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**Review Article**

# What Is Fitness Training? Definitions and Implications: A Systematic Review Article

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**Abstract**

**Background:** This review based upon studies searched from the major scientific libraries has the objective of clarifying what is fitness training in modern days, the implications that it has on health in both youth and elderly and finally discuss fitness training practical implications.

**Methods:** The PRISMA statement was partially adopted and a number of 92 items were selected, according to the inclusion criteria. Results were discussed in 4 main sections: 1. Children and adolescents fitness levels; 2. Fitness training in the elderly; 3. Pathology prevention through fitness training; 4. Training through Fitness activities.

**Results:** This review pointed out the fact that nowadays there is a large variety of fitness activities available within gyms and fitness centers. Even though they significantly differ with each other, the common aim they have is the wellbeing of the people through the improvement of the physical fitness components and the psychological balance.

**Conclusion:** Fitness instructors' recommendations should be followed in gym context and should be contingent upon an individual's objectives, physical capacity, physical characteristics and experience.

**Keywords:** Fitness training, Conditioning, Physical fitness, Physical activity

## Introduction

Since 1985, terms like physical activity, exercise, fitness training, training, fitness and physical fitness are often confused with one another and sometimes they are used interchangeably (1-4). The rapid socio-economic and demographic mutations, the need to benefit from the natural dimension has led to a diversification of the application of physical exercise/sport that today it presents itself with different objectives and with the research of different forms of satisfaction. Thus decreasing the demand of organized sport, competitive racing and the increase of individualized physical activities, aimed to achieve different objectives such as inner balance or psychophysical well-being. The phenomenon of physical exercises or commonly defined as "*fitness*", "*exercise*", "*conditioning*", "*resistance training*" or better "*fitness training*", however, is a very complex reality. Indeed, with the term fitness, it is possible to identify a range of activities that are conducted every day in fitness centers (Gyms) and we can regroup them into Gym resistance training activities; Group fitness activities; Functional fitness activities.

In the last decade, the activities that undergo the term Fitness have evolved. Initially aerobics, step aerobics, jogging, conditioning and bodybuilding were the most common gym activities that enabled population to "*be fit*", now we may found more diversified and more careful to the needs of active and non-active population activities. Some examples are: funky, zumba, fit box, cycling activities, calisthenics based training, cross fit, suspension training, kettlebell training, total body conditioning, core training, boot camp, functional training, pilates, yoga, stretching. It is clear that including such activities under the more generic term fitness or fitness training, a psychological process starts in people's mind that day after day mutates the meaning of the term itself (5-7). There are various definitions of fitness (8), that go from an ability to perform daily activities with vigor, to a demonstration of traits and capacities that are associated with a low risk of premature development of hypokinetic diseases (e.g., those associated with physical inactivity). Although, when we speak about fitness we include the state of wellness that is defined as a multidimensional state of being describing the existence of positive health in an individual as exemplified by quality of life and a sense of well-being (9-11).

Consistent with this definition, there is no doubt that there is a strong relationship between physical fitness and many components of wellness. However, physical fitness is neither health, nor wellness. There is considerable evidence that physical fitness, and the behaviors that build it, can reduce risk of illness and early death (5, 10, 12, 13). In addition, fitness can lead to enhanced cognitive functioning and can enhance one's ability to participate in leisure, often a satisfying social experience. However, both health and wellness are much broader terms than physical fitness. Poor health can occur even in highly fit people because of factors beyond personal control such as hereditary conditions or conditions caused by bacterial/viral infections. A low fitness level is widely associated with hypokinesia (5, 7). This is a risk factor for various diseases such as coronary diseases, diabetes, metabolic syndrome, hypertension and hypercholesterolemia. Although, inactive people develop a RR due to CHD that is similar to those who smoke cigarettes, have hypertension and have hypercholesterolemia (14, 15). This is just one of the countless examples that confirm that regular exercise represents an important factor in prevention against disease, that are most often associated with death in industrialized countries.

Analyzing various populations that go from youth to elderly, from health to pathological conditions, from specific to recreational fitness users, we will try to answer to some questions such as what benefit fitness training have on health? Or which is its preventive role? And witches are fitness's major implications? And more in general, what is fitness training?

## Methods

The review follows the 27 key points stated in the PRISMA statement (16, 17). The PRISMA statement was partially adopted.

### *Eligibility criteria*

All the studies included in the review were fitness or health based and had to provide specific information regarding all the questions that this review is trying to answer and updating the original review of the authors. The majority of the cited studies were published from 2006 to 2014 and the ones with a previous date than 2006 were included only if scientific literature did not provide, for that period, pertinent evidence.

