Med. 2013;14(7):628-35.

39. Braga A, Grechi TH, Eickel A, Vieira BB, Inakawa CE, Kupper DS, et al. Predictors of uvulopalatopharyngoplasty success in the treatment of obstructive sleep apnea syndrome. Sleep Med. 2013;14(12):1266-71.

40. Kronbauer KF, Trezza PM, Gomes CF. Speech therapy proposals to the patient with and without obstructive sleep apnea syndrome (OSAS) through orthognatic surgery of mandibular advancement. J Bras Ortop Odont Fac. 2014;16(3):907-16.

41. Genta PR, Schorr F, Eickert DJ, Gebrim E, Kayamori F, Moriya HT, et al. Upper airway collapsibility is associated with obesity and hystoid position. Sleep. 2014;37(10):1673-8.

42. Pitta DBS, Pessoa AF, Sampaio ALI, Rodrigues RN, Tavares MG, Tavares P. Oral myofunctional therapy applied on two cases of severe obstructive sleep apnea syndrome. Int J Arch Otorhinolaryngol. 2007;11(3):350-4.

43. Silva LMP, Aureliano FTS, Motta AR. Speech therapy in the obstructive sleep apnea-hypopnea syndrome: case report. Rev ECEFAC. 2007;9(4):490-6.

44. Ziliotto KN, Santos MFC, Monteiro VG, Pradella-Hallinan M, Moreira GA, Pereira LD. Auditory processing assessment in children with obstructive sleep apnea syndrome. Braz J Otorhinolaryngol. 2006;72(3):521-7.

45. Amanal AK, Carvalho MM, Silva HJ. Oral breathing and its relation to nocturnal snoring and obstructive sleep apnea syndrome. J Braz Fonoaudiol. 2004;18(4):60-2.

46. Burger RCP, Caixeta EC, Ninno CQMSD. The relationship between sleep apnea, snoring and oral breathing. Rev Atual Cient Fonoaudiol Educ. 2004;4(6):266-71.

47. Faria AC, Xavier SP, Silva SN Jr, Trawitzki LV, de Mello-Filho DV. Cephalometric analysis of modifications of the pharynx due to maxillo-mandibular advancement surgery in patients with obstructive sleep apnea. Int J Oral Maxillofac Surg. 2013;42(5):579-84.

48. Guimarães K. Alterations in soft tissue of oropharynx in obstructive sleep apnea patients [Portuguese]. J Oral Maxillofac Surg. 2013;42(5):579-84.

49. Guimarães K. Alterations in soft tissue of oropharynx in obstructive sleep apnea patients [Portuguese]. J Oral Maxillofac Surg. 2013;42(5):579-84.

50. Guimarães K. Alterations in soft tissue of oropharynx in obstructive sleep apnea patients [Portuguese]. J Oral Maxillofac Surg. 2013;42(5):579-84.
66. Silva R. Myofunctional orofacial therapy in quality of life of women with obstructive sleep apnea syndrome [Portuguese] [Monograph]. São Paulo: Federal University of São Paulo (UNIFESP); 2015.

67. Ieto V. Effects of orofacial myofunctional therapy on snoring and sleep quality in patients with primary snoring and obstructive apnea in mild to moderate sleep [Portuguese] [Thesis]. São Paulo: Medical School of São Paulo, University of São Paulo; 2014.

68. Corradi AMB. Comparative analysis of swallowing after surgical treatment of OSAS: uvalopalatopharyngoplasty versus expander pharyngoplasty [Portuguese] [Dissertation]. Ribeirão Preto: Medical School of Ribeirão Preto, University of São Paulo; 2014.

69. Valarelli J.P. Evaluation of swallowing pattern in adult OSAS patients [Portuguese] [Dissertation]. Ribeirão Preto: Medical School of Ribeirão Preto, University of São Paulo; 2014.

70. Corrêa CC. Young Doctor Project: health education actions aimed at obstructive sleep apnea and hypopnea syndrome [Portuguese] [Thesis]. Belo Horizonte: Pontifical University Catholic of Minas Gerais; 2014.

