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EDITORIAL

Do hearing and postural balance influence the life quality?☆



Audição e equilíbrio corporal influenciam a qualidade de vida?

The theme for this editorial has derived from the lecture with the same title given by the author of this text on invitation by a school of Yoga Meditation for a target audience of adults and elderly people. The proposed approach, motivated by the interest of the general public, has been linked to disorders of hearing, labyrinthitis and the influence of these conditions on quality of life.

In the first part of the lecture, we described some of the anatomicophysiological aspects of the auditory and peripheral and central vestibular system, about body balance and the integration of sensory systems in the central nervous system and formed connections. More frequent auditory and vestibular disorders in adults and the elderly along with their clinical and otoneurologic manifestations were presented, and it was decided that Benign Paroxysmal Positional Vertigo would be more emphasized, in detriment of metabolic and cardiovascular disorders. Hereinafter, Health and Quality of Life and its fields of analysis, according to the World Health Organization (WHO), are conceptualized. According to WHO, Health is "a complete state of physical, mental and social well-being, and not merely the absence of disease". Quality of Life is defined by the WHO's Mental Health group as the individuals' perception of their position in life, in the context of culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. Quality of life is affected by physical and psychological states, the level of independence, social relationships and by personal beliefs of individuals and their relationship with the environment.¹ In the last topic of the lecture, pharmacological treatments, vestibular rehabilitation and complementary therapies for vestibular disorders, including exercise, nutrition education, and control of underlying diseases were cited, and

the audience showed interest, expressed by questions about measures, such as meditation, acupuncture and Tai Chi Chuan.

With regard to hearing, it is known that, in adults and² in the elderly, quality of life may be impaired when there is hearing loss, due to the difficulty of communication and to psychological and social relationship commitments, often resulting in social isolation. This theme has been evaluated through the application of quality of life (and, specifically, quality of life relating to health) protocols, some of them already translated and validated for the Portuguese language. Besides hearing loss, tinnitus can also compromise the quality of life, depending on its intensity, which can be aggravated by stress triggered by this problem in patients already psychologically predisposed, that can trigger psychosomatic manifestations. The use of hearing aids³ can lead to an improved quality of life,^{3,4} thanks to the amplification, and to tinnitus reduction⁴; on the other hand, many patients abandon the use of hearing aids due to an unsuccessful adaptation,^{2,5} or to barriers to the use of these devices, such as access, cost, social embarrassment and auditory training.⁶

Dizziness and vertigo are common complaints among adults and elderly patients, with multifactorial causes, and especially in the elderly, due to the association of chronic diseases and the concomitant use of several drugs that can affect the functions of the vestibular system. These clinical manifestations can lead to an impaired quality of life in relation to physical, functional and emotional aspects.^{7–9}

In a bibliographic search in PUBMED, crossing the words "vertigo" and "dizziness" with "quality of life", articles linking these symptoms to vestibular disease in adults and to falls in older adults have been found; as well as articles linking them to psychosomatic disorders interacting with vestibular disorders, or functioning as triggering factors^{10,11}; and to stress, anxiety and depression. Anxiety must be taken into account, either as a triggering or predisposing factor,

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being already an integral part of the subjectivity of the patient with vertigo. Vertigo may worsen with the crisis of body instability. Anxiety can raise the Dizziness Handicap Inventory on all scales.¹² Psychosomatic and psychiatric comorbidities may be more prevalent in women with vertigo, compared with healthy individuals.¹³

Currently, several factors have generated anxiety, such as the great exposure to information and the rapid change in technology to which people must adapt; mental pressures in the workplace, even to the point of mental harassment; changes in social values that, according to the subjectivity of the individual, can lead to psychosomatic disorders accompanied by vertigo and decreased quality of life. A systematic review of vertigo and psychotherapy showed clear preliminary signs that psychotherapy can be effective in patients with vertigo that is not clinically explained enough or which arises from a psychiatric disorder.¹⁴

Currently, psychological factors are accepted as stressors and can cause significant behavioral and physiological changes.¹⁵ This also leads to a reflection in the opposite direction to the title of this editorial: Do quality of life affects hearing and balance? In addition to vestibular disorders, more frequent cases of functional or psychogenic deafness in individuals under stress, anxiety and depression have been observed in the clinic environment.

