

Esthetic logopedics intervention in Brazil: literature review

Intervenções em Fonoaudiologia estética no Brasil: revisão de literatura

Maria de Fátima Lopes Valente¹, Vanessa Veis Ribeiro², Suzelaine Taize Stadler¹, Gilsane Raquel Czulniak¹, Maria Fernanda Bagarollo¹

ABSTRACT

Purpose: To identify and to analyze researches about facial esthetic logopedics in Brazil. **Research strategy:** Literature review was performed in LILACS, MEDLINE and SciELO database. **Selection criteria:** Full studies between 2001 and 2015 were included. **Results:** Six studies published between 2002 and 2012 were found in one scientific periodic, which 4 were published in the last 5 years. Most studies had as sample women (n=4; 66.67%) in middle age (n=4; 66.67%), and sessions once a week (n=3; 50%) using isometric exercises (n=3; 50%). **Conclusion:** Publication about esthetic logopedics is increasing, but the available studies have low methodologic quality, restrict number of participants, heterogeneity, and incomplete procedures description. Therefore, the lack of high level evidence data does not allow the effectiveness analysis of the procedures and applicability of clinical findings.

Keywords: Exercise therapy; Esthetics; Physiological phenomena; Muscle, Skeletal; Physiology

RESUMO

Objetivo: Identificar e analisar os estudos sobre intervenções fonoaudiológicas em estética facial no Brasil. **Estratégia de pesquisa:** Realizou-se um levantamento bibliográfico nas bases de dados LILACS, MEDLINE e SciELO. **Critérios de seleção:** Foram incluídos os estudos completos, com publicação entre 2001 e 2015. **Resultados:** Foram encontrados 6 artigos, publicados entre 2002 e 2012, em um único periódico científico, sendo que 4 estudos foram publicados nos últimos 5 anos. A maioria realizou intervenções em mulheres (n=4; 66,67%) na meia-idade (n=4; 66,67%), uma vez por semana (n=3; 50%), com exercícios isométricos (n=3; 50%). **Conclusão:** Houve um aumento no número de publicações sobre o tema, porém, os estudos disponíveis têm baixa qualidade metodológica, número restrito de sujeitos analisados, heterogeneidade e descrição incompleta dos procedimentos. Assim, a falta de dados com alto nível de evidência científica não permite a análise da eficácia dos procedimentos e a aplicabilidade clínica dos achados.

Descritores: Terapia por exercício; Estética; Fenômenos fisiológicos; Músculo esquelético; Fisiologia

Study undertaken at the Speech Therapy Department, Universidade Estadual do Centro-Oeste – UNICENTRO – Irati (PR), Brazil.

(1) Universidade Estadual do Centro-Oeste – UNICENTRO – Irati (PR), Brazil.

(2) Universidade de São Paulo – USP – Bauru (SP), Brazil.

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Corresponding author: Suzelaine Taize Stadler. E-mail: fonoaudiologasuzelaine@hotmail.com

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INTRODUCTION

Esthetic needs are concern since the first civilizations⁽¹⁾, especially facial esthetic^(2,3). Face and neck concerns are related to being the body traits more admired by people⁽³⁾, and also to early showing aging signs in comparison to other body parts^(2,4). Therefore, it is natural seeking to promote and to keep facial esthetic⁽³⁾.

Aging first signs are related to several factors as genetics and environmental⁽⁵⁾. Some studies point out that face changes starts around the age of 30^(1,6) and are noticeable around the age of 40⁽¹⁾. But, the aging signs esthetic value is subjective, and varies according the ideal regard. Furthermore, facial esthetic is important social interaction factor, and any aging sign may be extremely important to some people⁽⁷⁾.

Facing this questions and needs, scientific studies are being developed in order to diminish the aging effects in facial esthetic. Within the fields studying esthetic and softening aging effects is Speech Language Pathology^(2,4,6).

Speech-language pathologist (SLP) acts in facial esthetic specifically in face and neck region^(1,4). The performance uses techniques seeking to adjust and maintain the function and muscles of oro-myo-functional complex which promotes semblance with defined contour and soften facial expressions, showing, in general, renewal⁽⁸⁾. So, SLP act in facial esthetic favors those who prefer natural, painless, and not-invasive esthetic methods, and prioritizes quality of life and beauty⁽⁹⁾.

