

## The Effects of Water Exercise on Physical Fitness and Health Parameters: A Mini-Review

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Physical exercise is increasingly recognized as an effective means of helping to combat sedentary routines in any age group, due to the benefits this practice entails, regarding to health or functional capacity [1,2]. However, in spite of its countless benefits, there are situations where its practice may present some limitations, namely in the case of people with low levels of physical fitness, obese individuals and with difficulty of locomotion, and in the elderly, due to the functional changes imposed by the aging process [1,2].

With the main purpose of alleviating the difficulties present in this type of population, there has been a significant increase in the practice of physical exercise in the aquatic context [3]. Although these practices are preferentially prescribed for populations with some weaknesses, such as elderly or obese individuals, they have also been recommended for people without any type of limitation [3]. Moreover, aquatic activities have been used as alternative methods for recovery of injuries in sportsmen who have their usual practice conditioned outside water [4].

Thus, exercise in the aquatic environment has emerged as a safe alternative essentially due to the properties that the medium offers, namely: buoyancy, which provides a reduction of the effect of body weight and reduces the forces of compression and impact on the joints; and drag forces, which provide resistance during all movements [5-7], thus providing a lower effort perception, but requiring a much more intense effort compared to a similar activity practiced out of water [8].

Nowadays within the popularity of aquatic exercise programs, water aerobics is one of the most recognized by the scientific community [9,10]. This type of exercise provides a variety of movements performed using the properties of water to create resistance to movement, in a situation with decreasing force of gravity on the body, and with favorable results in regard to the physical capacities of practitioners [11].

However, the scientific evidence is not yet consensual regarding the importance of hydro gymnastics for the maintenance of health and physical fitness in sedentary, active or with special needs populations [1]. The results presented are divergent, possibly due to the different methodologies and the time used in the various studies, leading to ambiguous conclusions [12]. There are also doubts and some controversy regarding the importance of these activities in improving some indicators of health and physical fitness, with emphasis on the effects on bone and muscular structures [13,14]. Based on the analysis of the studies, it is evident that the intensity used to perform the exercises in hydro gymnastic programs may be one of the main distinguishing factors between the different research protocols and that may influence and explain the divergent results [12]. In this sense, the effective analysis of the effect of the intensity of exercise used in the hydro gymnastics programs in the optimization of the gains obtained in health and physical fitness requires a more rigorous understanding.

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