

FACE CHANGES ON PATIENTS AFTER AESTHETIC SPEECH THERAPY TREATMENT IN SCHOOL-PRACTICE OF SPEECH THERAPY

Modificações faciais em clientes submetidos a tratamento estético fonoaudiológico da face em clínica-escola de fonoaudiologia

Hilda Gabriela Arantes de Arizola ⁽¹⁾, Silvana Maria Brescovici ⁽²⁾,
Susana Elena Delgado ⁽³⁾, Caroline Kurtz Ruschel ⁽⁴⁾

ABSTRACT

Purpose: to identify possible facial changes in patients undergoing aesthetic facial treatment at the Practice School of Speech Therapy and checking whether these changes were perceived by patients, other people and by audiologists, as well as checking their satisfaction as for the results. **Method:** the study included 11 women aged 40 to 50 years (average 44.5 ± 3.6 years). Exclusion criteria: women undergoing previous speech therapy treatment, aesthetic facial surgery, or neurological disorders. They were submitted to 10 therapy sessions, with isotonic and isometric exercises. Furthermore, they answered a questionnaire about perceived changes. The “before and after” pictures were analyzed by speech-language pathologist being specialists in oral motricity who identified the presence or absence of changes. In a 100mm visual analogue scale, the satisfaction score on the facial appearance after and before treatment was flagged. **Results:** all patients (100%) have perceived facial changes: eye and lips wrinkles’ reduction as well as nasolabial furrow, more defined lips, youthful and shining skin, and mitigation of wrinkle expressions (90.91%). The others have referred the following changes (45.45%): reduction of undereyes’ shadows, youthful and shining skin. The specialists have not found agreement, although they have realized changes in greater or lesser degree in the majority of the variables analyzed. The average degree of facial appearance satisfaction increased from 46.18 to 82.09 ($p=0.05$). **Conclusion:** speech treatment has proportioned facial changes which were noted by the patients, by others and by the specialists. The patients have shown more satisfaction with their faces’ aesthetic aspects after the speech treatment.

KEYWORDS: Language, Speech and Hearing Science; Esthetics; Face

■ INTRODUCTION

The human face is extremely complex and, some says that it reflects the individual’s soul.

Sometimes, it reveals what it is not said by words or what the individuals don’t want to show. It expresses emotions that are fundamental. On the other hand, more than other parts of the body, the face shows early signs of aging².

The aesthetic aspect is important in individuals’ social interaction. The perceptions and ability to judge our self- image are linked do emotional issues, including the establishment of self-esteem, and cultural issues like social attractiveness. Self esteem is associated to the image people have themselves compared to a ideal one³.

So, being the face most valuable and representative segment of the human body, it is natural to focus efforts in promoting conservation of aesthetic

⁽¹⁾ Student of Speech and Hearing Science, Universidade Luterana do Brazil, Canoas, RS.

⁽²⁾ Speech therapist; Adjunct Professor of Speech Pathology, Universidade Luterana do Brazil – ULBRA, RS; Master of Medical Science, Universidade Federal do Rio Grande do Sul, UFRGS, Brazil.

⁽³⁾ Speech therapist; Adjunct Professor of Speech Pathology, Universidade Luterana doBrazil- ULBRA, RS; Master in Public Health, Universidade Luterana do Brazil- ULBRA

⁽⁴⁾ Speech therapist, Canoas, RS.

Conflict of interest: non-existent

and beauty. Currently, searching for aesthetic had led people to care much about their appearance, especially in the aging process, physiological mechanism which can not be avoided⁵.

Wrinkles arise due to the decrease of connective tissue function that promotes a deformity in the fat layers and degeneration of elastic fibers in the skin. The tissue oxygenation deficiency causes dehydration, contributing to wrinkles' formation. In addition, excess of facial expression, improperly use of some muscle groups⁷, cumulative effects of exposure to sunlight and other environmental factors⁸ contributes to premature aging of the face.

The orofacial mobility within the speech pathology has contributed to facial aesthetics increasingly assisting the process of smoothing out wrinkles through exercises and massages on the muscles face⁹.

Researchers⁸ observed that after speech therapy there was a decrease in the nasolabial sulcus, dark eyelids, cheeks flatness, wrinkles under eyes; and was also observed face rested, relaxed and serene; more defined lips with change in posture.

Authors¹⁰ described minimization of forehead wrinkles, correction of eyebrow position, minimization of eyes outers corners, attenuation of dark eyelids and of the nasolabial sulcus; labial occlusion more effective, better lips definition and minimization of periorbicular wrinkles in a volunteer aged 48 years old, after an aesthetic face speech treatment program.

Taking into account that the facelift is a growing segment in the language and hearing science speech and that little research has been published in the area, it is necessary to deeply investigate the possible changes that occur in individuals aesthetically treated in order to provide subsidies for a work which, in fact, lead to a rebalancing of the stomatognathic function with aesthetic impact and achieve the patient satisfaction.

This research aims to generally identify possible changes in patient face that are undergoing facial cosmetic treatment in the speech therapy clinical school verifying if these changes are perceived by the patient, others and speech specialists and trying to prove the degree satisfaction of the patient.

■ METHOD

This descriptive and comparative study was arranged in cases and included 11 women, aged between 40 and 50 years old, which have searched for face aesthetic treatment at the speech clinical school, Rio Grande do Sul, in the period from 12/2009 to 02/2010. All participants were informed about the protocol and objective of the study, and voluntarily consent to participate.

