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Practical and Methodical Components of Conducting Respiratory Gymnastics Programs Involving Hypertensive Subjects

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Abstract

Respiratory gymnastics programs are needed by both healthy individuals who no longer fully master this exercise and people with hypertension, since blood oxygenation is essential for the entire body. Starting from this premise, we performed a theoretical study of exposure to methodical respiratory gymnastics aimed at optimizing the health of people with hypertension. They should perform breathing gymnastics in order to improve functionality at the maximum capacity of the diaphragm and lungs, as well as to improve their capacity for exercise.

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1. Introduction

Through the breathing process, the human body takes in normal quantities of prana “the global sum of all the energies in the Universe” (Lambole, 2001), guiding it throughout energy channels called “nadis”. Despite the lack of scientific evidence regarding the physiological existence of “nadis” and “meridian” systems, you can easily notice the correspondence between proper breathing and health, the latter being the result of a smooth, harmonious flow of the Qi throughout the human body.

Yesudian and Haich (2011) sustain the increase of prana intake by means of deep breathing. Prana is the fuel of the lungs and of the entire human body. The easiest way to fight disease and increase and maintain vital force is to give the body more and fresher prana. The link between health and proper breathing is obvious and explainable for both points of view - eastern and western.

While western specialists prove that physical health depends essentially on proper breathing, eastern specialists share the opinions of their western colleagues and claim that the person who learns and masters the

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science of breathing increases his/her physical and mental forces, self-control and last but not least, the spiritualization process.

By maintaining proper breathing throughout the day and keeping control over it, we can see how the body benefits from it.

On the one hand, by breathing in and breathing out in a complete manner, in the attempt to use as much as possible of the lungs capacity, we provide more oxygen for the entire body through the blood system and we improve nutrition of each and every cell, body and brain function at full load, while daily stress decreases for each of us.

On the other hand, breathing exercise will lead to the toning of the diaphragm, which is both an inspiration and an expiration muscle, with major contribution to the moderate increase in intra-abdominal pressure. According to McConnell (2011), the diaphragm plays an essential part in the development of postural and stability control, opinion also sustained by Janssens et al. (2010), who considers that respiratory muscles help maintaining and optimizing balance, while respiratory muscles fatigue reflects in the individual wellbeing, the latter adopting less stable positions when exhausted.

Avramescu et al. (2007) mentions the respiratory exercise practiced according to the Tirala technique (breathe in for 5-10 seconds and breathe out like a sigh, for 45 seconds) among the most accessible means of physical training for people with essential high blood pressure.

Stress, as a cardiovascular risk factor often associated to essential hypertension, being even considered its generator, has symptoms such as elevated heart rate and blood pressure, sweating, especially on the hands, rapid and shallow breathing, stomach ache, muscle tension, known as a „fighting mechanism” (Bath et al., 2009).

Stress can be managed through frequent and regular respiratory gymnastics based on emphasizing and increasing exhalation time as compared to inhalation time. Of all the relaxation techniques, abdominal breathing is the simplest and easiest to attain and can be performed anytime and anywhere.

According to Albu et. al. (2001) “the respiratory gymnastics session is a methodical lever of high medical and psychoeducational importance” through which the specialist, using the program created, influences the respiratory function both in healthy people and in people with high blood pressure, with implications on blood flow, heart effort, on the cardiovascular risk factors and finally on the quality of their lives.

In patients with essential high blood pressure, physical training improves cardiovascular functional capacity and removes the negative effects of stress, representing a “sanogenetic conduct” (Grigore and Mitrache, 2007).

To this end, Oldridge et al. (1991) noticed much bigger psychological benefits in active hypertensive people, as compared to sedentary people, while Boyer and Poppen (1995) sustain the benefits of diaphragmatic breathing in people with cardiovascular diseases through effects like blood pressure decrease in respiratory muscles and anxiety decrease.

The respiratory gymnastics session is structured as follows: a warming-up period, also known as warm-up (Cinteză, 2005) a full effort period and a recovery period, also known as “cool-off” or “cool-down” (Tache, 2001). Lazăr and Fărcaș (1999) recommend a frequency of physical effort of 3-5 times/week, with equally distributed sessions. In case of a low intensity training, the sessions will be more frequent, up to 6 or 7 times/week.

2. Methodology

The research methods used are represented by the study of theoretical and practical bibliography, including books, magazines, textbooks, articles from Internet sites, every source for learning something new about the scientific value of the topic under consideration.

Despite the fact that breathing may be a restrictive factor for physical effort, due to the interrelation between breathing and blood flow, the accounts on the methodology that we apply and improve in people with essential high blood pressure, on the results obtained after performing therapeutic respiratory gymnastics are few.

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