### *Information sources*

The scientific databases used were MEDLINE-NLM and MEDLINE-EBSCO. We also searched on Scopus Elsevier, Cochrane, DOAJ, CASPUR, SciELO, and PLOSONE.

The standardized search strategy included the use of the terms "exercise", "exercise training", "fitness training", "health", and "fitness" in the title, abstract, and keyword field. We searched also the most common diseases related to physical inactivity (diabetes, metabolic syndrome, stroke, atherosclerosis, hypertension and obesity). Statements and Books were included, when appropriate. The overall research has produced 7737 results but the inclusion criterion has skimmed results to 117 items. Of this after careful analysis, only 92 were inserted in text. The 25 studies not included even if matched the inclusion criteria (year, relevance) were evaluated as "off-topic" in respect to this search. All the selected articles were then divided in 4 major categories: 1) Children and adolescents fitness levels; 2) Fitness training in elderly; 3) Pathology prevention through fitness training; 4) Training through Fitness activities.

## Results

### *Children and adolescents fitness levels*

The American Physical Therapy Association SoP (18) has developed a task force to summarize fitness guidelines for children and adolescents. These state that to promote overall fitness, youth should participate in 60 minutes or more of physical activity every day, and that physical therapists should apply research relevant to health-related physical fitness when treating youth, promoting fitness, health, and wellness(19, 20). A high fitness level, in this specific case cardiovascular fitness, can improve quality of life and make ordinary tasks such as street crossing easier (21). A number of 13 highly fit children and 13 low fit children aged 8- to 10-yr-old were tested on a treadmill that was integrated with an immersive virtual world. Child pedestrians crossed the street while undistracted, listening to music, or conversing on a hands-free cellular phone. Cell phones impaired street crossing success rates compared with the undistracted or music conditions for all participants, a result that supports previous research. However, individual differences in aerobic fitness influenced these patterns. Higher-fit children maintained street crossing success rates across all three conditions, whereas lower-fit children showed decreased success rates when on the phone, relative to the undistracted and music conditions. The results suggest that higher levels of childhood aerobic fitness may attenuate the impairment typically associated with multitasking during street crossing; these evidences are also confirmed earlier (21, 22). Furthermore, a low level of fitness in youth can lead to obesity-insulin resistance and diabetes type 2 (22, 23). Intensive exercise training may improve insulin sensitivity. Authors (24) have investigated on this phenomenon in 13.0±1.9 years old subjects, and tried to understand the involved mechanisms. Fasting laboratory studies (insulin, glucose, lipid profile) and assessments of fitness, body composition, skeletal muscle oxidative phosphorylation and intramyocellular lipid content (IMCL), were performed at baseline and study completion. Change in fitness was related to change in insulin resistance in response to lifestyle modification and exercise in obese children. IMCL increased with exercise in these obese children, which may reflect greater muscle lipid oxidative capacity.

Other studies have investigated on the relationship between Aerobic fitness and the adiposity in 8 and 12 year old overweight boys. The results confirm the previous analyzed study's findings; those with a lower percentage of adiposity had a greater level of aerobic fitness (25, 26). Further intervention has been performed on 99 African and Hispanic girls and their mothers (27). The girls attended a daily exercise, nutrition education, and counseling sessions from 9:00 a.m. to 5:00 p.m. Mothers attended 2-h weekly exercise, nutrition, and counseling sessions. Findings indicated statistically significant reductions in percent body fat, abdominal fat, and 1-mile run/walk minutes indicating the effectiveness of increasing fitness level even in young girls. These findings let us understand that not only there is an improvement on insulin sensitivity or muscle lipid capacity, but this leads to a reduction of body fat that is an important factor for quality of life and self-esteem (28, 29). Two decades ago changes in eating habits does not seem to have influenced the prevalence of obesity in the UK population whereas there seems to be a correlation between hours of television a week and obesity, so it is evident an interesting link between obesity and hypokinesia (30). This section supports the idea that the improvement of physical fitness during childhood is determinant for the future pathologies prevention. As we will see more forward on this review, the fitness training may represent valid support against inactivity, overweight and obesity (Fig. 1).