However, there are few researches in scientific literature about SLP act in esthetics. The short publications may be justified by the field being just recently recognized by *Conselho Federal de Fonoaudiologia*⁽¹⁰⁾. Therefore, it is important to raise the scientific production in logopedics facial esthetic to trace the prospect of main publications features and the relevant factors to therapy success in order to improve clinic practice based on scientific evidence.

OBJECTIVE

To identify and to analyze researches about facial esthetic logopedics in Brazil.

RESEARCH STRATEGY

This literature review was promoted by the following question: "Which are the main characteristics of Brazilian studies in esthetic logopedics?"

Literature search was performed by two independent authors from different education institutes, between 2015 December first and 2015 December Thirty first, using LILACS, MEDLINE and SciELO database and the following medical subject headings: ((Facial Muscles) or (Facial Expression) or (Speech, Language and Hearing Sciences) AND (Esthetics)). The following filters were applied: full

articles available and publication between 2001 and 2015. The studies selected by the two authors were crossed and the ones without concordance were sent to a third judge that after analyzing the coherence of the article to the theme made the option to include or exclude it.

SELECTION CRITERIA

The following inclusion criteria were defined to select the studies: publication between 2001 and 2015; studies published in periodic; studies about the intervention procedure in facial esthetic logopedics. The exclusion criteria were: literature review articles; editor letters and reviews; interventions associated to surgery or drugs; interventions performed along to connected fields, as physiotherapy or esthetic and cosmetology; repeated study due to the overlap of database.

Searching and selecting the studies was made in four steps: 1) initial research for references in database by two independent judges; 2) to select references according to inclusion criteria by reading the title and the abstract by the two independent judges; 3) to cross the selected studies and analyzing the divergences by a third judge; 4) to apply the exclusion criteria by reading the full article by the third judge. The whole process of research and selection of studies up to the final database to analysis is represented in Figure 1.

DATA ANALYSIS

The six selected studies were analyzing using the Jadad Scale⁽¹¹⁾ in order to verify their quality. The Jadad Scale is the proposal to analyze clinical trials by three questions that evaluates the method rigor used to address the study, searching for verifying the quality of the results and the risk possibility to use them in developing systematic review and meta-analysis studies⁽¹¹⁾. Thus, according to the scale proposal⁽¹¹⁾, the following parameters were analyzed: randomizing, blinding, withdrawals and dropouts. To each of the three parameters was attributed the score 0 (absent or improper information) and 1 (present and proper information). Total scores were considered poor when lower than 2 points.

Furthermore, the national studies about esthetic logopedic were initially described by main features, and, after, categorized in three items in order to statistically analyze the frequency of each characteristic: national scientific production (year of publication, publication periodic, and addressed state); population (number of subjects in the sample, gender and age group); interventions (number and frequency of sessions, type of exercise and effectiveness). The age group of participants in the study samples were divided in: adults (19 through 44 years), middle-age (45 through 64 years), and elderly (65 through 79 years), according to the age groups available in Medical Subjects Headings.

