

SWIMMING AS PHYSICAL ACTIVITY AND RECREATION FOR WOMEN

Maria Yfanti, Department of Physical Education & Sports Science. Aristotle University of Thessaloniki, Greece

Anastasia Samara, Department of Physical Education & Sports Science. Aristotle University of Thessaloniki, Greece

Pantelis Kazantzidis, Department of Physical Education & Sports Science. Aristotle University of Thessaloniki, Greece

Anastasia Hasiotou, Department of Physical Education & Sports Science. Aristotle University of Thessaloniki, Greece

Serafeim Alexiou, Department of Physical Education & Sports Science. Aristotle University of Thessaloniki, Greece

Abstract

The present study reviews all data that establish swimming as an everyday lifestyle and recreational activity for women, since it promotes wellness, well-being and longevity. Swimming as a natural, physical activity is one of the most effective ways of exercise, since it affects and work outs the whole body.

It is the most suitable sport for all age groups, because it combines beneficial results, for both body and soul and is also a low-risk-injury physical exercise. Aim of this study is to record the effect of recreational swimming in physical condition indexes and in quality of life in women. In particular to record the benefits, since studies have shown that swimming can help in prevention and treatment of chronic diseases and improves quality of life, of well-being and longevity. Results of all studies showed that swimming, as a great natural recreational activity has multiple beneficial effects on the female body that are not limited to the physical characteristics but are extended to the mental ones. Challenges for the application and development fields of this particular method of exercise, are the quality of service provided and the staffing of departments and programs in multiple carriers, private or public. Researchers and writers agree that there are great prospects for growth for women through partnerships, with programs and systematic research in the field of recreational swimming.

Keywords: Swimming, Woman, Recreation, Benefits

PLIVANJE KAO FIZIČKA AKTIVNOST I REKREACIJA ZA ŽENE

Apstrakt

Ova studija se bavi pregledom svih podataka koji afirmišu plivanje kao deo svakodnevnog životnog stila i rekreativne aktivnosti za žene, budući da promoviše zdrav život, dobrobit i dugovečnost. Plivanje, kao prirodna, fizička aktivnost je jedan od najefektivnijih načina vežbe, jer utiče na celo telo i razvija ga. To je ujedno i najprikladniji sport za sve starosne grupe, jer kombinuje pozitivne efekte na duh i telo, a predstavlja i vežbu sa niskim faktorom mogućnosti povrede. Cilj ovog rada je ispitivanje efekata rekreativnog plivanja na parametre fizičke kondicije i kvaliteta života kod žena.

Ovo se pogotovo odnosi na beleženje onih rezultata koji donose boljitak, budući da su studije pokazale da plivanje može da pomogne u prevenciji i tretmanu hroničnih bolesti, unapređujući kvalitet života, zdravlje i dugovečnost.

Rezultati svih istraživanja su pokazala da plivanje, kao odlična prirodna rekreativna aktivnost, ima višestruke pozitivne efekte na žensko telo, koji nisu ograničeni na fizičke karakteristike, već uključuju i mentalne.

Izazovi za primenu i razvoj na polju ove konkretne metode vežbanja su kvalitet pružene usluge i adekvatna kadrovska rešenja kompanija i programa, kako javnih, tako i privatnih stejkholdera.

Istraživači i autori se slažu u oceni da postoje odlične prilike za razvoj ove discipline za žene, kroz partnerstva sa programima i sistematskim istraživanjima na planu rekreativnog plivanja.

Ključne reči: plivanje, žena, rekreacija, pozitivni efekti

TIMS Acta (2014) 8, 137-145

Introduction

The history of swimming is connected with the story of life itself, as the first living creatures of our planet appeared in the primeval oceans before they set foot on land. Moreover, it is well known that every human being spends its first few months of life in a personal and exclusive aquatic world. Therefore, human attraction to water is physical and normal for all humans.

Data related to swimming date back to in ancient times through archaeological findings, proving that in ancient Greece swimming was a part of the basic education of children and part of their military education, as well. In ancient Rome there were heated pools. In 17th century Japan, swimming was a required course in school educational programs. People living in Pacific Islands learned to swim before they learned how to walk. Egyptians and Assyrians also indulged in swimming for recreation and fitness reasons.