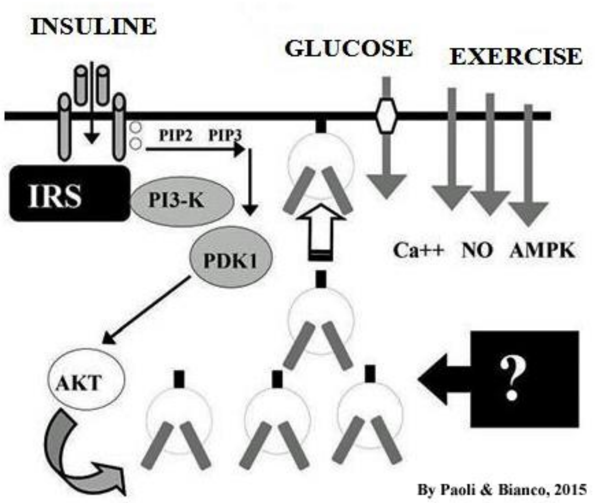


**Fig. 1:** Intracellular transport mechanisms of glucose

### *Fitness training in elderly*

In 1993, the CDC and ACSM stated that people should not carry out intensive training to improve their health. The joint committee of the two organizations concluded that a moderate level of activity (walking, doing housework or gardening, playing with the kids) took place during the day, providing the sufficient amount of exercise to improve their health(6, 7, 31). Since then this approach has been widely adopted by many governments and associations. Currently, there is no uniformity of opinions among researchers that deal with exercise and recommendations and/or guidelines. In fact, these discrepancies are a challenge to the political part of the world of health. Recommend a too vigorous training means to scare people; on the other hand, a too bland training may not induce the expected benefits. It is a dilemma that we find in many areas of medical research, from ageing to diet, to exercise physiology, where scientific data is not absolutely discriminatory (7, 32). According to the MRFIT study and the scholar Blair, people with low levels of fitness had a higher probability of death during the eight years of the study, and also the two studies suggest that a moderate activity reduces this risk. The bias of the Blair's study, as observed by other researchers, is that the level of fitness is related to genetics and if we wanted to use exercise as a "drug" we should quantify this variable (15, 33, 34). Other data show that the risk for cardiovascular disease decreases linearly with the increase in physical activity (35, 36) and only those who perform strenuous physical activity showed a reduction in the risk of heart attack. Although many authors agree that physical activity is necessary to reduce many of the risks related to health. There is still no unanimity of opinions on the amount and intensity of exercise necessary (2).

The ACSM had recently recommended a moderate aerobic exercise most (though not all) of the days of the week with resistance exercises twice a week. To most people this may seem a prohibitive operating frequency but thinking that the goal of spending 150 kcal per day may be achieved even with frequent walks added to the individual caloric expenditure (6, 7), although not all authors agree on the limited amount of exercise and the fact that splitting the same amount in more sessions leads to the same effects (5, 37).

A recent study has compared two different exercise programs in elderly: Resistance training *vs* Aerobic training. Resistance training group 1) performed 6 exercises of resistance training twice a week, and aerobic group 2) participated in walking activity for 30 minutes twice a week. Functional assessment was measured by the short physical performance battery, flexibility test, and the six-minute walking test. Mean age was 68.8 years in the Resistance Training Group and 69.1 years in the Aerobic Exercise Group. Both groups showed improvement in physical fitness. No statistical difference was seen when groups were compared in the short physical performance battery, flexibility, and six-minute walking test. This is an interesting result that shows how important physical activity is, besides its typology (38). Further studies (37, 39-43) have also shown that different typologies of resistance training, like classical *vs* functional training have given to elderly the same benefits in terms of strength and that besides the volume of training an improvement in physical fitness gives improvements in systolic and diastolic blood pressure with a reduction of 3.6% and 1.2%, respectively, body mass index by 1.1%, and peripheral blood glucose was reduced by 2.5%. Only low *vs.* high velocity training has shown differences in terms of power (37) appearing that in older men there may be a significantly greater improvement in functional performance and muscular power with power training versus low velocity resistance training. Even short-term resistance training improves fitness in elderly (41). A program of only 6 weeks was sufficient to enhance muscle quality of the knee extensors in elderly women, which resulted in beneficial changes in functional capacity. Fitness benefits in the elderly do not stop just in improving quality of life, improving functional capacity or strength that will be used in everyday tasks but pushes its self-further. Physical activity enhances bone mineral density (42) and more a recent evidence confirms that the resistance training is an effective intervention strategy to slow down sarcopenia(44, 45). The role of exercise on sarcopenia in the elderly is also properly discussed in a recent study (46). Authors discussed about the principles governing the prescription of physical activity for older people with sarcopenia and published some specific advices for how to engage older adults in appropriate training programs (46). Another important aspect is related to the fact that the overall fitness is a significant mortality predictor in older adults, independent of overall or abdominal adiposity (43). According to what stated in this section, clinicians should consider the importance of preserving functional capacity by recommending regular physical activity for older individuals, normal-weight and overweight alike.