It was excluded all women who underwent plastic surgery, speech treatment and that presented neurological disorders.

The women were interviewed (figure 1) and evaluated through clinical observation and muscular palpation (figure 2). All were photographed before and after treatment, standing against the wall, with her hair up, no earrings, keeping a distance of 50 cm from subjects with the Nikon D80, with no zoom and no flash. Photographs were taken at rest position, front and profile, right and left.

For facial cosmetic speech therapy was developed and applied a protocol for the aesthetic facial exercise (dynamic and static exercises), based on other authors, directed to the forehead, double chin, eyes, cheek and lips, besides skin cleaning with gauze soaked in water and facial muscular manipulation release and stretching of the muscles face, which were performed by all patients. (figure 3)

The protocol exercise was applied twice a week by the researcher supervision, during 5 weeks. To avoid the methodological bias by inserting variables of difficult control, patients were requested not to do the exercises at home.

To evaluate the effectiveness of the treatment a questionnaire was conducted which asked about the changes perceived by the patients and third parties (figure 4). Volunteers should tick yes or no to each item that questioned the occurrence of changes after treatment and the sensation felt after immediately after the exercises. They also were asked whether people in general perceived and reported facial changes after treatment. The measurement of satisfaction before and after speech therapy was conducted by marking on a visual analog scale of 100 mm (figure 5).

1. Research n: _____ 2. Name: _____ 3. Birth date: ___ / ___ / ____ 4. Age: _____ 5. Gender: (1) male. (2) female 6. Occupation: _____ 7. Seeking reason: _____	Reaser _____ Datbirt: ___ / ___ / ___ Gender _____ Ocup: _____ Seekreas: _____
8. Diseases: (1) yes (2) no _____ 9. Medications: (1) yes (2) no _____ 10. Hormonal problems: (1) yes (2) no _____ 11. Temporalmandibular joint pain: (1) yes (2) no 12. Column problem: (1) yes (2) no	Diseas: _____ Med: _____ Horm: _____ ATM: _____ Column: _____
13. Smooking : (1) yes (2) no Freq: _____ 14. Alcoholism: (1) yes (2) no Freq: _____ Qty: _____ 15. Onychophagya: (1) no (2) Frontal (3) D (4) E (5) Bilateral 16. Bruxism: (1) yes (2) no	Tabag: _____ Ethyl: _____ Onic: _____ Brux: _____
17. Food consistency: (1) soft (2) hard (3) no prefer. 18. Unilateral mastication: (1) não (2) D (3) E 19. Swallowing problems: (1) yes (2) no 20. Chewing: (1) yes (2) no 21. Hydratation: _____	Consal: _____ Masunl: _____ Pdegl: _____ Pmast: _____ Hydrat: _____
22. Sleep aside: (1) no (2) +D (3) +E 23. Prone position: (1) no (2) +D (3) +E 24. Good quality sleeping: (1) yes (2) no	Laddor: _____ Bruçdor: _____ Quason: _____
25. Sun exposure: (1) yes (2) no Freq: _____ 26. Sunscreen use : (1) yes (2) no Fator: _____ 27. Tanning: (1) yes (2) no Time: _____	Expsol: _____ Filtro: _____ Art: _____
28. Repetitive facial expression: (1) yes (2) no 29. Facial tension: (1) yes (2) no 30. Cream use: (1) yes (2) no 31. Filling: (1) yes (2) no 32. Peeling: (1) yes (2) no 33. Botulinum toxin (1) yes (2) no 34. Plastic surgery: (1) yes (2) no 35. Speech aesthetic treatment: (1) yes (2) no Interview date ___ / ___ / ___ Phone number: _____	Expres: _____ Tenfac: _____ Creme: _____ Preenc: _____ Peelg: _____ Botox: _____ Cirpl: _____ Ttton: _____

