

MARTA WYSOCKA
Maria Curie-Skłodowska University in Lublin
Department of Logopedics and Applied Linguistics

The methods of functional voice disorders therapy

SUMMARY

The therapy programs that are adjusted to the individual patient's needs are used in a specialized functional voice disorders therapy. Those programs, which actions are strictly specified, include the exercises taken from various methods or holistic techniques.

The article contains the profiles of the selected methods and the therapeutic techniques that are described both in the Polish and foreign writing.

Keywords: voice disorders, voice therapy, functional voice disorders.

GENERAL RULES OF A VOICE THERAPY

The importance of interdisciplinary treatment of functional voice disorders therapy is more and more emphasized by people who deals with dysphonia (por. m. in. Dejonckere i in. 2003; Gębska, Wojciechowska i Żyźniewska-Banaszak 2011; Niebudek-Bogusz 2009; Sataloff 2005). Furthermore, it requires the cooperation of many specialists such as a phoniatriest, speech therapist, psychologist and physiotherapist. It is crucial because of a complex aetiology of functional voice disorders and the influence of the biological factors as well as emotional or social ones. Mastering of breathing and phonation abilities are not the only outcomes of a functional voice disorders therapy. It also develops the ability to use sonant voice in the different communication situations. To be highly effective, the therapy has to be multifaceted. It should range the activities of biological functioning of the voice organ as well as those which are not associated with biology but have an impact on the use of the voice in communication.

Cooperation with a phoniatriest is an essential precondition to take the therapeutic actions with a speech therapist or a voice coach. His responsibilities are to

make a patient's laryngological and phoniatrial diagnosis, to enunciate prescriptions of a therapy and to monitor its outcomes.

A speech therapist has no possibility to be physically involved in the morphology of the voice organ. He can only have influence on its physiology through various exercises that aim is to develop right breathing, phonatory, resonatory and articulatory habits. Moreover, it also helps to coordinate those processes and to consolidate given effects of therapy during language communication.

Furthermore, the relaxation techniques are also common in the process of a functional voice disorder therapy. Thanks to those methods, a patient copes with stress and strain which are the reasons of voice disorders. In a number of cases, a psychologist takes part in the multi-specialized therapies. He helps a patient to understand his situation and to deal with his own emotions.

Physiotherapeutic actions foster the process of a therapy, especially hyperfunctional dysphonias, which are associated with elevated tone in the region of the larynx. What is more, a well-qualified physiotherapist deals with a manual therapy i.e. massage. It controls the tones that are responsible for the poise, breathing, a position of the larynx, tones within the larynx, mobility of the cervical part of the spine and the mobility of the temporomandibular joint. Shaping the right poise, developing better way of breathing and consolidating a proper position of the larynx are the outcomes of the therapy.

STAGES OF THERAPEUTIC WORK

Even though all methods that are used during the functional voice disorder therapy are various, they are based on the common rules. Due to those principles, the rehabilitation of voice should be executed by the well-specialized group with the cooperation with a patient and his engagement. During the therapy, apart from morphological and functional voice disorder conditionings, it is important to consult emotions and stress overloading. The programe should be adjusted to a patient, his health conditions, feelings, age, sex and social conditionings. The therapy should start as early as possible and should focus on all the patient's signs of voice progressions. During the voice therapy the improvement of hearing and sight autocontrol as well as kinesthetic activities of the voice organ should be taken into consideration (Gębska et al. 2011).