With regard to general or individualized therapeutic strategies used in the treatment of vestibular disorders excluded in this scenario of pharmacological and surgical therapies, we have the control of systemic diseases; vestibular rehabilitation, exercise and dietary control.

In the age group in which vertigo or dizziness are more frequent, high blood pressure and cardiovascular disease are increasingly common, due to the stress caused by changes in lifestyle generated by globalization and modernity. Some studies mention techniques of meditation as complementary therapy in the management of those clinical conditions described above. These techniques have been showing positive results, as they work on breathing and postures, and may lead to physical and mental well-being and promote harmony. Although there is already some evidence in favor of the above results, more rigorous studies with more appropriate statistical analyses are needed, even to verify the role played by multiple concomitant interventions. There are also studies on the effects of meditation in reducing stress and anxiety and in cardiovascular diseases, showing favorable results proven even by fMRI. However, further randomized studies with larger samples are needed.¹⁶

Regarding acupuncture, a technique of traditional Chinese medicine, this option has been applied in various clinical scenarios in many hospitals for the control of several symptoms. For several years in Hospital das Clínicas, Faculdade de Medicina de Ribeirão Preto (USP), many patients with otoneurological disorders have been treated with acupuncture as adjunctive therapy, with improvement of symptoms being noted. This practice occurs next to one of our Otolaryngology outpatient clinics and has already generated a Master thesis, in addition to a data collection procedure in development of a doctoral dissertation.

We should also keep in mind that balance derives from the interaction of vestibular, proprioceptive and visual pathways, whose information is conveyed to the central nervous

system for balance processing and control. Furthermore, these pathways have anatomicophysiological complexity in interconnections with supratentorial centers related to cognition and emotions, besides other aspects, as has been shown by Neuroscience research.

Studies involving neuroplasticity will be increasingly crucial and will bring forward benefits to a comprehension of vestibular compensation, resulting in the development of therapeutic tools involving all sensory areas of balance, in association with different techniques that can relieve anxiety and stress, conditions increasingly present in the modern world. Pieces of evidence have revealed CNS as a dynamic and functional organ, which is interconnected with the environment with plastic capacity, and that can undergo structural and functional changes caused by adaptive processes in face of the environment. This conception can lead to the promotion of preventive measures for human health and education, as well as its dysfunctions, helping in diagnosis, prognosis and selection of more appropriate therapies.¹⁵

It is known that, in dizziness and/or imbalance patients' care, the diagnosis depends on a careful history,¹⁷ on appropriate otoneurological tests¹⁸ and on clinical and imaging tests, when indicated.¹⁷

These readings on balance and quality of life and on the role played by patient's subjectivity led to a reflection: currently, are we paying attention to the anamnesis, the first stage of classical otoneurological assessment, to characterize signs and symptoms; to the assessment of personal characteristics and lifestyle of the patient, his/her social background, environmental factors, attitudes, emotions, thoughts, motivations, values, beliefs? "In dealing with our patients, are we being correct, prudent, attentive?". I repeat this question posed by Fernando Ganança, ABORLCCF President, in his message to *Revista Vox Otorrino*.¹⁹

Are we open to new multidisciplinary treatments and complementary therapies for the improvement of our patients? Are the desires and autonomy of the patient been taken into account, according to the Code of Medical Ethics, when turning to other therapeutic methods for recovery of his/her well-being?

What do we know about acupuncture and exercise and relaxation practices – among other, Meditation and Tai Chi Chuan, the latter already having some evidence in favor of the control of falls in the elderly?

It is known that more randomized studies on these issues are needed, but areas such as Cardiology, Neuroscience, Psychiatry, and Geriatrics have already found evidence of the role of meditation in the welfare of the individual and in anxiety and blood pressure control, with improvement of certain clinical conditions.

The search for new avenues to improve the quality of life should be a goal not only in behalf of our patients, but mostly for each of us.

What are we doing to our physical, mental, emotional balance? Are we seeing ourselves as a body in parts, or as a whole?

Increasingly the interdisciplinary culture in different areas of knowledge will result in benefits to the approach of patients, aiming at improving their well-being and quality of life. So shall it be also in Otolaryngology! Every day is a day of new beginnings and renewals!

Conflicts of interest

The author declares no conflicts of interest.

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