Figure 1 – Interview

1. EXAM

<p>Skin 1. Biotype 2. Condition 3. Phototype: Fitzpatrick classification</p>	<p>(1) alípica (2) lipid (3) mixed (4) normal (1) edema (2) dehydrated (3) photoaged (4) flaccid (5) sensitive (6) unchanged (1) I (2) II (3) III (4) IV (5) V (6) VI</p>	<p>Biot:____ Cond:____ Fotot:____</p>
<p>Face 4. Shape 5. Third measure</p>	<p>(1) symmetric (2) assymmetric (1) square (2) rectangular (3) triangular (4) hexagonal (5) round (6) oval Superior:_____mm Middle _____mm Lower _____mm</p>	<p>Fasim: _____ Shape:_____ Sup:_____ Mid:_____ low:_____</p>
<p>6. Forehead: 7. Glabella with wrinkles 8. Measure up to the apex of the eyebrow until the hair implant</p>	<p>(1) large (2) close (3) asymmetric (4) with horizontal marks (5) no changes (1) yes (2) no R_____mm L _____mm</p>	<p>foreh:_____ Rudgl:_____ Apcabd:_____ Apcabe:____</p>
<p>9. Eyes: 10. Wrinkles on the R edge 11. Wrinkles on the L edge</p>	<p>(1) Symmetric (2) eyelid bags (3) ptosis (4) eyebrow flatness (5) asymmetric (1) yes (2) no (1) yes (2) não</p>	<p>eye:_____ Ruold_____ Ruole:_____</p>
<p>Lips: 12. Position 13. Upper lip 14. Superior covers the upper incisors 15 Lower lip 16. Upper Lips X Lower 17. Upper lip R X L 18. Lower Lip R X L 19 Wrinkles around the lips 20. Measurement of ext eye corn until the labial commissure</p>	<p>(1) occluded (2) half open (3) open (4) stress occlusion (1) normal (2) thin (3) thick (4) eversion (1) nothing (2) half (3) 2/3 (4) all (1) nothing (2) thin (3) thick (4) eversion (1) symmetry (2) assymetry (1) symmetry (2) assymetry (1) symmetry (2) assymetry (1) yes (2) no R_____mm L_____mm</p>	<p>Post:_____ Uppel:_____ Cobsup:_____ Inf:_____ Supinf:_____ Supde:_____ Low:_____ Rugboc:_____ Olbod:_____ Olboe:_____</p>
<p>Cheeks 21. Symmetry 22. Internal marks 23. Higher right 24. Right with the major volume 25. Right tone 26. Left tone 27. Measurements of the mouth commissure until the tragus</p>	<p>(1) yes (2) no (1) yes (2) no (1) yes (2) no (1) yes (2) no (1) Yes (2) hard (3) flatness (1) normal (2) hard (3) flatness R_____mm L_____mm</p>	<p>Simb:_____ Marcin:_____ Dalta:_____ Dvol:_____ Tonbd:_____ Tonbe:_____ Medd:_____ Mede:_____</p>
<p>28 Mental muscle 29. Tone 30. Compensation of the mentus inferior lip</p>	<p>(1) normal (2) R diverted (3) L diverted (1) normal (2) hard (3) flatness (1) normal (2) hard (3) flatness</p>	<p>Ment:_____ Tomen:_____ Compen:_____</p>

31. Tongue	(1) normal (2) large for the cavity (3) cracked (4) geographic	Lg:_____
32. Marks on the sides	(1) no (2) R (3) L	Marclat:_____
33. Marks on the body	(1) yes (2) no	Marcop:_____
34. Anterior posture	(1) yes (2) no	Poslg:_____
35. Tip	(1) high (2) low	Pont:_____
36. back	(1) high (2) low	Dors:_____
37. Frenulum	(1) normal (2) anterior (3) short	Frlg:_____
38. Symmetry	(1) yes (2) no what?_____	Simlg:_____
39. Hard palate	(1) Normal (2) Large (3) Low (4) Atretic (5) narrowed (6) high	Paldur: _____
40. Soft palate mobility	(1) good (2) bad	Mobpal:_____
Teeth		
41. Occlusion (Angle)	(1) normal (2) Class I (3) Class II () division (4) Class III	Ocl:_____
42. Bit	(1) normal (2) anterior opening (3) cross R (4) cross L (5) R posterior opening (6) L posterior opening (7) Top (8) Overbite Adapted? _____	Mord:_____
43. Overject	(1) yes (2) no	Sobr:_____
44. Edentulism	(1) yes (2) no	Eden:_____
45. Dental absence	(1) yes (2) no	Ausden:_____
46. Denture	(1) yes (2) no	Proden:_____
47. Regular hygiene of the mouth or denture	(1) yes (2) no	Hig:_____
Jaw		
48. Position	(1) normal (2) open (3) R shifted (4) L shifted	Posmd:_____
49. Lateralization	(1) no (2) symmetric (3) Better L (4) Better R	Latmd:_____
50. Protrusion	(1) yes (2) no (3) deviates from R (4) deviates from L	Protr:_____
51. Opening and closing	(1) normal (2) pain:_____ (3) noisy:_____ (4) deviates from R (5) deviates from L Max opening_____	Abfech:_____
		Abmáx:_____

2. ORAL FUNCTION (continued)

1. Breathing	(1) oral (2) oronasal (3) nasal		Resp:___
2. Solid chewing			
3. Open mouth	(1) yes (2) no		Abermas:___
4. Kneading	(1) yes (2) no		Amssmas:___
5. Exaggerated perioral moviments	(1) yes (2) no		Movper:___
6. Quick	(1) yes (2) no		Rapmas:___
7. Slow	(1) yes (2) no		Lenmas:___
8. Very little	(1) yes (2) no		Poumas:___
9. Very	(1) yes (2) no		Muimas:___
10. Pain	(1) yes (2) no		Dormas:___
11. Liquid aid	(1) yes (2) no		Liqmas:___
12. Side	(1) bilateral alternating (2) bilateral simultaneous (3) preferred R (4) preferred L (5) chronic D (6) chronic L		Ladmas:___
13. Liquid swallowing	(1) normal (2) tongue projection (3) periorbicular contraction (4) mentalis contraction (5) head moviment (6) inferior lip interposition (7) food remain	(8) noisy (9) open mouth (10)hard (11) gagging (12) pain (13) cought after	Degliq:___
14. Pasty swalloing	(1) normal (2) tongue projection (3) periorbicular contraction (4) Mentalis contraction (5) Head moviment (6) Inferior lip interposition (7) Food remain	(8) noisy (9) open mouth (10)hard (11) gagging (12) pain (13) cought after	Degpas:___
15. Solid swallowing	(1) normal (2) tongue projection (3) periorbicular contraction (4) Mentalis contraction (5) Head moviment (6) Lower lip interposition (7) Food remain	(8) noisy (9) open mouth hard (10) gagging (11) pain (12) caught after	Degsol:___
16. Speech	(1) normal (2) omission (3) substitution (4) distortion (5) imprecision		Speech:___