Swimming was practiced in the Middle Ages as a useful skill for men. Gradually, this activity was thought to be a healthy exercise and, afterwards, a recreational one. In England, swimming, as a sport for all, began to spread during the 17th century. There was a widespread movement for improvement of human health, which gave extra boost to the belief that physical activity was favourable for good health (Chase, Sui, & Blair, 2008a). As a result, women were encouraged to change the status of physical inactivity, previously imposed by society. Finally, from the late 19th century, swimming becomes a competitive sport, but only for men.

The benefits of exercise, in people's physical and mental health, are numerous. Swimming as a physical activity can help improve health, physical fitness and quality of life (Saavedra et al., 2007, Fletcher et al., 1996, Gupta & Sawane 2012, Cox et al., 2010, Colado et al., 2009, Kargarfard et al., 2012, Nualnim et al., 2012).

Recreational swimming is an activity for all, especially women, mostly during summer and ideal for every age. Due to buoyancy there is no stress on muscles and joints, meanwhile due to water resistance, there is a strength improvement for muscles. Swimming, as a sport activity, has many advantages since it combines three basic components: entertainment, physical fitness improvement and lifesaving, in case of an emergency (Hadwen, Arthington, . 2003, Ferretti, De Angelis, Donati & Torre, 2014).

Swimming is also a beneficial exercise throughout the whole lifetime. The benefits of swimming, especially to someone's health are precious and invaluable during a lifetime. All body muscles are activated. The function of all systems is improved, especially the general feeling of force, as well as the muscular and cardiovascular endurance.

The everyday life of women and their multiple roles result to chronic fatigue, bending of energy potential (mental and physical) and the appearance of many diseases such as anxiety, cardiorespiratory disorders, mental disorders etc. It's a strong "escape need" from everyday life the use of free time for kinetic recreation such as swimming sports offer (Berger 1983).

Every day stress, fatigue, lack of free time and, perhaps ignorance, lead women to select activities offered by recreation industry.

Even today, the participation of women in sports is often underrepresented, since it is hampered by social and economic factors in a way that does not occur in men. This prevention remains, despite the obvious health benefits that exercise would provide to women, especially in childbearing.

Studies have shown that all age groups, from childhood to third age, participating in regular physical activity have better mental, psychological and physical health. The benefits of regular physical activity are plenty, such as cardiopulmonary endurance, strength increase and improved body image (Crews and Landers 1987).

It is also connected to higher levels of self-esteem and self-confidence and lower levels of anxiety and stress (Iso-Ahola, 1980). Exercise should be a way of living and thus it will lead people to live longer, to look better and to be healthier. It is better for a person to exercise throughout the whole life, but it is never too late, thus the ones who exercise harness the benefits of it in

any age (Fletcher et al., 1996).

The aim of the present study is to review existing articles of the benefits of recreational swimming in women, as well as the motives that lead women to choose this type of exercise.

Method

The method used in this article is the review of Greek and foreign literature and articles. The reliability and validity of work used in this research is evidenced by the participation in relevant scientific conferences with evaluation committees and in refereed journals with international circulation.

The present work is limited by the following facts: a) part of the literature used consists of summaries of articles and studies based on small samples of women, so the data obtained should not be considered representative for the whole population and b) it attempts to highlight the general model of recreational swimming, targeting women on the basis of the above surveys.

Review of studies related to the recreational swimming in women

Physical benefits of recreational swimming in general are physical fitness, the improvement of cardiorespiratory and cardiopulmonary system and the endurance of body muscles.

Physical benefits of recreational swimming in women are: reduction of body weight and heart disease risk, reduction of psychological factors and negative symptoms of menopause, curing the cellulite, improved circulation, protection of women from the growing cancer diseases.

Cardiovascular: Aerobic swimming exercise improves blood circulation and fights the coronary disease, also enhancing the system of oxygen transfer from the lungs to all body cells. (Mohr et al., 2014, Nagle et al, 2013).

