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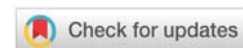
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Perspective Study

The theory of centralized aerobic-anaerobic energy balance compensation and the right posture

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Abstract

For over four centuries the posture was under very different points of view. The theory of centralized Aerobic-Anaerobic Energy Balance Compensation (CAAEBBC) gives an additional angle of consideration, associated with the concept of brachiocephalic arterial blood flow access to the rhomboid fossa. This helps to understand the requirements of the set of physical exercises, that will be able to keep the posture training simultaneously with the healthcare.

Introduction

It looks that the old concept of posture is closely related to the conclusions of the recently announced CAAEBBC theory [1], according to which the majority of Chronic Non-Communicable Diseases (CNCD) have roots in the obstruction of cervical spine arterial blood flow to the rhomboid fossa. This theory has been already confirmed for diabetes myelitis [2], arterial hypertension [3] and osteochondrosis [4]. And since the theory devotes so much attention to the conditions of the spinal cord, in particular the cervical part, there is a question about the idea of a right posture. Let's take a look at it from a historical perspective.

Discussion

The readers, whose childhood took place before the explosion of body positive concept [5,6] can recall requests to stand up or sit straight. The history of the right posture probably started in the XVI century as practical instructions on how best to handle it [7]. For the next two centuries, posture has become a way to transform a person and enforce discipline. As posture became

more and more a feature of civilian life, the concepts of right and wrong postures became increasingly important. In the XIX century, posture became closely and eventually associated with concepts of health and disease. At this moment the concept of pathological postures such as the familiar kyphotic, lordotic, flat back, and swaying back [8].

These times the posture was even associated with moral character [7]. According to William McNeill, this quantification of posture became the basis for the debate that underpins modern orthopedics [9]. By the end of the XIX century, posture has eventually become medicinal. People were aided in their attempts to sit and stand upright by their stiffer, more formal attire such as corsets, jackets, and coats, and by their upright, less comfortable furniture. But towards the end of the XIX century, clothing and furniture became less austere [10].

The XX century continued the way of endless medical and moral arguments for the right posture, especially aimed at children and their anxious parents. From 1890 to 1920, the school had become a major center for posture correction. Jessie Bancroft, the co-founder of the American Posture League,



encouraged teachers and school nurses to develop their acumen in identifying children with poor posture [11,12]. The posture correction programs in American public schools were considered a crusade [10]. The use of schools as battlefields for "positional warfare" was dictated by a desire to strengthen discipline among young people, not but healthy lifestyle issues were used for justification [10].

Posture became an important part of good health since the body was seen as a machine to be kept in balance. Slouching and stooping were said to prevent the organs from performing their proper functions. This medicalization included the codification and quantification of postures, such as in the Bancroft Test or the Iowa Posture Test [10]. Representatives of different areas of Medicine started then to incorporate posture as a way to increase the social relevance of their own disciplines. E.g., Chiropractors started in the 1927 Miss Perfect Spine pageant, in 1950th Miss Perfect Posture and Miss Correct Posture, etc. Step by step the idea becomes so politicized and ideologically filled, that when its concept virtually disappeared from moral, medical, and educational discourse in 60th it was considered for good [10].

Nowadays the idea to train teachers to recognize and correct bad posture, and recruited a group of kids to denounce others, just like the American Posture League did a hundred years ago, would consider not only ridiculous but illegal. It appears that posture is still sometimes a hidden means of controlling and disciplining children and that physical therapy may be involved in this.

Recent achievements of CAAEBC theory give the research community the fresh opportunity to add medical meaning to the right posture from the point of view of the goal – remove obstructions for brachiocephalic arterial blood flow. It appears that namely this theory allows to connect vertebral problems (that were in the focus of the right posture definition) with multiple CNCDS [1-4].

Conclusion

The CAAEBC theory opens the novel approach to the right posture idea. The current therapy, which results in strengthen vertebral (especially cervical) muscle corset to prevent vertebral arteries from cartilage jam [1,2] gives a right point to start. The first step is to develop a set of the measurements to characterize exercises on posture based on their impact on brachiocephalic arterial blood flow.

Author contributions

Conceptualization, A.Y.S., A.A.V.; methodology, A.Y.S.; software, B.A.G.; validation, B.A.G., K.V.Z.; formal analysis, A.Y.S., A.A.V.; investigation, A.Y.S., K.V.Z.; resources, A.Y.S.; data curation, B.A.G.; writing—original draft preparation,

A.Y.S., A.A.V.; writing—review and editing, A.Y.S., A.A.V.; visualization, A.A.V.; supervision, A.Y.S. and A.A.V.; project administration K.V.Z.; funding acquisition, A.Y.S. All authors have read and agreed to the published version of the manuscript.

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