3. OTHER INFOMATIONS

1. Xerostomia	(1) yes	(2) no	Xer:___
2. Halitosis:	(1) yes	(2) no	Halit:___
3. Mucosa or tongue damage	(1) yes	(2) no	Damg:___
4. Gum bleeding	(1) yes	(2) no	Bleed:___
5. Toothache, gums or tongue pain	(1) yes	(2) no	Pain:___
6. Double chin	(1) yes	(2) no	chin:___
7. Face symmetry	(1) simmetry	(2) assimetry	Simfac:___

DOUBLE CHIN: (1) yes (2) no

Date:_____ Phone:_____

Figure 2 – Speeches aesthetic evaluation

I SKIN CLEANED WITH GAUZE SOAKED IN WATER AND THEN DRIED

II HANDLING OF FACIAL MUSCLE RELEASE

Patient in supine with hands outstretched along the body and eyes closed. The movement is circular and with low forefinger and thumb pressure to manipulate all muscles under the direction of muscles fiber.

III STRETCHING THE FACIAL MUSCLES

1. Lift eyebrows. Hold a few seconds. Relax.
2. Open the eyes and close them tightly. Back to natural position.
3. Pout with your lips open. Hold. Relax
4. Smile Broadly. Hold. Relax.
5. Inflate the cheeks. Hold. Relax
6. Put your lips to the right and left alternately. Relax
7. Put your head back, about 60 seconds, cross the jaw and the maxilla, open and close the jaw. Go back to the natural position
8. Push the hard palate with the tongue. Hold. Relax
9. Stretch the neck muscles, doing yes, no and maybe movements. Go back to the axis
10. Perform intraoral face lift in the masseter, risorius, zygomatic and orbicularis and lip inferior depressor

IV EXERCISE FOR THE AESTHETIC SPEECH TREATMENT

1 Forehead

Forehead softening – Raise your eyebrows as much as possible, for a few seconds, and slowly stop the movement. It can be done 20 times counting each time you raise your eyebrows.

For the supercillii corrugators- Pull your eyebrows toward the eyes, frowning as much as if you want to join them. Open your eyes tightly, as much as possible, also raising eyebrows. Make it 7 times (counting each time you frown).

For the procerus – Forehead relaxed, wrinkle your nose, pulling it upward to form deep line, lowering the eyebrows toward the nose bridge (5 time).

2 For the eyes

Lower eyelid – Close your eyes gently and slowly. Keep the upper eyelids closed and relaxed. Raise the lower eyelids, keeping facial muscles relaxed as possible. Hold this position for 5 seconds. Then slowly release the contraction leaving the lids return to normal position. Repeat three times.

Upper eyelid – Raise your eyebrows as much as possible and keep it that way. With raised eyebrows, lower eyelids halfway, covering part of the iris. At the moment you open your eyes, as much as possible, until the white of the eye appears above the iris. Repeat three times.

Crow's feet – Raise eyebrows and upper eyelids until you can see the white of eye above the iris. Slowly join the upper and the lower eyelids. It is important to move them simultaneously. At this time, very slowly, separate the eyelids (5 times counting each time the eyelids are separated)

3 For the cheekbones

To firm th upper cheekbones – Open your mouth slightly, open your nostrils looking into the mirror, wrinkling noose as much as you can, with the upper lip relaxed. At this point pull the lip down to until the nose goes back to normal (repeat 5 times counting each time you wrinkled the nose)

To reduce wrinkles between the nose and the corner of the mouth – Raise eyebrows and smile on your side with the right corner of the mouth. Hold this position. The therapist place the indicator in the face of the patient's right side up. The patient should raise the lower eyelid of the right eye to close it. Remain 10 seconds an then slowly return to normal position. Repeat on the left. Repeat five times counting each time clos the eye.

For the nasolabial sulcus – Smile with lips together, turning the corners of your mouth up. Continue pressing the lips to smile in the movement to separate the lips to smile without showing the teeth. Continue increasing the tension. At this point, keeping the teeth covered, you should make your mouth forming an O. Do it 3 times, counting each time you smile.

4 To the cheeks

To tone the cheeks – Make complete sucking movements. Wait a few moments and relax. Repeat 5 times.

To avoid double chins on the mouth corners – Put the front teeth on top, holding this position for 10 seconds. Then close the lips. At this point, slowly move the corners of the mouth to opening a smile. You should broaden the scope of the smile as much as possible without making the teeth appear. With the teeth together, bring the lips to an exaggerated kiss, making a big beak with a great force.

5 For the lips

Make an open beak, for 5 seconds and relax. Repeat 5 times.

6 For the Double chin

Put your head back and cross the jaw and the maxilla, go back to the natural position (10 times)

V- SECOND STEP- CONTRA-RESISTANCE EXERCISE

1. Ask the patient to raise an eyebrow. The therapist should hold it for a few seconds, as the patient exerts force in the opposite direction. Relax and repeat (5 times).

2. Lowering the eyebrow making a brave face. The therapist hold them and ask the patient to rise up, dropping them below. (5 times).

Raise the eyebrow and the therapist holding the corrugators supercillii, ask the patient to face angry. Drop and repeat.

3. The therapist holding the temples of the patient, forcing them out, ask the patient to wide his eyes and then take a shortsighted. Relax and repeat (3 times).