Musculoskeletal: During the swimming effort, all major group muscles are used. Mainly the arms and upper body work more in order to produce the forward movement in relation to the lower limbs of the body. Studies have shown that exercises in the water depth not exceeding the loins of a person, decrease joint pressure for up to

50%, while exercises in the depth of up to man's chest decrease it for up to 75%. Thus, swimming is often used as a natural rehabilitation exercise after injuries and accidents, while contributing to maintaining joint flexibility, especially in shoulders and hip joints, depending on the swimming technique used. Additionally, swimming is a demanding exercise for all body muscles, making water exercise much more effective than land exercise. Muscle strengthening occurs due to the resistance of water in every direction, which helps muscles to be exercised, depending on the speed the various exercises are executed. Exercise in water provides the body with 12 to 14% higher resistance than land exercise, resulting in higher consumption of calories. Moreover, water resistance protects muscles from jerky body movements, which are highly connected to sport injuries (Pons-Villanueva et al., 2010, Collado et al., 2009).

Flexibility: Swimming can significantly improve one's flexibility. The smoothness of movement helps to lengthen and stretch the muscles of the body, rather than to become bulky, making them seem toned, healthy and strong. Such a program must be based on the general development of body flexibility and gradually expand into specific joints, with the aim of increasing the final limit of joints (Valkeinen et al., 2004). Exercise should never create muscular pain on specific joints; on the contrary, it should reduce the risk of injury by lowering stress.

Obesity: Exercise in water has many advantages for obese people. It contributes in a rise of energy expenditure, in easier weight control and in lessening of overload on joints and muscles due to buoyancy. Thus, the energy expenditure increases, the muscle mass is preserved and the fat tissue is reduced. Swimming also helps reducing systolic blood pressure (by 4,7 mmHg), increasing the tissue sensitivity to insulin and improving the blood glucose control (Cox et al., 2010). Reasons mentioned above, result to morbidity and mortality reduction of obese people (Gappmaier et al., 2006, Cox et al., 2010, Jones et al., 2009).

Mental benefits, swimming and mental health

Findings of epidemiological studies and specialized analyses show that the individuals who exercise regularly, are less prone to depression and have lower anxiety

levels, compared to sedentary ones (Wade 1985). Meanwhile, these persons display an active behaviour. Exercising contributes to a better body image, self-esteem and self-perception, feeling of achievement, of superiority and realisation (Michevic 1982). This is due to variations caused to sympathetic system activation, as well as to various physiological alterations (Crews & Landers, 1987). Anxiety reduction through physical exercise, depends on the intensity of the exercise. Results of different studies have shown that aerobic exercise contributes more to anxiety reduction, due to elimination of fear of water, enhances water confidence and helps in socialization when exercising in groups. Berger & Owen (1983) observed that people who participated in swimming lessons significantly enhanced their emotions. In general, types of exercise suggested by researchers are walking first and swimming afterwards. It is known that during aerobic swimming endorphins are released, one of the three main groups of endogenous opioids produced in brain, with best known the beta-endorphin, acting with strongest analgesic action. Group exercise, either aerobic in water or regular exercise on land, can help people to socialize. Exchange of stories, mutual challenge, the feeling of sharing a "hard" exercise, makes training a rewarding experience (Lee and Oh, 2013).

Quality of life measurement instruments

The first attempts to define quality of life started in 1970's. Since then, constant efforts have been made to create various different methods of measuring quality of life. The instruments created are divided in two categories (Amarantos, Martinez & Dwyer, 2001):

- Generic instruments or general tools

These tools were created to measure quality of life and health level of the general population, as well as that of different socio-economic and cultural groups. These instruments can be used in various situations.

- Disease-specific instruments.

These instruments are related to the measurement of life quality in a population with specific diseases and specific disease categories. They are used in particular occasions and focus on specific health problems, not only physical but also mental, caused by specific diseases.

Participation motives - Differences in motives between men and women

Numerous studies have been published studying men and women motives in choosing different sports. According to Biener (1980), women, more often than men, are motivated to sports. Men are influenced by extraneous incentives while women are influenced by internal ones. Additionally, men are not motivated by women to exercise, while the opposite happens much more often (Biener, 1980, Meyer, 1992) According to Meyer, health is the number one reason in motivation scale for women. Heuwinkel (1990), on the other hand, finds a significant difference in appreciating "wellness" in women (85%) compared to men (55%). According to Opaschowski (1987), body image is much more important in women, 26%, in contrast to men, 6%. It is rather obvious that motives such as, health and good fitness, stress reduction, companionship, good performance and appearance are dominant in women's minds (Cox et al., 2008). Another study results in the same conclusion; women in comparison to men think that exercise is a good chance to achieve balance between exterior work and housework. Women's percentage was 78,3 and men's 70,5 (Meyer, 1992). Finally, according to Emnid's survey, the "health" motive is mentioned first, with good physical condition and appearance coming second and anxiety control, third.