Occupational dysphonias constitute the significant part of the functional voice disorders. The therapy is based on:

- congeneric voice diagnosis,
- giving information to a patient about the results of his diagnosis and motivation to rehabilitate his voice,

- the knowledge of voice hygiene, the information about harmful factors, the influence of a diet and physical condition on voice functioning, tips about voice projection, actions which aim is to minimize voice strain,
- psychotherapy that makes a patient feel good, relieves stress and helps to develop the ability to deal with stress,
- changing patient's voice habits, developing awareness of his own voice abilities and proper voice behaviors, promoting healthy lifestyle and belief that a patient has the significant influence on the outcomes of his therapy,
- the breathing and relaxation exercises,
- the voice production exercises which aim is to improve the process of phonation, glottal stop, acquiring soft voice and the ability to control voice parameters,
- the compensatory exercises (only if needed), e.g. creating auricular voice or using the voice prostheses,
- consolidation of developed abilities in daily voice usage as well as at work (Dejonckere 2007, after: Niebudek-Bogusz 2009, 154).

R. Sataloff (2005) also promotes a similar scheme. He divides therapeutic stages into the four levels. The first one, which is an indirect therapy, includes the knowledge about the rules of voice hygiene. The second level, associated with a direct therapy, consists of gaining the knowledge about breath control, soft voice, resonance, control of tone and prosody. Moreover, a manual larynx therapy, a face and a neck automassage, relaxation and a massage of the body, yoga elements and tai-chi constitute the third relaxing level. Finally, the last level deals with consolidating the known habits in different communicational situations and using autocorrect strategy (after: Niebudek-Bogusz 2009, 154).

CHOSEN THERAPEUTIC METHODS

The exercises that are used during the voice disorder therapy are properly chosen due to the patient's needs. It includes relaxation, breathing, phonation, resonance and articulatory exercises as well as those which consolidate the outcomes of a therapy during communication or the integrated methods. The use of integrated methods, which practice should be set early and the effectiveness should be proven, help a therapist to avoid possible methodical problems. Those problems may occur because of thoughtless decision about the exercises that come from various therapeutic conceptions. It also helps him to control the progress of a therapy efficiently and to define its aim very easily. A deliberate and apt choice of a method is a condition to achieve a success.

Some methods are characterized below beginning with those which are the most popular in Poland.

The Accent Method

The method, that was developed by S. Smith (1976), was created to reclaim proper actions of voice in speech. It is used in Chair of Audiology and Phoniatrics in Fr. Chopin Academy of Music (till Apr. 2008) in Warsaw (Poland), and is adjusted to the therapy of singing voice. The first steps of both speaking and singing voice therapies are the same. However, even though the assumptions in later stages do not differ, the exercises are changed. The final stages are distinct (Kazanecka et al. 2004).

The main features of this method are:

- a) diaphragmatic breathing that is a basis for the abilities of making breathing accents, those accents are associated with the proper activation of breathing muscles which have an influence on the improvement of phonation actions,
- b) rhythmical phonation,
- c) the sound and syllable articulation and improving those processes through body and shoulders movements.

The stages of a therapy are listed below:

- shaping a proper poise,
- shaping diaphragmatic breathing,
- the phonatic exercises based on voiceless fricative consonants, and then, on the voiced ones,
- the exercises that use consonants with only singular accent that starts phonation,
- the exercises that use vowels after the consonant [x] with the singular accent that starts phonation,
- the exercises that used singular words and repeated ones,
- accent production in various words with different voice dynamics,
- accent production in poetry writing,
- accent production in prose,
- accent production in dialogues; in the case of the singers- the vocal exercises based on musical texts (Kazanecka et al. 2004, 82).

The Kazanecka, Wronska and Szkielkowska's Method

This method, which is associated with The Accent Method, was created by people from Chair of Audiology and Phoniatrics of Fr. Chopin University of Music (from Apr. 2008) in Warsaw. Through work with people, who professionally use their voices during speaking and singing, they gain lifelong experiences. Production of voice without effort is the aim of this method. The primary kinesthetic exercises that shape a feeling of movement, ability of self-observation and tension autocontrol are applied. Resting exercises, which prepare for breathing, phonation

and articulation during speaking and singing, are also of crucial importance. Hearing autocontrol plays a key role during later stages.