4. Hold up with your fingers the zygomatic muscles (cheeks) and ask the patient to blow for a few seconds. Drop and release (7 times).

5. Hold down with your fingers the zygomatic muscles (cheeks) and ask your patient to smile for a few seconds. Drop and repeat (7 times).

6. The therapist tries to push out the buccinators with a spatula. The patient must contract the cheeks against the teeth. Keeps your lips open beak. Drop and repeat (5 times).

Figure 3 – Speech aesthetic treatment exercise

1. Research n : _____		researn ____
2. Name _____		
3. Date birth : ____ / ____ / ____		Datbirt: ____
4. Age: _____ months		Gender _____
5. Gender : (1) Male. (2) Female.		Ocup: _____
6. Immediate sensations after exercise:	(1) welfare sensation (2) relaxation (3) any difference (4) other _____	Sensa: ____
Self perception changes after treatment		
7. Changes	(1) (2) minimum (3) some(4) many	Changes: ____
8. Reduction of nasolabial sulcus	(1) yes (2) no	Sulc: ____
9. Reduction of transverse forehead wrinkles	(1) yes (2) no	Wrink: ____
10. Reduction of wrinkles around the eyes	(1) yes (2) no	Eyes: ____
11. Reduction of wrinkles around the lips	(1) yes (2) no	Lips: ____
12. Reduction of eyelids	(1) yes (2) no	Eye: ____
13. Cheek changes	(1) yes (2) no	Boch: ____
14. Lips more defined	(1) yes (2) no	Labd: ____
15. Brightness and fresh skin	(1) yes (2) no	Bright: ____
16. Face less flatness	(1) yes (2) no	Flat: ____
17. Peaceful expression	(1) yes (2) no	Peac: ____
18. Face contour more defined	(1) yes (2) no	Cont: ____
19. Reduction of Double chin	(1) yes (2) no	Douchin: ____
20. Softening of face expressions	(1) yes (2) no	Marac: ____
Change perceived by others after treatment		
21. Changes	(1) yes (2) no	Changes: ____
22. Reduction of nasolabial sulcus	(1) yes (2) no	Sulc: ____
23. Reduction of transverse forehead wrinkles	(1) yes (2) no	Wrink: ____
24. Reduction of wrinkles around the eyes	(1) yes (2) no	Eyes: ____
25. Reduction of wrinkles around the lips	(1) yes (2) no	Lips: ____
26. Reduction of eyelids	(1) yes (2) no	Eye: ____
27. Cheek changes	(1) yes (2) no	Boch: ____
28. Lips more defined	(1) yes (2) no	Labd: ____
29. Brightness and fresh skin	(1) yes (2) no	Pele: ____
30. Face less flatness	(1) yes (2) no	Flac: ____
31. Peaceful expression	(1) yes (2) no	Seren: ____
32. Face contour more defined	(1) yes (2) no	Cont: ____
33. Reduction of Double chin	(1) yes (2) no	Papa: ____
34. Softening of face expressions	(1) yes (2) no	Marac: ____

Figure 4 – Subjective face evaluation

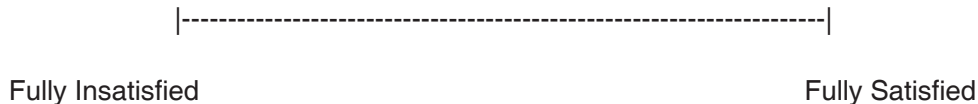


Figure 5 – Analogue escale-degree of satisfaction with face appearance

To complete the evaluation of the speech therapy results and the verification of facial changes, the pre and post speech therapy photos were compared and evaluated individually by three experts in oral mobility. They should point out, from his trial, the degree of changes in faces (figure 6). Pictures were presented in front, right and left profile, pre and post treatment side by side on each slide using the Microsoft Power Point, recorded on CD and available for evaluation. Fifteen items were analyzed (wrinkles around the eyes, wrinkles around the lips, transverse wrinkles of the forehead, glabellar wrinkles, softening of face expression , nasolabial sulcus, dark eyelids, cheek, lips, facial flatness, face

contour, facial symmetry; bright, crisp skin; face relaxation, double chin.

This study was approved by the ethics committee of the Universidade Luterana do Brasil, under number 2009-405H.

All data collected were stored in an excel database program. The data tabulation obtained was performed and presented in tables and then confronted in the literature. The results analyzed were performed with the statistical non-parametric Wilcoxon test, when the comparisons through scale were analyzed. It was measured the interobserver experts agreement using the kappa test. It was considered statistically significant when $p \leq 0.05$.

Evaluator:

Date:

Patient 1:

How many facial changes have you observed when comparing pre and post speech aesthetic treatment? Please mark an X at the number that better matches your response. Answer all items.					
	Great Changes	Changes not so great not so small	Little changes	Minimum changes	Unchanged
1. Wrinkles around the eyes	1	2	3	4	5
2. Wrinkles around the lips	1	2	3	4	5
3. Transverse forehead wrinkles	1	2	3	4	5
4. Glabellar wrinkles	1	2	3	4	5
5. Softening of face expressions	1	2	3	4	5
6. Nasolabial sulcus	1	2	3	4	5
7. Dark eyelids	1	2	3	4	5
8. Cheek	1	2	3	4	5
9. Lips	1	2	3	4	5
10. Facial flatness	1	2	3	4	5
11. Face contour	1	2	3	4	5
12. Symmetry	1	2	3	4	5
13. Fresh and brightness skin	1	2	3	4	5
14. Face relaxation	1	2	3	4	5
15. Double chin	1	2	3	4	5

Figure 6 – Face change degree perceived by the specialist

■ RESULTS

The resulting sample consisted of 11 women with mean age of 44.5 years and standard deviation of 3.6 years.