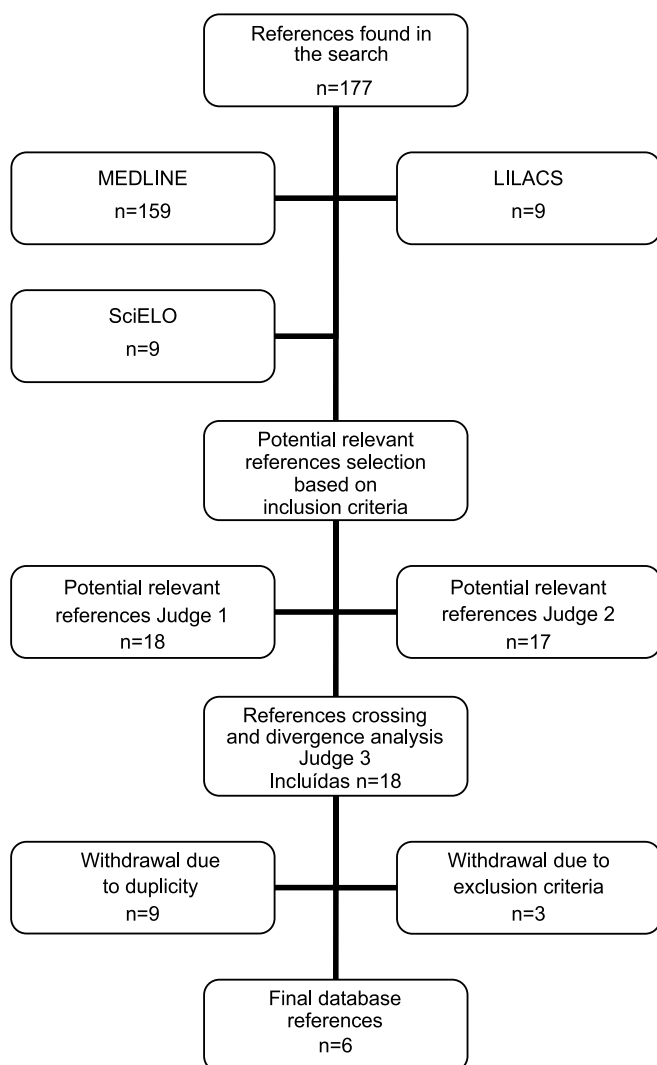


Figure 1. Search process and studies selection chart

RESULTS

The main characteristics of the 6 analyzed studies are described in Chart 1.

All the studies (n=6; 100%) included in this review were considered poor in the Jadad Scale⁽¹¹⁾ (Table 1).

The last five-year period had more publications (n=4; 66.67%), and most studies were produced in São Paulo state (n=3; 50%). In addition, all studies (n=6; 100%) were published in *Revista CEFAC* (Table 2).

Most national studies in esthetic logopedics analyzed from 1 to 5 subjects (n=3; 50%) females (n=4; 66.67%) adults and middle-age (n=4; 66.67%) (Table 3).

The majority of studies had 12 treatment sessions (n=2; 33.34%), once a week (n=3; 50%), using isometric exercises (n=3; 50%) that were effective (n=6; 100%) (Table 4).

DISCUSSION

The national publications studied showed low quality

of methods with poor findings generalization possibilities and applicability in clinic according to Jadad Scale⁽¹¹⁾. This unfavorable result may be related to the few number of publication^(12,13,14,15,16,17), even with more publications in the last five years^(12,13,14,15,16,17), and the most recent in 2012⁽¹⁷⁾, the total was only six national publications on the theme in the last fifteen years. This information shows that, despite the topicality of the subject⁽¹⁸⁾, it is still few explored in national literature.

About the publication periodic, all studies were published on *Revista CEFAC*^(12,13,14,15,16,17). This periodic has history feature in Speech Language and Hearing Science as the first periodic to release on-line free full articles⁽¹⁹⁾ in the field, facilitating the research, which may be the reason to hold the publications. In addition, the periodic broad scope that allowed the publication of case-report until 2015, method used in all studied papers in this literature review^(12,13,14,15,16,17), may contributed to the publication choice.

Regarding the geographic distribution, the São Paulo^(12,15,17) state had the larger number of publications in comparison to other states^(13,14,16). Probably this result is related to history of Speech Language and Hearing Sciences graduation course that start in 1960 decade in *Universidade de São Paulo* (1961) and *Pontifícia Universidade Católica de São Paulo* (1962). *Universidade de São Paulo* was the first one to have permission to graduate students with bachelor degree in 1977, before this year the students received technique degree⁽²⁰⁾. Besides, the southeast region of Brazil concentrates de larger number SLP graduation courses⁽²⁰⁾, especially in São Paulo state that has currently 17 registered courses at *Conselho Federal de Fonoaudiologia*⁽²¹⁾. This graduation courses are important spaces to academic production, starting researches and, therefore, publications. In addition, São Paulo state is considered one of the larger centers with more esthetic and restorative surgeries in the country⁽²²⁾.

The studied publications in this review were characterized as case-reports due to the small sample. According to Levels of Evidence from Oxford Centre for Evidence-based Medicine the clinical case-reports, as the one analyzed, have recommendation degree C and evidence level 4⁽²³⁾, which means insufficient evidence against or in favor of the procedure due to blinding, randomization or gold-standard control-group to compare the procedures⁽²⁴⁾. Furthermore, small samples do not allow statistical analysis in order to confirm the clinical findings which do not promotes consistency and reliability to universally apply the procedure, because the evidence credibility just may back up clinical inference when produced by closed and rigorous method, using a random and statistically calculated sample, offering few bias to the research⁽²⁵⁾. Only in this case it is possible to stablish relation between scientific findings and clinical practice, in a way the procedures are properly structured and conscious⁽²²⁾.