The method covers:

- the exercises developing awareness of own body, correcting the poise and minimizing tonicity,
- the breathing exercises and work over features of voice that rely on the respiratory system,
- the exercises shaping a resting position of the tongue and the lower jaw as well as their articulatory activity,
- the exercises shaping particular features of voice,
- the exercises dealing with prosodic features of Polish language (Szkielewska, Kazanecka, 2011).

The K. Linklater's Method of Revealing Natural Voice

The method, which is popular in many countries, is used in order to train the actors. It is based on the Iris Warren's method and is also associated with the Alexander's method, yoga and tai-chi. Voice as a tool of a creative expression of emotions is the main principle. It requires patient's activity and imagination. In order to produce natural and loose voice, a patient should be aware of his body. Moreover, the use of visualizations and autosuggestions also help in achieving this aim.

The series of the exercises require the half-year of intensive work. It consists of some stages. The first one, which aim is to produce voice without effort, make a patient aware of his body and its relaxation. The second stage develops the ability to use all resonators. Furthermore, the third stage is based on using those abilities during the interpretation of a text (Linklater 2012).

If the method is conducted on the adults, who are motivated and whose voice disorders come from emotional problems, it is successful. Moreover, it requires patient's time. The awareness of taking part in the constant process of developing new skills is its advantage. The exercises are rarely repeated during the later stages and, therefore, it helps to avoid tiredness of the therapy. The method gives more and more new experiences and motivates a patient to make the later effort.

The Schlaffhorst-Andersen's Method

Like the other methods, this one is based on both the vocal and body exercises. Kinesthetic exercises develop the abilities of proper breathing, phonation and resonance. It has positive impact on the patient's poise and his mood. The exercises include rhythmical round or swing movements during recitation or singing (Niebudek-Bogusz 2009, 155). The Schlaffhorst-Andersen Method is adapted by M. Saatweber (2009) to the teachers' voice rehabilitation.

The VFE Method (Vocal Function Exercises)

Requiring intensive training, the method regulates the tone of the larynx. The four exercises, performed during the meetings with a therapist and at home, are the basis of the training. Each exercise is doubly repeated both daily and nightly.

The first exercise is based on a loose and long phonation of a vowel [i] on a specified tone of musical scale. The aim is to control the pressure under the glottis. It is a warm-up exercise. The second exercise is the articulation of the words 'knoll' or 'whoop' from patient's the lowest tone to the highest one. The phonetic structure of those words help to open the larynx while one of a word is repeated without breaks. Moreover, vibrations on the lips occur. The aim of the exercise is to control the muscles that work during phonation and their elasticity. It is called a stretching exercise. Analogously, the third exercise is based on the words 'knoll' or 'boom'. A patient articulates those words starting with the highest tone to the lowest one. It is called a shortening exercise that purse the phonatory muscles. The fourth exercise is based on a long phonation of a word 'noll' (a shorten version of a word 'knoll') on the four musical tones: C-D-E-F-G. While, an moddle octave is intended for women, young girls and boys before mutation, the small one is for men.

The soft production of the voice without effort is of crucial importance. Proper breathing and the poise are also taken into consideration (Stemple, Glaze, Klaben 2000, Stemple 2004).

The LSVT Method (Lee Silverman Voice Treatment)

This method, that is used mainly in patients' with the Parkinson disease therapy, is for people with glottis regurgitation. Strenuous and loud phonation improves pressure of exhaled breath and adducts vocal folds. It also raises the activity of the larynx muscles, its coordination and phonatory and articulatory coordination. It improves the quality of voice, its strength and precision of articulation. It also shapes the prosody of speech and resonance and improves the intelligibility of speech (Baumgartner, Sapir i Raming 2001).

The LMRVT Method (Lessac-Madsen Resonant Voice Therapy)

The method is for people both with hyperfunctional and hypofunctional dysphonias of the functional, anatomic and psychological undertow. The exercises, that do not require much effort of the voice, activate and strengthen the resonance. Their aim is to learn how to minimize muscle strain due to phonation.