In the interview, it was found that out of 11 women, 8 (72.73%) had onychophagia, 2 were smokers, 3 had bruxism. Four (36.36%) had repetitive facial expressions, had facial tension (18.18%), 8 reported to sleep on your stomach. Good sleep quality was reported by two (18.18%), 7 used face cream (63.64%) and 2 use sunscreen (18.18 %)

In the evaluation it was observed that, 5 (45.45%) had mixed biotype skin, 7 had abnormalities conditions (63.64%) and the most frequent phototype was type IV. Wrinkles were found in 10 women (90.91%), in which 10 were located in the eyes (90.91%); 6 in the glabella (54.55%); 4 in the mouth (36.36%). Double Chin was observed in 8 (72.73%) of them.

After speech aesthetic treatment, 8 (72.7%) reported good feeling an (27.3%) perceived a more relaxed face. Other changes perceived by patients,

others and speech therapists are described in the following tables.

Table 1 presents other facial changes perceived by patients.

Table 2 describes the changes observed by others, according to the patients report.

Table 3 describes the facial changes observed by speech pathologists in analyzing photos before and after speech aesthetic treatment. There was no agreement about the facial changes after therapy when considering the three speech pathologists. The judge A didn't agree with the other in any way. However B and C, agreed that there were improvement in the wrinkles around the eyes ($p= 0,036^*$), wrinkles on the forehead ($p= 0,026^*$), on the face contour ($p= 0,044^*$), and on skin brightness and viscosity ($p= 0,011^*$). The same judges, B and C agreed that women in this study didn't showed improvement in the wrinkle lips ($p= 0,000^*$).

Ten (90.91%) women increased the satisfaction degree with the aesthetic appearance of the face (figure 1) after treatment. There was a difference between the average of pre (46.18) and post treatment (82.09).

Table 1 – Self perception of facial changes after speech aesthetic treatment

Facial changes	n	%
Wrinkles reduction around the eyes	11	100
Wrinkles around the lips	11	100
Reduction of nasolabial sulcus	10	90,91
Lips more defined	10	90,91
Fresh and brightness skin	10	90,91
Softening of face expressions	10	90,91
Reduction of transverse forehead wrinkles	9	81,82
Face less flatness	9	81,82
Contour face more defined	9	81,82
Reduction of dark eyelids	8	72,73
Cheek changes	8	72,73
Peaceful expression	8	72,73
Eduction of double chin	7	63,64

Legend: n= number of subjects % = relative value.

Table 2 – Others perception about facial changes after speech aesthetic treatment

Facial changes	n	%
Reduction of dark eyelids	5	45,45
Fresh and brightness skin	5	45,45
Reduction of wrinkles around the eyes	4	36,36
Cheek changes	4	36,36
Face less flatness	4	36,36
Peaceful expression	4	36,36
Reduction of double chin	4	36,36
Softening of face expressions	4	36,36
Reduction of wrinkles around the lips	3	27,27
Lips more defined	3	27,27
Contour more defined	3	27,27
Reduction of the nasolabial sulcus	2	18,18
Reduction of Double chin	2	18,18

Legend: n= number of subjects % = relative value.

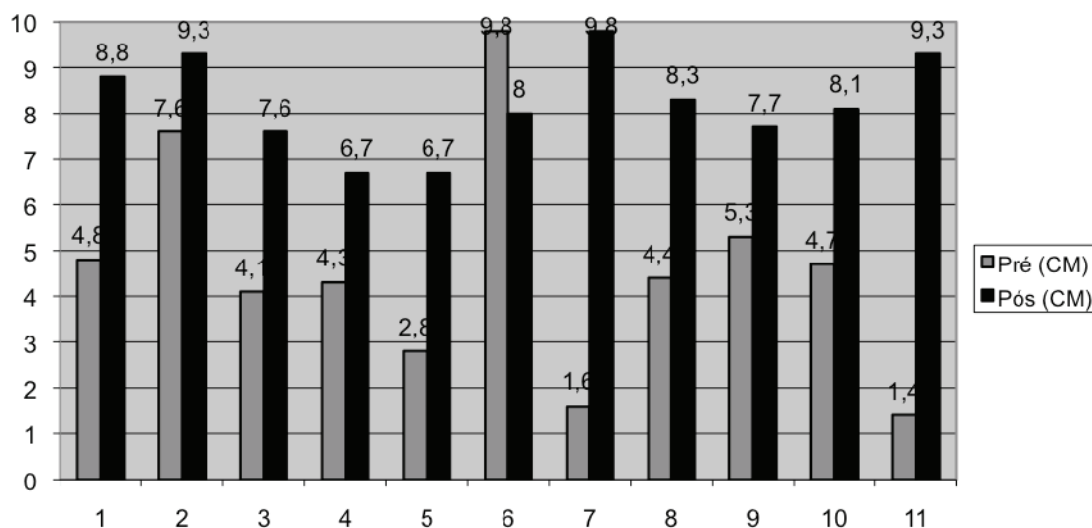
Table 3- Facial changes perceived by the experts