In addition, most studies used only adult and middle-age^(13,14,15,16,17) women^(12,14,15,17) as subjects. Only women

Chart 1. Analyzed studies characteristics

Autors	Title	Periodic	State	Sample	Gender	Year (aged group)	Session number	Session frequency	Type of exercises	Main results obtained	Effectiveness
Santos e Ferraz (2011) ⁽¹²⁾	Speech therapy performance in the facial aesthetics: case report	CEFAC	São Paulo state	1	Female	47 years old (middle-age)	8	Once a week	Isometric	Wrinkles and expression lines decrease, symmetry improvement of eyebrows, cheeks, eyes, eyelid tonus, filter and neck, and decrease in nostrils asymmetry	Yes
Paes, Toledo e Silva (2007) ⁽¹³⁾	Speech therapy and facial esthetic: cases studies	CEFAC	Pernambuco state	10	Both genders	33 to 63 years old (adults and middle-age)	16	Once a week	Do not mention exercise	Significant decrease in nasolabial groove to tragus projection in both sides, and balance between measures of nasolabial groove to tragus in right and left hemi-face	Yes
Silva, Vieira e Motta (2003) ⁽¹⁴⁾	Efficacy of two techniques of speech-language pathologists of facial esthetic in the orbicular oculi muscle: a pilot study	CEFAC	Minas Gerais state	4	Female	40 to 51 years old (adults and middle-age)	12	Daily	Isometric	Reduction of expression lines, but without difference between both techniques	Yes
Frazão e Manzi (2012) ⁽¹⁵⁾	Effectiveness of speech therapy intervention for mitigating facial aging	CEFAC	São Paulo state	3	Female	41 to 49 years old (adults and middle-age)	12	Once a week	Do not mention exercise	Softening age signs to all cases	Yes
Takacs, Valdrighi e Assencio-Ferreira (2012) ⁽¹⁶⁾	Speech language pathology and esthetics: together for the facial beauty	CEFAC	São Paulo state	8	Both genders	31 to 66 years old (adults, middle-age and elderly)	3 months	Daily	Isometric	Relieve and softness in lips region and expression lines softened	Yes
Arizola et al. (2012) ⁽¹⁷⁾	Face changes on patients after aesthetic speech therapy treatment in School-Practice of Speech Therapy	CEFAC	Rio Grande do Sul state	11	Female	40 to 50 years old (adults and middle-age)	10	Twice a week	Isometric, isotonic and isokinetic	Decrease in expression lines around eyes and lips, lip contour definition, shiny and lush skin	Yes

Table 1. Studies quality analysis using Jadad Scale

Study	Randomization description	Blinding description	Withdrawals and dropouts description	Total
Speech therapy performance in the facial aesthetics: case report	0	0	0	0*
Speech therapy and facial esthetic: cases studies	0	0	0	0*
Efficacy of two techniques of speech-language pathologists of facial esthetic in the orbicular oculi muscle: a pilot study	0	0	0	0*
Effectiveness of speech therapy intervention for mitigating facial aging	0	0	0	0*
Speech language pathology and esthetics: together for the facial beauty	0	0	0	0*
Face changes on patients after aesthetic speech therapy treatment in School-Practice of Speech Therapy	0	0	0	0*

*Jadad scale poor classification

Subtitle: 0 = absent or improper information; 1 = present and proper information

Table 2. Esthetic logopedics in Brazil frequency and characteristics of scientific production

Scientific production characteristics	n	%
Year		
2000 to 2004	1	16.67
2005 to 2009	1	16.67
2010 to 2014	4	66.67
Periodic		
<i>Revista CEFAC</i>	6	100.00
State		
São Paulo state	3	50.00
Minas Gerais state	1	16.67
Pernambuco state	1	16.67
Rio Grande do Sul state	1	16.67

Occurrence descriptive analysis

composing the sample is noticeable and may be justified to the different ways aging affects men and women⁽²⁶⁾. Especially to women, aging brings a lot of stereotypes reinforced by media⁽²⁷⁾ that gathers the beauty, healthy and success in the same speech, mainly to women⁽²⁷⁾. In this context, to women elderly social representation and their identity are defined by aging signs⁽²⁸⁾. As reported by literature the first signs of aging occur between the age of 30 and 40 and women tend to worry more about them^(5,28). But, knowing the differences in skin and muscles histology and physiology through the age groups⁽¹⁵⁾ it is believed to be necessary studies categorizing the sample according to age group. Therefore, there is a blank regarding the methods to assess the effectiveness of intervention in specific age groups.

Regarding treatment duration, two studies reported 12 treatment sessions^(14,15), once a week^(12,13,15), which agrees to facial esthetic SLP treatment described in the literature^(7,29).