Swimming during pregnancy

While many forms of exercise are commonly considered too aggressive and therefore not recommended during pregnancy, swimming has a very unique profile compared to most other regimens. Swimming offers a safe means of exercising as the water partially supports body weight, decreasing burden on spine and limbs. As a low impact exercise, it helps muscle strengthening, improves the function of cardiovascular system and makes oxygen delivery to the baby easier and more effective. Swimming can lower stress level during pregnancy and help women sleep better. It can also help women reduce unhealthy habits such as smoking, increased alcohol intake, too much stress at work, etc. (Clap & Little, 1995, Sibley et al., 1981, Juhl, et al., 2010, Katz, 1996).

In a survey conducted by the Department of Epidemiology at the University of North Carolina, U.S.A, in 9953 pregnant women, it was found that 12% have chosen swimming as an exercise medium (Zhang, Savitz, 1996). The most popular activities recorded in a similar research, were walking, aerobics and swimming, (Hartmann, & Bung, 1999).

Basic advantages of physical exercise for pregnant women

Swimming has plenty of benefits for women during pregnancy, such as relief of back pain, reduction of constipation and swelling of lower limbs, prevention or treatment of gestational diabetes mellitus, increased energy levels, improved disposition (reduces anxiety and stress concerning pregnancy outcome), improves posture (decreases back ache), stimulates muscle tone, strength, endurance and muscle elasticity, improves quality of sleep, reduces cardiovascular stress, helps pregnant women give birth to healthy and well developed babies and finally improves rehabilitation after labor (Clap & Little, 1995, Sibley et al., 1981).

Due to buoyancy, swimming is the ideal exercise during pregnancy. The additional weight is supported by water and makes exercise easier and safer to the woman and baby, protecting both from injuries (Hartmann & Bung, 2005).

Necessary precautions

Although swimming is a safe and effective type of exercise, there are always some necessary precautions to consider, such as: not all exercise training programs are suitable for every woman but "custom-made" sessions should be considered, depending on the level of physical fitness of the person. It is important to plan feasible exercise programs in water. There should also be regular weight control and arterial pressure checking, as well as encouragement and discussion on the objectives and results of the program (Katz, 1996, Juhl et al., 2010).

Discussion - conclusion

The main findings of this review were:

Regular and programmed activity in water reflects positively on all systems of the exercising women's bodies (Fletcher et al., 1996). It causes qualitative and quantitative increase of function, increased efficiency and improved operational systems (Zinman et al., 1986, Pherwani, et al., 1988, Courteix et al., 1997). Swimming can train the whole body, the heart, the lungs and muscles, having minimum bad impact on joints and ligaments (Rodriguez, 2000). Therefore, an athlete could get a healthy body by swimming only. Due to the physical properties of water (buoyancy, hydrostatic pressure, resistance and temperature) the possibilities of a safe and effective exercise activity are numerous, even in comparison with the land exercise (Potdevin, Normani & Pelayo, 2013)

It is equally suited for small children and the elderly. Inside the pool, body weight is balanced by the buoyant force of water. Also, the hydrostatic pressure makes the blood circulation easier. This is why water-based exercises are recommended to those with physical disabilities too, since the exercise program can be adjusted to each individual. (Costil, Maglisco & Richarson, 1992, Doherty, & Dimitriou, (1997).).

Furthermore, this activity engages nearly every muscle in the body. Improving blood circulation helps to remove small layers of cholesterol or other toxins within the blood vessels and to improve the cardiovascular function. Also, swimming requires a large number of calories per stroke. This includes calories from the cholesterol, as the leading cause of heart-related illnesses and elevated blood pressure (Deligiannis., Bakirtzi, Zaxopoulou & Giatsis, 1989).

Swimming as a recreational activity has many advantages for women, not only physically, but also mentally. When exercising becomes a way of lifestyle, it hinders the onset of symptoms of old age and activates the psychic potential, improving the quality of life. Many studies confirm that water-based exercise, as a physical activity, can contribute to not only the formation and improvement of one's personality but also to increase of perception and appreciation for oneself through the overall effect on physical and psychological well-being (Papaianou, 1997, Whitehead & Corbin, 1997).