Face changes	Evaluator	Evaluator	Evaluator	BxC	Kappa	p- valor value
	A	B	C			
	%	%	%			
Eyes Wrinkles	100	54,55	54,55	81,9	0,633	0,036*
Lips wrinkles	81,82	0,00	0,00	100	1,000	0,000*
Forehead wrinkles	100	9,09	18,18	90,9	0,621	0,026*
Glabellar wrinkles	81,82	9,09	72,73	36,4	0,072	0,521
Softening expression	45,45	45,45	100	54,6	0,154	0,338
Nasolabial sulcus	100	18,18	81,82	36,4	0,094	0,461
Dark eyelids	100	45,45	63,64	36,4	0,290	0,303
Cheeks	100	45,45	63,64	27,3	0,065	0,819
Lips	100	18,18	45,45	54,6	0,035	0,887
Flatness	100	45,45	81,82	63,7	0,313	0,154
Face contour	100	63,64	63,64	81,8	0,607	0,044*
Face symmetry	100	54,55	63,64	72,8	0,441	0,137
Brightness and fresh skin	100	72,73	81,82	90,9	0,744	0,011*
Face relaxation	100	54,55	81,82	54,6	0,035	0,887
Double chin	100	81,82	72,73	72,7	0,233	0,425

kappa

Significant values (p ≤ 0.05)

Legend: %= relative value.



Wilcoxon ($p = 0,05$)

Figure 7 – Satisfaction degree with facial appearance before and after speech aesthetic treatment

■ DISCUSSION

Although in the last years, the publication of researches about speech aesthetic treatment has increased⁹⁻¹⁶, most of them, in order to verify the effectiveness of speech aesthetic treatment, have studied small samples¹⁰⁻¹⁵ and used different methodologies, which makes difficult comparisons between them. Some describes modifications in a specific region of the face^{9,13}, others checks the effectiveness of two techniques¹³, others still intends to describe the clinical reasoning in each of the three facial thirds, according to the patient complains¹⁴.

The present research used a single therapeutic program for all patients, regardless of the speech aesthetic evaluation results. In addition, patients were advised not to perform the exercises at home, so that the exercise frequency variable could be controlled.

All patients have twice sessions a week, with uniform treatment for five weeks, totalizing ten sessions. The treatment duration in this study is in accordance with speech aesthetic treatments described by literature^{1,17}. It is known that the skeletal muscle tissue has the ability to restructure itself after a stressful situation caused by exercise and after 6-8 weeks of exercise it is already visible the effects on muscles shape and function.

Wrinkles, found in most women of this research can be explained mainly by aging process, since the participants age were 40 to 50 years old, and by unbalanced and repetitive use of orofacial muscles: 8 had onychophagy, 8 reported sleeping prone,

4 had repetitive facial expressions, 3 had bruxism and 2 facial tension.

The wrinkles appearance is conditioned by individual genetic determinants and by the accumulation of various environmental stressors that provides gradual loss of muscle tone and decreasing function of organs and tissues, making hard collagen and elastin less elastic, dehydrating and favoring the wrinkles expression formation. Authors claim that facial changes associated to aging begin at age 30 and become more noticeable around age 40, above which are all the participants of this study. The skin intrinsically aged is thin, inelastic and finely wrinkled with deepening facial expressions lines. These changes demonstrate the epidermis and dermis thinning with a flattening of epidermal cones in the dermoepidermal junction. Extrinsically aged skins appears clinically as stained, thick, yellowish, loose, rough and tough¹⁹.

Similarly to other researches⁹, all patients of the present study reported changes after speech aesthetic therapy. The facial changes more referred in this study were wrinkles reduction around the eyes ad lips and decrease of the nasolabial sulcus, lips more defined, lush and brightness skin and softening of expression faces. The double chin decrease was the less referred. The research⁹ carried out in Pernambuco with ten teachers of both genders with a mean age of 43.5 years, with weekly speech aesthetic therapy, performed uniformly, noted facial changes by the participants mainly in the areas of cheeks and mouth. The double chin and neck area were also the less referred.

Another study with 8 volunteers of both genders aged between 31 and 66 years, reported relaxation after exercise followed by feeling of welfare and uplifted face after three months of exercise. The same research¹⁷ observed that half of the participants didn't report any change. However, it should be noted that the participants performed the exercises at home without the intervention of the researcher, which may have contributed to a less effective intervention. Furthermore, the age range was quite extensive. Researchers¹⁴ emphasize that the goal of aesthetic treatment is not to eradicate the signs of aging, but to reduce and delay them, thus, recommending an earlier intervention.

On the other hand, in this study¹⁷, seven subjects reported that various differences were observed by third parties such as: quieter face, peaceful expression, fresh and brightness skin, lips more defined, decrease in the nasolabial sulcus, and only one subject didn't hear any comment about facial changes. In a research with 10 teachers⁹, 7 said that facial changes were observed by third parties. In the present study, the frequency of patients reporting changes perceived by others was lower and associated to reduction of dark eyelids and skin fresh and brightness.

The photographic Record is a resource used in various studies^{9,13,16,17,20} for the evaluation of results after speech aesthetic therapy. Some describe positive changes after treatments^{9,13}, with one¹⁰ or two²⁰ speech therapy session. Other research, request, from 11 observer, the ordering of photos before and after treatment and find a percentage ranging from 45.4 % to 100%.