Table 3. Esthetic logopedics in Brazil studied population characteristics

Studied population characteristics	n	%
Number of subjects in sample		
1 to 5	3	50.00
6 to 10	2	33.34
11 to 15	1	16.67
Gender		
Female	4	66.67
Male	0	0.00
Both genders	2	33.34
Age group		
Adult	0	0.00
Adult and middle age	4	66.67
Adult, middle age and elderly	1	16.67
Middle age	1	16.67
Middle age and elderly	0	0.00
Elderly	0	0.00

Occurrence descriptive analysis

However, it was observed little consistency in the time and frequency of treatment needed to obtain positive results in the logopedics esthetic procedures. In addition, the intervention procedure also varied: some studies used individual meetings per week^(12,15), or daily individual meetings⁽¹⁴⁾; others had group meetings per week with 15 minutes reserved to individual guidance⁽¹³⁾; in one study⁽¹⁶⁾ the exercises were guided to the patients and, after, performed at home for three months, without therapist monitoring; other study⁽¹⁷⁾ presented treatment twice a week performed by the authors. About performing the exercises at home, a study⁽¹⁷⁾ did not allow the patients to do the exercises at home looking for diminishing

Table 4. Esthetic logopedics in Brazil studied intervention characteristics

Intervention characteristics	n	%
Session number		
8	1	16.67
10	1	16.67
12	2	33.34
16	1	16.67
3 months (\pm 60)	1	16.67
Session frequency		
Once a week	3	50.00
Twice a week	1	16.67
Daily	2	33.34
Type of exercises		
Isometric	3	50.00
Isometric, isotonic, and isokinetic	1	16.67
Do not mention exercise	2	33.34
Effectiveness		
Yes	6	100.00
No	0	0.00

Occurrence descriptive analysis

wrongs performances. Three studies^(13,15,16) reported the request to do the exercises at home, because literature point out the effectiveness of this procedure^(1,30). The others studies^(12,14) did not had the information about this topic.

The predominant exercise type was isometric^(12,13,15,16) which contracts individual muscles or specific muscles groups while both muscles extremities are fixed and, therefore, avoid the length variation and increase tension and/or force⁽³⁰⁾. Isometric exercise was more used because the proved effectiveness in facial muscles in order to reduce muscle flaccidity wrinkles and expression lines⁽¹²⁾.

The studies are different regarding therapy method because each study used a different therapy method^(13,15,16,17), and only one study⁽¹²⁾ used the Functional Facial Renewal Protocol, closed method; two studies did not report the exercises or methods used^(13,14). The methods detail are important to reply the study and, considering the main purpose of literature is to seek for scientific evidence to back up clinical practice, this point was a poor aspect of national publications on esthetic logopedics which was also proven by the studies quality analysis.

The obtained results analyzed in this review described the effectiveness of the procedures^(12,13,14,15,16,17). Among the main results were: wrinkles and expression lines decrease; improvement of eyebrows, eyes and cheeks symmetry; improvement of eyelid, nasolabial filter and neck tonus, and decrease of nostrils asymmetry⁽¹²⁾; significant decrease in projection of nasolabial groove to tragus in both sides, and balance between the measures of nasolabial groove in right

and left hemi-face⁽¹³⁾; expression lines decrease in a study comparing two techniques, but without differences between them⁽¹⁴⁾; aging signs were softened to all cases with presentation of individual benefits of each one⁽¹⁵⁾; relieve and softness around lips and expression lines softened⁽¹⁶⁾; expression lines decrease around eyes and lips, lip contour definition, lush and shiny skin⁽¹⁷⁾.

Hence, it is still not possible to prove the effectiveness of facial esthetic logopedics, because the six studies, despite the satisfactory results, showed methodologic and quality high risk to bias which do not allow a conclusion to back up clinic decision. Scientific literature lack of support to procedures, age groups, time and frequency of treatment to achieve positive outcome shows the need to produce more studies about the theme and, specifically, random and blind clinical trials and cohort prospective studies with rigorous method details, long-term follow up and sample size that enables statistical analysis, findings generalization, and, therefore, the applicability of procedures in clinic.

CONCLUSION

The number of publications on the theme increased, but the available studies have low methodology quality, restrict number of participants, heterogeneity, and incomplete procedures description. There is lack of scientific high level evidence data, and so, the procedures effectiveness and clinical applicability analysis are not allowed.

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