71. Guimarães KCC. Evaluation of orofacial motricity in patients with obstructive sleep apnea syndrome. In: Susinhab F, Marchesan I, Parra D, Diaseo A, orgs. Treaty of Orofacial Motricity Assessment and related areas. 1a ed. Madrid: Editorial EOS; 2014. p. 445-453. [Spanish].

72. Guimarães KCC. Nocturnal Breathing - from normality to alterations. In. Marchesan IK, Silva HJ, Tomé MC, eds. Treaty of the Specialties in Speech Language and Hearing Sciences. São Paulo: Roca; 2014. p. 329-36. [Portuguese].

73. Bassi MT. Snoring and obstructive sleep apnea. In. Tessitore A, Marchesan IQ, Justino H, Berretin-Felix G, orgs. Clinical Practices in Orofacial Motricity. 1a ed. Pinhais: Editora Melo; 2014. p. 117-27. [Portuguese].

74. Steffenon AC. Effects of Speech Therapy on Snoring [Portuguese] [Monograph]. São Paulo: Institute of Advanced Hearing Studies Momensohn Santos; 2013.

75. Santana AS. Speech-language pathology intervention in obstructive sleep apnea syndrome: state-of-the-art [Portuguese] [Monograph]. Campinas: Pontifical University Catholic of Campinas; 2013.

76. Dias JMC. Speech therapy as an adjunct to treatment with continuous positive airway pressure in patients with obstructive sleep apnea syndrome [Portuguese] [Thesis]. São Paulo: Federal University of São Paulo (UNIFESP); 2012.

77. Cámera GO. Oral and snoring breathing in childhood and adolescence: orofacial structures and musculature. [Portuguese] [Monograph]. São Paulo: Pontifical Catholic University of São Paulo (PUC-SP); 2012.

78. Dias FVS. Masticatory pattern of patients with obstructive sleep apnea [Portuguese] [Monograph]. Ribeirão Preto: Medical School of Ribeirão Preto, University of São Paulo; 2012.

79. Alves VL. Quality of life in individuals with obstructive sleep apnea and hypopnea syndrome and snoring before and after speech therapy [Portuguese] [Monograph]. Recife: Faculty Redentor; 2012.

80. Alvim EFM. Evaluation and comparison of language and pulsoLOGY in individuals with and without obstructive sleep apnea [Portuguese] [Monograph - Specialization in Post-Graduation Lato Sensu in Acupuncture]. São Paulo: Escola Paulista de Ensino Superior; 2011.

81. Martins PB. Myofunctional orofacial efficacy in the treatment of severe obstructive sleep apnea syndrome [Portuguese] [Monograph]. Porto Alegre: Methodist University Center (IPA); 2011.

82. Meloni CF. Quality of life in adults with different degrees of obstructive sleep apnea [Portuguese] [Monograph]. Ribeirão Preto: Medical School of Ribeirão Preto, University of São Paulo; 2011.

83. Game K. Speech-language therapy to the patient with apnea: case report [Portuguese] [Monograph]. São Paulo: University Center of Unical Metropolitan Schools; 2011.

84. Locato MFR. Tongue strength and swallowing pattern in adults with obstructive sleep apnea [Portuguese] [Monograph]. Ribeirão Preto: Medical School of Ribeirão Preto, University of São Paulo; 2011.

85. Zancanella E, Vallenza JS, Gonzaga Neto OJ, Machado MAC, Prado GF. Obstructive sleep apnea syndrome. In: HBF, Carvalho JC. Translating and cultural adaptation to Brazilian Portuguese of the quality of life questionnaire (SAQLI) [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

86. Zancanella E, Valbuza JS, Gonzaga Neto OJ, Machado MAC, Prado GF. Obstructive sleep apnea syndrome [Portuguese] [Thesis]. São Paulo: Medical School of São Paulo, University of São Paulo; 2008.

87. Fonseca I, Almeida C, Mansur A. Otorhinolaryngologists’ knowledge about speech-language pathology in snoring [Portuguese] [Monograph]. São Paulo: Center for Specialization in Clinical Speech-Language and Hearing Sciences; 2009.

88. Raposo JT. Sleep bruxism in oromandibular children 8 to 11 years of age: an association study [Portuguese] [Monograph]. Olinda: Olinda Higher Education Foundation; 2008.