As revealed by the reviews of motives for participation, women are motivated by internal incentives and particularly the purpose of improving their physical and mental health, resulting in better fitness and better dealing with everyday responsibilities. Other factors can be, for example, the improvement of self-image, as well as the stress reduction. Socialization, after all, through recreational swimming programs, can contribute to better mental health (Meyer, 1992).

External motives can be free time, the socio-economic way of life, and the existing recreational programs, with the quality of sport facilities. Finally, for women, the bodily fatigue, the achievement of personal goals, the personal satisfaction and pleasure are important reasons for participating in recreational swimming. This activity helps developing life skills, such as love for sport, proper time management, self-discipline, learning to set life-goals as well as developing the sense of self-validity through sport participation.

In general, the researchers agree that there are great prospects for development through partnerships, programs and systematic study of this level of swimming.

One of the most important periods in woman's life is time during pregnancy. Since all scientists agree on the beneficial effect of exercise even during pregnancy, it is a matter of personal preference for the mother-to-be to include movement and physical exercise in daily routine. It is extremely important for a woman to pass through these nine months as normal and uncomplicated as possible. Regular aerobic exercise, such as swimming, can result in significant improvement in physical fitness and specific in aerobic capacity, meanwhile contributing to maintaining healthy body weight.

In addition, water birth has been suggested as a particularly safe and natural method and has been applied in several obstetric clinics, even in Greece.

Swimming helps counteract the increased back strain from expanding belly. Pregnancy forces the spine and shoulders to round forward and the pelvis to tilt out of alignment. Swimming can gently strengthen the muscles and offset this tendency. The water also protects from overheating and supports joints and ligaments, preventing injury, lowering arterial pressure and preventing pregnancy diabetes (Lewis, et al., 2008). In a Valgesoo & Linkberg (1997) research, 149 healthy pregnant women

were divided to three exercise groups. The first group followed a 4-month yoga exercise program, the second group practiced energetic exercise and the third group practiced swimming, (20 minutes per training, intensity to the 62% of maximum heart rate). All three groups had normal birth, free of complications, with the 2nd and 3rd group having better physical fitness, a fact that helped women gain less weight (2 kilos) and babies to be born a little lighter (200 gr) compared to 1st group.

Marquez-Sterling et al (2000) suggested a low impact aerobic exercise programme. In their research, 149 pregnant women who used to train took part in a program including aerobic, walking, swimming, stationary bicycle and stationary rowing. The duration of the programme significantly affected their aerobic capacity and they had a normal birth delivery.

Suggestions

The possibility for recreation and exercise, the sport facilities and employment of efficient staff in sports units constitute important steps towards the qualitative upgrading of the sport recreation. It is important that further research concerning female engagement in sports, particularly in swimming, be done, starting from recreation and health preservation, as well as at pregnancy stages, when the foetus grows inside the moist environment of its mother's abdomen.

According to Mull, Bayless, Ross and Jamieson (1997), at the recreation sports area, there is an extended range of activities, the same one should be applied to recreation swimming.

Participation in regular swimming programs of public and private entities is important, as well as in general programs like "sport for all" where participants take part for fun and good health, just for the joy of participation. Also participation in tournaments of entities like universities, clubs and business corporations.

The following should be also considered:

Creation of groups depending on the capability of the participants, improvement of the program when the initial target is achieved, appropriateness of sport facilities, suitable training hours especially for mothers, child care for special occasions etc.

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Datum prijave rada: 10.07.2014.

Datum prihvatanja rada: 07.10.2014.

Kontakt

Maria Yfanti, Department of Physical Education & Sports Science. Aristotle University of Thessaloniki, Greece
E-mail: yfanti.maria@gmail.com

Anastasia Samara, Department of Physical Education & Sports Science. Aristotle University of Thessaloniki, Greece
E-mail: samaranatasa@gmail.com

Pantelis Kazantzidis, Department of Physical Education & Sports Science. Aristotle University of Thessaloniki, Greece
E-mail: kazantzidis@gmail.com

Anastasia Hasiotou, Department of Physical Education & Sports Science. Aristotle University of Thessaloniki, Greece
E-mail: ahasiotou@gmail.com

Serafeim Alexiou, Department of Physical Education & Sports Science. Aristotle University of Thessaloniki, Greece
E-mail: seralex@phed.auth.gr