Another research, which had 9 women aged between 40 and 55 year, mean age of 48 years and 6 months, when performed the analysis of the photos, found difference statistically significant in the attenuation of the nasolabial sulcus and in the lips position that were partially open in the pre to occluded in the post. The authors, who didn't observe differences in the face symmetry, in the rhyme and contour of the lips, mentalis muscle and double chin, explain that the number of sessions proposed and its duration were not enough to promote changes and the home exercises, unlike the proposed by the research design, could have changed these results.

This study subjected the image to three experts to judge the facial changes after the speech aesthetic therapy. It was considered even the minimal modification perceived. There was no agreement among the experts. However, to verify the agreement degree between each two experts, there was agreement on some variables among judges B and C: in the eyes and the wrinkles on the forehead, face contour, brightness and fresh skin,

as well as, no change in wrinkles lips. The expert A tended to find the more favorable changes. This evaluator, was an expert in oral mobility and had a facial aesthetic improvement, which could justify a more detailed perception. A research conducted in Pernambuco in order to verify the knowledge that experts have about facial aesthetic found that almost all have no experience in this area²¹, possibly because this area is still a recent issue in language and hearing science. It is important to consider therefore, studies with evaluators who have more homogeneous profiles, while this subject is still emerging. Furthermore, as photographic record is a subjective measure, it would be recommended to complement the analysis with quantitative measures such as the projection of the nasolabial sulcus⁹, double chin²² and buccinator²³.

Anyway, even without agreement, the evaluators observed a greater or lesser degree change in all variables, except reduction of lips wrinkles, which was indicated only by one expert (the expert who has aesthetic specialization and works with aesthetic speech treatment). In this variable, experts B and C agreed that there was no changes. Conversely, expert B and C, agreeing with expert A, for this item, stated that all women perceived changes.

The aesthetic evaluation of the face is complex, subjective and influenced not only by physical aspects, but also by social and psychological factors²⁴, being the concept of beauty something properly of each subject³. The aesthetic appearance is important in people interactions and perceptions and in judgment of self image, which are linked to self-esteem²⁵, so the evaluation of how individuals see their faces and the expectative related to their face image are very important. In this study, measuring the degree of satisfaction with facial appearance was made by a visual analogue scale, before (average degree= 46.18%) and after (average degree = 82.09%) aesthetic speech therapy. Most women increased the degree of satisfaction after treatment and this is a measure in evaluating the effectiveness of aesthetic speech treatment.

■ CONCLUSION

The aesthetic speech treatment provided facial changes, which were perceived by patients, third parties and experts.

All patients submitted to aesthetic speech treatment observed facial changes. The facial changes most reported were reduction of wrinkles around the eyes and lips, followed by reduction of nasolabial sulcus, lips more defined, fresh and brightness skin and softening of face expressions. The reduction of double chin was the less referred.

About half of the clients reported that others perceived facial changes, as reduction of dark eyelids, fresh and brightness skin.

There was no agreement between observers in respect to facial changes after aesthetic speech treatment. However, they noted, in a greater or lesser degree,

changes in all the variables analysed, except for the reduction of wrinkles lips, which was indicated by a speech pathologist.

Most women increased the satisfaction degree after aesthetic speech treatment, showing more satisfaction with their facial appearance.

RESUMO

Objetivo: identificar possíveis modificações faciais em pacientes submetidos à tratamento estético fonoaudiológico da face na Clínica-Escola de Fonoaudiologia e verificar se estas modificações foram percebidas pelo cliente, por terceiros e por fonoaudiólogos, e constatar o grau de satisfação do cliente com o resultado. **Método:** participaram do estudo 11 mulheres com idade de 40 a 50 anos (média de idade $44,5 \pm 3,6$ anos), excluíram-se as com tratamento fonoaudiológico estético ou cirurgia faciais prévios e patologias neurológicas. Submeteram-se a 10 sessões de terapia, com exercícios estáticos e dinâmicos. Responderam questionário sobre modificações percebidas por elas ou referidas por terceiros. Suas fotos pré e pós tratamento foram analisadas por fonoaudiólogos especialistas em motricidade orofacial identificando presença ou ausência de modificações. Em escala análoga visual de 100 mm, marcaram seus graus de satisfação com aparência facial pré e pós tratamento. **Resultados:** todas (100%) perceberam modificações faciais: diminuição das rugas dos olhos e dos lábios (100%) e diminuição do sulco nasolabial, lábios mais definidos, pele mais viçosa e brilhante e suavização das marcas de expressão (90,91%). Terceiros referiram modificação: diminuição das olheiras pele mais viçosa e brilhante (45,45%). Não se encontrou concordância entre os três especialistas, embora tenham percebido em maior ou menor grau modificações na maioria das variáveis analisadas. O grau médio de satisfação com a aparência facial aumentou de 46,18 para 82,09 ($p=0,05$). **Conclusão:** o tratamento fonoaudiológico proporcionou modificações faciais percebidas pelas clientes, por terceiros e pelos especialistas. Elas mostraram-se mais satisfeitas com o aspecto estético da face após a intervenção fonoaudiológica.

DESCRITORES: Fonoaudiologia; Estética; Face

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Mailing Address:

Silvana Maria Brescovici

Rua Barão de Ubá, 651

Porto Alegre – RS

CEP: 90450-090

E-mail: silvana@brescovici.com.br