89. Bertolini MM. Duran Von Arx J. Multifunction System (MFS) - advances in the treatment of OSAHS. In: Reimão R. Sleep medicine: neurosciences, evolutions and challenges. 1a ed. São Paulo: APM; 2007. p. 92-4 [Portuguese].

90. Bertolini MM. Duran Von Arx J. Oral respiratory and obstructive sleep apnea-hypopnea syndrome: the role of prevention and early treatment. In: Reimão R. Sleep medicine: neurosciences, evolutions and challenges. 1a ed. São Paulo: APM; 2007. p. 98-100 [Portuguese].

91. Bertolini MM. Roncopathy and OSAHS - phonosurgical rehabilitation of the hyoid and dilator muscles. In: Reimão R. Sleep medicine: neurosciences, evolutions and challenges. 1a ed. São Paulo: APM; 2007. p. 89-91 [Portuguese].

92. Borges LRA, Vieira GS, Giuberti RF. Relationship between myofunctional orofacial disorders and snoring in overweight patients [Portuguese] [Monograph]. São Paulo: Center for Specialization in Clinical Speech-Language and Hearing Sciences; 2006.

93. Pitta DBS. Evaluation of the efficacy of speech-language intervention - myofunctional therapy - in snoring patients with and without obstructive sleep apnea syndrome [Portuguese] [Dissertation]. Brasilia: Faculty of Medicine of the University of Brasilia (UnB); 2005.

94. Diasfèlia GLA. Characterization of snoring in individuals with and without obstructive sleep apnea hypopnea syndrome [Portuguese] [Monograph]. São Paulo: Center for Voice Studies (CEV); 2003.

95. Kayamori, F. The multiple clinical faces of Sleep Apnea: Obstructive Sleep Apnea Phenotypes and Implications in treatment [Portuguese]. In: 17th Paulista Congress of Pulmonology and Tisiology; 2017 Nov 15-18; São Paulo, SP, Brazil.

96. Bianchini EMG. Speech language and hearing sciences parameters and perspectives for the rehabilitation of sleep disorders [Portuguese]. In: 16th Brazilian Congress of the Brazilian Society of Neuropsychology; 2017 Nov 17-18; São Paulo, SP, Brazil.

97. Stefenon AC. Effects of Speech Therapy on Snoring [Portuguese] [Monograph]. São Paulo: Institute of Advanced Hearing Studies Momensohn Santos; 2013.

98. Alvim EFM. Evaluation and comparison of language and pulsoLOGY in individuals with and without obstructive sleep apnea [Portuguese] [Monograph - Specialization in Post-Graduation Lato Sensu in Acupuncture]. São Paulo: Escola Paulista de Ensino Superior; 2011.

99. Martins PB. Myofunctional orofacial efficacy in the treatment of severe obstructive sleep apnea syndrome [Portuguese] [Monograph]. Porto Alegre: Methodist University Center (IPA); 2011.

100. Bianchini EMG. Speech language and hearing sciences parameters and perspectives for the rehabilitation of sleep disorders [Portuguese]. In: 16th Brazilian Congress of the Brazilian Society of Neuropsychology; 2017 Nov 17-18; São Paulo, SP, Brazil.

101. Stefenon AC. Effects of Speech Therapy on Snoring [Portuguese] [Monograph]. São Paulo: Institute of Advanced Hearing Studies Momensohn Santos; 2013.

102. Alvim EFM. Evaluation and comparison of language and pulsoLOGY in individuals with and without obstructive sleep apnea [Portuguese] [Monograph - Specialization in Post-Graduation Lato Sensu in Acupuncture]. São Paulo: Escola Paulista de Ensino Superior; 2011.

103. Alvim EFM. Evaluation and comparison of language and pulsoLOGY in individuals with and without obstructive sleep apnea [Portuguese] [Monograph - Specialization in Post-Graduation Lato Sensu in Acupuncture]. São Paulo: Escola Paulista de Ensino Superior; 2011.

