

96 - PILATES' METHOD THEORETICAL FUNDAMENTS: A SYSTEMATIZED REVIEW

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INTRODUCTION

Pilates' method can be conceived as a modality of physical and mental conditioning aimed at improving physical features such as postural alignment, health and quality of life (PILATES, 1945; GALLAGHER, 1999; CAMARÃO, 2004; JAGO, 2006).

Latey (2002) defines it not only as a series of exercise, but also as a means to obtain bodily awareness, functionality and motor control.

Rodríguez (2007) mentions this art as the total control of the body by means of the communion between mind, breathing and movement.

It features a repertoire of more than five hundred types of safe exercises without impact, with potential results for the entire body. Those exercises emphasize chiefly the stabilizing and deep muscles, regions as the abdomen, thighs and gluteus (MUSCOLINO, 2004, APARÍCIO, 2005, PIRES, 2005).

Pilates (1945) mentions that the balance between body and mind provides the civilized man with essential capacities to reach mankind's objective. He also states that the physical exercise is the first requisite for happiness.

It is consensual that the regular practice of physical exercises is fundamental for the promotion of health, quality of life, longevity and preventions of chronic diseases (LEITÃO, 2000; DANTAS, 2002; AVEIRO, 2004; JOVINE, 2006).

HISTORY

Pilates' method, at first named Contrology or Art of the control, was created by the German Joseph Hubertus Pilates (1880-1965) along fifty years, starting in 1920 (ANDERSON, 2000). It is the outcome of oriental principles, such as concentration, balance, perception, bodily control and flexibility, and of occidental principles, with emphasis on the muscular force and tonus (PILATES, 1945; LATEY, 2001, PIRES, 2005).

During World War I (1914-1918), Pilates was a prisoner. He then built the prototype of the apparatuses currently used, made out of bed, pulleys, springs and other pieces of furniture elements. He developed exercises for the maintenance of his health and the health of other prisoners. He attributed to the practice of his exercises the fact that they were not killed by the bad cold epidemic and other diseases (GALLAGHER, 1999; LATEY, 2001, CAMARÃO, 2004, RODRÍGUEZ, 2007).

The first to praise the method were dancers, but only after the 80s, Pilates' method was gradually introduced in fitness and rehabilitation centers and units (GALLAGHER, 1999). In 2000, a New York Federal Court publically sanctions the title Pilates for the denomination of the method (CAMARÃO, 2004).

In our days, Pilates' method has changed the world of physical activities and has been practiced worldwide by thousands of people of different ages. These people are either healthy or in search of functional recovery (LATEY, 2002; BLUM, 2002; SEGAL, 2004; GAGNON, 2005).

In a study carried out by Souza & Vieira (2006), the attempt was to identify the profile of those who practiced Pilates' exercises. After having arrived at the number three hundred twenty-seven subjects, they realized that two hundred and sixty-six (81.3%) were women, and sixty-one (18.7%) were men. The age average was forty-two years old. The most desired objective by the participants (38.8%) was the posture, seconded by flexibility (32.1%), followed by rehabilitation and pain relief (24.2%) and muscular force only by 19%.

TECHNIQUE

The basic, fundamental principles of Pilates' exercises practice (LATEY, 2001; FRIEDMAN, 1980; JOHNSON, 2007) are breathing, concentration, centering, control, fluidity, and precision.

According to Pilates (1945), the movement flows from a Center of force, named powerhouse, and moves on to the peripheral parts. The powerhouse is made by an extensive group of abdominal muscles (abdominal rectus, internal and external oblique muscles, and abdominal transverse), deep erectors of the spines, hip extensors and flexors, together with the muscles that make up the perineum (HERRINGTON, 2005; JOHNSON, 2007).

Centering refers to the maintenance of the contraction of the powerhouse during the entire practice. It creates an anatomic band, strengthening all the muscular system from the center of the body (RODRÍGUEZ, 2007).

Correct breathing organizes, stabilizes and helps the control of spine articulations, provides the trunk organization by recruiting the deep stabilizing muscles in the spine and the pelvic support and favors the relaxing of the inspiring and cervical muscles (CRAIG, 2005).

Friedman (1980), Argo (1999) and Sekendiz (2007) name specific characteristics of Pilates' exercises. They are: aware movement, full use of cinematic chains, that is, without segmentation, prioritizes the quality of movement, does not exacerbate the workload, develops the body in a uniform way and considers individual characteristics.