The LMRVT puts emphasis on hearing self-control of the voice parameters. Furthermore, the use of resonance in the various communication situations to reveal different intensions and emotions is also crucial (Verdolini-Marston et al. 1995).

RELAXATION METHODS AND TECHNIQUES THAT HELP IN THE PROCESS OF PRODUCING PROPER PHONATION

Due to the huge impact of psychogenic factors in etiopathogenesis of functional dysphonia, it is worth mentioning the necessity of implementing the relaxation methods or even elements of psychotherapy into the processes of rehabilitation. It mainly regards the therapy of occupational disorders (after: Niebudek-Bogusz 2009.)

Relaxation methods and techniques reduce negative impacts of stress, and consequently, minimize not only the tonicity of a throat, larynx and neck but also relax the body muscles. Psychotherapeutic, physiotherapeutic and musicotherapeutic methods and techniques help to relax. Some of them are characterized below.

The Alexander's technique

The technique, that was created by an Australian actor Frederic Matthias Alexander, serves as a psychophysical reeducation. Its aim is a conscious elimination of unfavorable psychophysical habits and tensions, that raised from stress. It helps to acquire bigger freedom of movement and breath, as well as, shape the right poise and good cooperation of the postural muscles. A patient becomes aware of his own poise abnormalities and then he learns how to make conscious adjustments of his body which shapes right habits of the good poise while speaking. Gaining the ability of tone and breathing control and muscle relaxation are the effects. It also works during the stressful situations and have a positive impact on the process of voice production (Kędzior.) The Alexander's technique is popular in voice disorders therapy as well as in educating professional speakers and singers.

Autogenic training

Developed by Johann Heinrich Schultz, it is a common applied neuromuscular relaxation technique. It requires a properly created and adjusted to the patient's abilities text which is repeated. The use of autosuggestion leads to the feeling of weight and heat in particular parts of the body, regulation of breath and heart and the feeling of cold at the end. Relaxation, slower rhythm of breathing and concentration are the effects of those exercises (Derra 2005).

Progressive Muscle Relaxation

This technique, developed by Edmund Jacobson, learns to monitor and identify the state of muscular tension. The movements of legs, arms, body and face learn how to tense and then relax the body consciously. The aim of these systema-

tic learning sessions is to shape the ability of habitual relaxation of those muscles that initially take a direct part in the exercises, and then the muscles of the whole body (Zieliński 2011).

Wintrebert Relaxation Technique

The technique was developed by a pediatric neuropsychiatrist, Henry Wintrebert. The main purpose of this method is to reduce emotional tense through relaxing muscles by the passive exercises. Those activities, that are performed by a therapist rhythmically and constantly, reduce tense connected with patient's wait for the next move. Firstly, the exercises involve a dominant arm, from a hand to a shoulder and then to a face. Next, another arm, a dominant leg and another leg. The pleasurable atmosphere between a therapist and a patient and the lack of visual impulses are of crucial importance. The passive exercises might be helped by active-passive ones performed with the musical accompaniment (Zieliński 2011).

The Feldenkrais Method

The Mosh Feldenkrais' reeducational movement method is based on a body self-observation and its changes that occur under the influence of intentional doing repeated movements. It optimizes muscular work, reduces tense and joint loads and helps to gain movement control. The aim of those exercises is to shape a good poise thanks to an optimal and comfortable position of a head, the arms and a pelvis (Paszkowski 2010).

CONCLUSIONS

The choice of a method or a technique of voice disorders therapy cannot be definitely random. It should be heavily reliant on patient's individual conditions with voice disorder: the characteristic of a voice disorder (the type of dysfunction and its strength), its cause, the patient's age, his personal and occupational situation, the characteristic of his personality and temperament. It is very well if the choice of the method-one or more which are collaterally applied- is executed with the specialists dealing with dysfunction.

The effectiveness of a method depends on its choice and the methodology of its use. Patient's motivation and his acceptance of particular therapeutic actions are of crucial importance. A therapist's competence and the bond between a patient and therapist are also valuable.

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