104. Bertolini MM. Speech therapy treatment in OSA with snoring in Angle Class III patient - clinical case presentation [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

105. Bertolini MM. Speech therapy treatment in OSA with snoring in a patient submitted to orthognathic surgery - clinical case presentation [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

106. Bertolini MM. Speech therapy treatment in OSA with snoring in a patient submitted to orthognathic surgery - clinical case presentation [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

107. Bertolini MM. Speech therapy treatment in OSA with snoring in a patient submitted to orthognathic surgery - clinical case presentation [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

108. Bertolini MM. Speech therapy treatment in OSA with snoring in a patient submitted to orthognathic surgery - clinical case presentation [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

109. Bertolini MM. Speech therapy treatment in OSA with snoring in a patient submitted to orthognathic surgery - clinical case presentation [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.
110. Bianchini EMG. In addition to CPAP: alternatives for the treatment of sleep apnea - Which is the ideal patient for myofunctional therapy [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

111. Sales PM, GRB. Impact of myofunctional therapy on CPAP adherence [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

112. Corrêa CC. My child snored: functional rehabilitation of nasal breathing [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

113. Teixeira AJ, V. Reviewing the implications of intra-oral apparatus: Myofunctional aspects in the AIO candidate [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

114. Kayamori F. Sleep Apnea Phenotypes: Clinical [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

115. Cacciari ABL. Speech language and hearing sciences procedure in CPAP adherence in the elderly: a case report [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

116. Diáfera G. Speech language and hearing sciences therapy in the different approaches to OSA treatment [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

117. Diáfera G, Bianchini EMG. Update on the treatment of sleep apnea beyond CPAP: with Myofunctional Therapy [Portuguese]. In: Proceedings of the 17th Brazilian Congress of Sleep; 2017 Nov 1-4; Joinville, SC, Brazil.

118. Kayamori F, Bianchini EMG. Effectiveness of orofacial myofunctional therapy in obstructive sleep apnea in adults: systematic review. In: Proceedings of the 14th World Sleep Congress; 2017 Oct 7-11; Prague, Czech Republic.

119. Roepke L, Antunes L, Corrêa CDC, Weber S. Effects of physical activity on quality of life and sleep quality in CPAP users. In: Proceedings of the 14th World Sleep Congress; 2017 Oct 7-11; Prague, Czech Republic.

120. Rabelo FAW, Thuler E, Kayamori F, Junior VDS, Bianchini EMG. Electromyography analyses during DISE: applicability in hypoglossal nerve stimulation. In: Proceedings of the 14th World Sleep Congress; 2017 Oct 7-11; Prague, Czech Republic.

121. Corrêa CDC, Abramiades DVM, Maximino LP, Weber SAT. Syntax consciousness and obstructive sleep apnea. In: Proceedings of the 14th World Sleep Congress; 2017 Oct 7-11; Prague, Czech Republic.

122. Corrêa CDC, Campos LD, Weber SAT. Sleep awareness week 2017: actions of health promotion in the interior of São Paulo state. In: Proceedings of the 14th World Sleep Congress; 2017 Oct 7-11; Prague, Czech Republic.

123. Bianchini EMG. Myofunctional therapy for adult snoring and OSA: Changes in tongue fat and airway in a RCT. In: Proceedings of the 14th World Sleep Congress; 2017 Oct 7-11; Prague, Czech Republic.

124. Bianchini EMG. Pathways to update standards of care: How myofunctional therapy works in OSA. In: Proceedings of the 14th World Sleep Congress; 2017 Oct 7-11; Prague, Czech Republic.

125. Maia MCG, Benevides SD. Comparative study of the conservative and surgical treatments of obstructive sleep apnea [Portuguese]. In: Proceedings of the 25th Brazilian Congress of Sleep Language and Hearing Sciences; 2017 Sep 12-15; Salvador, BA, Brazil.

126. Alencar PBA, Ribeiro DD, Santos ACM. Effectiveness of orofacial myofunctional exercises in the treatment of snoring and sleep apnea: a case study [Portuguese]. In: Proceedings of the 25th Brazilian Congress of Speech Language and Hearing Sciences; 2017 Sep 12-15; Salvador, BA, Brazil.

127. Kayamori F, Bianchini EMG. Effectiveness of orofacial myofunctional therapy in obstructive sleep apnea in adults: systematic review [Portuguese]. In: Proceedings of the 25th Brazilian Congress of Sleep Language and Hearing Sciences; 2017 Sep 12-15; Salvador, BA, Brazil.