PRACTICE

The exercises are divided in basic, intermediate and advanced levels, according to different levels of difficulty, aims, capacities and characteristics (CAMARÃO, 2004, RODRÍGUEZ, 2007):

-Basic level includes exercises and positions that prepare the individual to make contact with the Pilates' method principles. In the beginning of the practice, the initial basic position (neutral) is recommended, lying on the back, physiological lumbar curve kept stable, head and feet on the soil (mat) or apparatus, bodily alignment of shoulders, spine and hips.

-Intermediate level includes exercises that incorporate the method's principles, postural alignment, and gradually operates on the control, precision, few repetitions and degree of difficulty above the basic level. The exercises can be practice on the floor or on apparatuses.

-Advanced level represents the highest degree of difficulty of the technique. It is indicated to individuals who have already incorporated the method's principles and feature good physical conditioning and are not affected by pathologies. This level usually includes the training prescribed to gymnasts, ballet dancers, circus artists, high performance competitors, and others. The exercises can be executed on the floor and on the apparatuses.

The progression of exercise level follows a logical sequence, the "Contrology", together with the guidance of the instructor towards the participant's objective, skills and constraints.

Based on this criterion, the same class can feature exercises at different levels, making the method satisfactory, for it does not standardize or vulgarize certain types of exercises, does not exaggerate the workload, and every class there is a work to harmonize mind and body with new bodily positions and experiences.

Apparatuses such as Cadillac, Reformer, Wunda-Chair, Lader Barrel, Wall Unit and others are specific for Pilates' method. They are important because they enable the manipulation of variables such as the support basis, the degrees of assistance to the movement, the setting of levers, the use of springs or the use of gravity force, itself (PILATES, 1945, LATEY, 2002).

The intensity of exercises developed on the apparatuses is supplied by spring of different resistances, classified by colors black, red, green, blue and yellow, in a growing order of intensity.

CONTRIBUTIONS

The search for scientific evidence about the application of Pilates' method has been growing in different areas. Most results highlight improved performance in flexibility and muscular force, reeducation and postural improvement, optimization of coordination and balance, promotion of health and well being.

In orthopedical rehabilitation, recent researches have analyzed the efficacy of Pilates' exercises and have observed the possibility of movement reeducation, meaningful functional recovery, pain decrease in ankle, foot and injuries and total hip and knee arthroplasty (GALLAGHER, 1999; ANDERSON, 2000; COZEN, 2000; STONE, 2000; BRYAN, 2003; LEVINE, 2007; SILVA, 2009).

Blum (2002) compares the effects of Pilates' exercises to the results achieved by means of chiropractic techniques for the treatment of scoliosis in adults, and observes that in chronic lumbar pain and disc degeneration there has been a meaningful reduction of the pain condition.

Regarding the influence of flexibility and cardio-respiratory resistance, Schroeder (2002) identifies improvement in the flexibility of participants who have just started the method; however, there has been no interference in the aerobic capacity. Meanwhile, Trevisol (2009) has identified an increment in the ischium-tibium flexibility.

Esco (2004) and Herrington (2005) have observed that the abdominal transverse muscle features its action reinforced by the stimuli promoted by the exercises, which also promote an increase of the lumbar-pelvic stabilization.

Aged individuals and those who are hospitalized due to acute disease were able to benefit from this practice, according to research work developed by Mallery and collaborators (2003). There has also been an improvement in the movement span among individuals affected by osteoarthritis (YAKUT, 2005) and in the function of the shoulder homo-lateral to breast cancer among women (KEYAS, 2008).

Petrofsky (2005) has concluded that, after the practice of Pilates' exercises with resistance, the muscular activity improves 50% of the multiple groups simultaneously and increases muscular force.

According to Olson & Smith (2005), the Pilates' method exercises require wide demand of energy directly proportional to the degree of difficulty.

Papers that publish the effects on posture mention that intermediate - advanced exercises mitigate the unbalance between trunk extensors and flexors because they require more from the extensors (KOLYNIAC, 2004), strengthen the spine muscular system, (GLADWEL, 2006), reduce the intensity and the duration of the pain (CURNOW, 2008) and improve the postural control among the aged (KAESLER, 2007).

Johnson (2006) attests great influence on the dynamic balance among healthy adults.

And Bernardo (2006) highlights the relevance of this kind of treatment as a way to promote health.

FINAL CONSIDERATIONS

Since the Pilates' method was created, it has been going through changes depending on the focus and needs of the participants, on the pedagogical style, on the modernization of apparatuses, introduction and manufacturing of new accessories. This adaptation is understood as positive to the evolution of human body, to its needs and requirements, but, above all, it is necessary to preserve the basic principles of the technique.