128. Silva MS, Almeida ASG, Brendim PMF, Rodrigues FF, Mexfeldt ES. Findings of videoendoscopy of deglutition in obstructive sleep apnea syndrome: Case report [Portuguese]. In: Proceedings of the 25th Brazilian Congress of Speech Language and Hearing Sciences; 2017 Sep 12-15; Salvador, BA, Brazil.

129. Dornelas LMCS, Giachetti CM, Pinato I, Rossi NF. Language and aspects of premature children's sleep [Portuguese]. In: Proceedings of the 25th Brazilian Congress of Sleep Language and Hearing Sciences; 2017 Sep 12-15; Salvador, BA, Brazil.

130. Carmo MP, Coelho JS, Kayamori F, Palladino RRB, Bianchini EMG. Obesidade: risk factor for obstructive sleep apnea [Portuguese]. In: Proceedings of the 25th Brazilian Congress of Sleep Language and Hearing Sciences; 2017 Sep 12-15; Salvador, BA, Brazil.
207. Corrêa CC, Maximino LP, Silke ATW. Production of brazilian speech therapist in sleep disorders area [Portuguese]. In: Proceedings of the Meeting of Orofacial Motricity; 2016 Jun 3-4; Bauru, SP, Brazil.

208. Corrêa CC, Cavalheiro MG, Maximino LP. Relationship between respiratory symptoms and nasalance of talk in young adults with cleft lip palate flare [Portuguese]. In: Proceedings of the Meeting of Orofacial Motricity; 2016 Jun 3-4; Bauru, SP, Brazil.

209. Salgueiro AGNS, Bighetti EJB, Campos LD, Trinity IEK. Self-reported oro-facial myofunctional aspects of freshmen undergraduate students in Speech Language Pathology and Audiology at UFSC [Portuguese]. In: Proceedings of the Meeting of Orofacial Motricity; 2016 Jun 3-4; Bauru, SP, Brazil.

210. Kawayne FE. Obstructive sleep apnea: interdisciplinary approach [Portuguese]. In: Proceedings of the Meeting of Orofacial Motricity; 2016 Jun 3-4; Bauru, SP, Brazil.

211. Guimarães KCC. Interdisciplinary symposium: “Treatment of obstructive sleep apnea: beyond CPAP” with the lecture “Myofunctional exercises?” In: 15th Brazilian Congress of Sleep; 2015 Oct 28-31; Porto de Galinhas, PE, Brazil.

212. Rocha JTT, Vitortino PA, Melo ACC, Climaco DCS, Secundo IV, Gomes AOC, et al. Correlation between degree of daytime sleepiness and nasal volume in OSA patients: a pilot study [Portuguese]. In: 24th Brazilian Congress of Speech Language and Hearing Sciences; 2015 Oct 14-16; Salvador, BA, Brazil.

213. Silva R, Duferia G, Bontempo S. Orofacial myofunctional therapy in the quality of life of women with obstructive sleep apnea syndrome [Portuguese]. In: 24th Brazilian Congress of Speech Language and Hearing Sciences; 2015 Oct 14-16; Salvador, BA, Brazil.

214. Jesus CL, Sacaloski M, Hitso SF. Snoring and quality of life in young adults [Portuguese]. In: 24th Brazilian Congress of Speech Language and Hearing Sciences; 2015 Oct 14-16; Salvador, BA, Brazil.

215. Andrade RA, Carmin MD, Oliveira ZSB. Speech-language pathology in snoring: a case report [Portuguese]. In: 24th Brazilian Congress of Speech Language and Hearing Sciences; 2015 Oct 14-16; Salvador, BA, Brazil.

216. Tessitore A. Interdepartmental symposium 1: the choice of exercises in orofacial myofunctional disorders: snoring, apnea and facial paralaxis [Portuguese]. In: 24th Brazilian Congress of Speech Language and Hearing Sciences; 2015 Oct 14-16; Salvador, BA, Brazil.

217. Bianchini EMG. Interdepartmental symposium 2: obstructive sleep apnea, oro-facial motricity and dysphagia: What is there in common? Orofacial Motricity [Portuguese]. In: 24th Brazilian Congress of Speech Language and Hearing Sciences; 2015 Oct 14-16; Salvador, BA, Brazil.

218. Corrêa CC, José MR, Andrade EC, Feniman MR, Berretin-Felix G, Maximino LP. Breathing and Sleep Quality in Children. In: Proceedings of the 44th International Association of Orofacial Myology Congress; 2015 Oct 14-16; Lake Buena Vista, FL, USA.

219. Bianchini EMG. Challenges of interdisciplinarity in OSA, in TMD and in orthognathic surgery rehabilitation. In: AAMS 1st Congress; 2015 Sep 9-13; Los Angeles, CA, USA.

220. Bianchini EMG. Sleep-disordered breathing and myofunctional therapy: where do we go from here? In: AAMS 1st Congress; 2015 Sep 9-13; Los Angeles, CA, USA.

221. Lanrho ICR, Silva APR, Bertozzo MC, Pecino MTFR, Corrêa CC, Senis RCS, Blasca WQ. Cancer and Obstructive sleep apnea [Portuguese]. In: Proceedings of the 22th Speech language and hearing sciences Congress of Bauru; 2015 Aug 26-19; Bauru, SP, Brazil.

222. Corrêa CC, Cavalheiro MG, Maximino LP. Deleretial and delayed habits and sickness related to sleep in children with language change [Portuguese]. In: Proceedings of the 22th Speech language and hearing sciences Congress of Bauru; 2015 Aug 26-19; Bauru, SP, Brazil.

223. Corrêa CC, Weber SAT, Maximino LP. Level of evidence and area of speech therapy in scientific publication on obstructive sleep apnea [Portuguese]. In: Proceedings of the 22th Speech language and hearing sciences Congress of Bauru; 2015 Aug 26-19; Bauru, SP, Brazil.

224. Corrêa CC, Valle LG. Speech and breathing: a preliminary study of obstructive sleep apnea and snoring [Portuguese]. Presented in the Event in commemoration of the 8th Speech-Language Pathologist’s Day “Sleep-language pathology - a promising area”; 2015 Oct 14-16;Recife, PE, Brazil.

225. Kayamori F, Ieto V, Montes MI, Wang S, Gregório MG, Daniel MM, et al. Effects of myofunctional therapy in patients with primary snoring and obstructive sleep apnea on upper airway anatomy by MRL. In: 14th International Symposium on Sleep and Breathing; 2015 Oct 25-28; Porto de Galinhas, PE, Brazil.

226. Jesus CL, Sacaloski M, Hitso SF. Snoring and quality of life in young adults [Portuguese]. In: Proceedings of the 4th Brazilian Congress of Electromyography and Kinesiology; Apr 14-16;Ribeirão Preto, SP, Brazil.

227. Ieto V. Effects of oropharyngeal exercises on snoring and OSA [Portuguese]. In: Proceedings of the 7th International Symposium - Surgery Sleep and Breathing; 2016 Apr 15-16; São Paulo, SP, Brazil.

228. Souza VCA, Vilhena T. A transdisciplinary approach to OSAS in the speech language and hearing sciences clinic: a case study [Portuguese]. In: Proceedings of the 15th Brazilian Congress of Sleep; 2015 Oct 28-31; Porto de Galinhas, PE, Brazil.

229. Silva R, Diaféria G, Bommarito S. Orofacial myofunctional therapy in obstructive sleep apnea syndrome: an integrative review [Portuguese]. In: Proceedings of the 22th Speech language and hearing sciences Congress of Bauru; 2015 Aug 26-19; Bauru, SP, Brazil.

230. Bianchini EMG. Sleep Disorders: myofunctional approach and orofacial structural relations [Spanish]. In: 1st American Encounter and 2nd Ibero-American Meeting of Orofacial Myology; 2015 Jun 26-27; Lima, Peru.

231. Bianchini EMG. Snoring and sleep apnea: a multifunctional approach. In: Proceedings of the 7th Brazilian Meeting of Speech Language and Hearing Sciences; 2015 Oct 14-16; Salvador, BA, Brazil.