Considering the expansion of the method in current society, and recognizing the difficulty to establish protocols for it, the number of studies on the matter is still low regarding the method in what concerns its action and the muscular involvement in the different exercises, specific effects in the basic, intermediate and advanced levels on the performance of physical skills and postural control.

In spite of well know shortage of researches in the area, most of the results concerning Pilates' method highlights physical skills, postural control and contribution to rehabilitation.

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PILATES' METHOD THEORETICAL FUNDAMENTS: A SYSTEMATIZED REVIEW

ABSTRACT:

Pilates' method is a physical and mental conditioning modality that dates back to the beginning of the 20th century. It has been promoted in current society as a modality able to provide balance between body, mind, physical skill, postural control and life quality. This study is a systematized review about the history, technique, practice and benefits of Pilates' exercises. Our objective is to contextualize the practice in the components of human corporeity, to contribute to the scientific knowledge about the method and add potential to it. We made use of articles recently published in databanks Scielo, Medline, Lilacs and Pubmed. In spite of well known shortage of researches in this specific area, most of the results highlight the enhancement of physical skills, postural control and contribution to rehabilitation.

KEY WORDS: Review literature as topic; Exercise Movement Techniques / methods; History.

FONDÉMENT THÉORIQUE DE LA MÉTHODE PILATES: UNE REVISION SYSTÉMATISÉE.

RÉSUMÉ:

La méthode Pilates, c'est une modalité de conditionnement physique et mental qui date du commencement du siècle XX et se répand par la société actuelle comme pourvoyeur de l'équilibre corps-esprit, aptitude physique, contrôle d'attitude et qualité de vie. Cette étude fait une révision systématique à propos de l'histoire, de la technique, de la pratique et les bénéfices des exercices de Pilates, pour contextualiser la pratique sur les composants de tout ce qui concerne le corps humain, contribuer pour le développement de la connaissance scientifique et promouvoir la méthode. Pour cela on a utilisé surtout des articles récents publiés par des banques de données Scielo, Médine, Lilacs et Pubmed. Quoique de manque de recherches bien connues dans cette aire spécifique, la plupart des résultats promeut les valeurs physiques, contrôle d'attitude et la contribution en faveur de la réhabilitation.

MOTS-CLÉS: Litterature de révision comme sujet; Techniques d'exercices et de mouvement/ méthode; Histoire.

MARCO TEÓRICO DEL METODO PILATES: UNA REVISIÓN SISTEMÁTICA

RESUMEN:

El método Pilates es un sistema de actividad física y mental creado en el siglo XX y va ganando creciente popularidad por la manera de proveer armonía cuerpo-mente, acondicionamiento físico, control postural y calidad de vida. Este trabajo es una revisión sistemática sobre la historia, la técnica, la práctica y los beneficios de los ejercicios del Pilates, logrando contextualizar la práctica sobre elementos constitutivos de la motricidad humana, contribuir con el desarrollo del conocimiento científico y mejorar el método. A partir de artículos científicos de las bases de datos Scielo, Medline, Lilacs y Pubmed. Aunque notable falta de investigación sobre esta área específica, la mayoría de los resultados marca promoción de las cualidades físicas, control postural y eficacia en la rehabilitación.

PALABRAS-CLAVE: Literatura de revisión como asunto; Técnicas por movimiento de ejercicio/ métodos; Historia.

FUNDAMENTAÇÃO TEÓRICA DO MÉTODO PILATES: UMA REVISÃO SISTEMATIZADA

RESUMO:

O método Pilates é uma modalidade de condicionamento físico e mental que data do início do século XX e está sendo difundido na sociedade atual como provedor de equilíbrio corpo-mente, aptidão física, controle postural e qualidade de vida. Este estudo é uma revisão sistematizada a cerca da história, da técnica, da prática e os benefícios dos exercícios de Pilates, objetivando contextualizar a prática sobre os componentes da corporeidade humana, contribuir para o desenvolvimento de conhecimento científico e potencializar o método. Foram utilizados, principalmente, artigos recentes publicados em bancos de dados Scielo, Medline, Lilacs e Pubmed. Apesar de notória carência de pesquisas nesta área específica, a maioria dos resultados pontua promoção de valências físicas, controle postural e contribuição na reabilitação.

PALAVRAS-CHAVE: Literatura de revisão como assunto; Técnicas de exercício e de movimento/ método; História.

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