232. Andreato ML, Medeiros MNL, Oliveira DN, Yamashita RP, Trindade IIEK, Fukushiro AP. Has cleft type an effect on pharyngeal flap outcomes? [Portuguese]. In: Proceedings of the 8th Brazilian Meeting of Orofacial Motricity; 2015 Mar 15-16; João Pessoa, PB, Brazil.

233. Guyamarcas KG, Bianchini EMG. “Update on Sleep-disordered breathing” with five subsets, including “Speech language and hearing sciences and OSA - disseminating the evidence in the evaluation and clinical practice” [Portuguese]. In: 15th Brazilian Congress of Sleep; 2015 Oct 28-31; Porto de Galinhas, PE, Brazil.
306. Diaféria GLA, Gomes M, Behlau MS. Characterization of snoring in individuals with and without obstructive sleep apnea-hypopnea syndrome [Portuguese]. In: Proceedings of the XII Brazilian Congress of Speech Language and Hearing Sciences; 2004 Oct 6-9; Foz do Iguaçu, PR, Brazil.

307. Diaféria GLA. Characterization of snoring in people with Obstructive Sleep Apnea Syndrome. In: Proceedings of the 33rd Annual Symposium: Care of the Professional Voice; 2004 Jun 4; Philadelphia, PA, USA.

308. Souza GB, Jorge PF, Galina DS, Radi MM, Trawitzki LVL, Mello Filho FV, et al. Speech-language pathology attendance in a case of obstructive sleep apnea submitted to orthognathic surgery [Portuguese]. In: Proceedings of the IX Journey of Speech language and hearing sciences from UNESP; 2003 Ago 20-23; Marília, SP, Brazil.

309. Behlau M. Characterization of snoring in individuals with and without obstructive sleep apnea-hypopnea syndrome [Portuguese]. In: Proceedings of the IX Brazilian Congress of Speech-Language Pathology, XI Brazilian Congress of Speech-Language Pathology and I Speech-Language Pathology Meeting of Ceará; 2003 Oct 1-4; Fortaleza, CE, Brazil.

310. Rosario JB, Valbuza JS, Valcante RVA. Speech-language pathology intervention in the snoring patient [Portuguese]. In: Proceedings of the IX Brazilian Congress of Sleep; 2003 Nov 5-8; Vitória, ES, Brazil.

311. Guimarães KCC, Protetti HM. Phononuadiological work at obstructive sleep apnea. In: Proceedings of the APSS 17th Annual Meeting; 2003 Jun 3-8; Penticton, BC, Canada.

312. Guimarães KCC. Speech-language pathology work in patients who snore [Portuguese]. In: Proceedings of the VIII Brazilian Congress of Sleep; 2001 Nov 14-17; Salvador, BA, Brazil.

313. ASHA. 2007. Scope of Practice in Speech-Language Pathology. ASHA; 2007 [cited 2018 May 28]. Available from: https://www.asha.org/policy/SP2007-00283/

314. Chehuen Neto JA, Rocha FRS, Portela WS, Silva VS, Guerra MCS, Sirmarco MT. Perception of Evidence-Based Medicine applicability. HU Rev. 2008;34(1):33-9.

315. Medrado CS, Nunes Sobrinho FP. Evidence-based practice (EBP) in speech language pathology and audiology. Distorb Comun. 2016;28(2):341-7.

316. Campanatti-Ostiz H, Andrade CRF. Periódicos nacionais em Fonoaudiologia: caracterização de indicador de impacto. Pró-Fono. 2006;18(1):99-110.

317. Camacho M, Cerral V, Abdullatif J, Zaghi S, Ruoff CM, Capasso R, et al. Myofunctional Therapy to Treat Obstructive Sleep Apnea: A Systematic Review and Meta-Analysis. Sleep. 2015;38(5):669-75.

318. Cartwright RD, Guilleminault C. Defending sleepwalkers with science and an illustrative case. J Clin Sleep Med. 2013;9(7):721-6.

319. Mahowald MW, Cramer-Bornemann M, Hannon H, Janjua T, Ullevig C, Patterson A. Did this father's sleep apnea contribute to the inadvertent death of his infant son? Sleep Med. 2002;3(4):369-70.