## *Pathology prevention through fitness training*

There are many well-qualified evidence on the relationship between physical inactivity and diabetes (47, 48). Some reports were built based on the observation of the prevalence of this disease in populations with different lifestyles and reflected the increase in incidence in people who had left their native country for moving in more industrialized countries (49). Physical inactivity is significantly associated with the development of IGT (Impaired Glucose Tolerance) and diabetes (50-52). Physical activity has a protective role against the development of diabetes (24, 53, 54) even when there is a family history of this disease that can also cause significant metabolic and anthropometric modifications in young healthy subjects (55, 56).

Exercise is a potent stimulator of glucose transport and insulin independent at the same time enhances the action of insulin, and this effect persists even after days after the exercise. It seems that muscle contraction stimulates translocation of GLUT4 on the membrane through mechanisms different from insulin, even if the two stimuli can be added. The hypothesis is that muscle contraction stimulates glucose transport through the increase of cytoplasmatic $Ca^{++}$ (57). This is likely to enhance both functional as a mean of preventing the onset of diabetes also through the control of body weight and as a mean to improve the clinical condition of the patient (58, 59).

There is also an increase of the number of people with diabetes that also have a low level of fitness that are so at major risk in developing cardiovascular disease as secondary consequences. A comparison between aerobic training and resistance training has been done in the above-mentioned population (60). What was found was that structured exercise training, especially the aerobic training component, was associated with a greater number of participants moving above established thresholds, indicative of low cardio respiratory fitness. These results have public health and clinical implications for the growing number of patients with type 2 diabetes at high risk for cardiovascular disease. Other major consequence of physical inactivity or in general a low fitness level is the metabolic syndrome that is highly prevalent in populations around the world, regardless of the definition used (61). Physical inactivity and obesity are two of the major modifiable risk factors for the metabolic syndrome (62). Cross-sectional and prospective studies have generally found that levels of physical activity and fitness are inversely related to the prevalence of this syndrome. Research that is more recent has also suggested that sedentary behaviors, such as excessive time spent watching television or using a computer, are significantly associated with an increased risk for this syndrome. Separate but complementary approaches that encourage increased participation in physical activity and discourage sedentary behaviors, both at the individual and population level, may be useful in reducing the prevalence of this syndrome (2, 63).

Further evidences show the positive influence of cardio respiratory fitness in both, moderate and vigorous, and metabolic syndrome (64). In an experimental group of 18 non-diabetic subjects with metabolic syndrome, that underwent 8 weeks of increasing intensity stationary cycle training, even though there was an absence of weight loss, it resulted in enhanced mitochondrial biogenesis, and increased expression of insulin receptors and GLUT4 in muscle(65). This translates in to a better glycemic profile.

Application of metabolomics to nutrition and health research is increasing and while much effort has been invested in understanding factors that influence the metabolomic profile there is relatively little known about the impact of fitness levels (66). A reduced excretion of amino acids in adults is associated with increased fitness levels and an increased fat oxidation rate during exercise. Interestingly, higher levels of branched chain amino acids were associated with lower fitness levels and higher insulin resistance (66). When talking about fitness and pathology prevention a great association must be done with cardiovascular diseases. Most of the studies of CVD have verified the influence of exercise on CVD mortality. It seems from the most recent data based on the direct estimation of the cardio respiratory fitness (CRF) that there is a clear inverse relationship between CRF and reduction of CVD mortality and that this reduction is proportional to an increased level of fitness and / or an increased amount of physical activity (67, 68). Early intensive aerobic exercise training could be considered in subacute stroke patients not only to enhance their cardiovascular fitness but also to maximize their functional recovery (69). In fact, stroke is a leading cause of long-term disability. Physical fitness training is known to be beneficial for persons with a number of comorbid conditions or risk factors for stroke (70, 71). A study conducted on 10 chronic stroke survivors (72) wanted to understand what kind of training would be beneficial for these subjects. Patients trained 3 days/wk for a total of 12 weeks, with four sets of four repetitions at 85%-95% one repetition maximum in unilateral leg press and plantarflexion with an emphasis on maximal mobilization of force in the concentric phase. After training, leg press strength improved by 30.6 kg (75%) and 17.8 kg (86%); plantarflexion strength improved by 35.5 kg (89%) and 28.5 kg (223%) for the unaffected and affected limbs, respectively. The 6-min walk test improved by 13.9 m, and the Timed Up and Go test time improved by 0.6 secs. Maximal strength training improved muscle strength in the most affected as well as in the no affected leg in chronic stroke survivors (72). Other important CVD is hypertension that is defined from a medical point of view as a short course situation characterized by very high values of blood pressure (73). The benefits of physical activity and increased fitness levels are well known in preventing and/or reducing hypertension (68, 74-76). Two studies have compared traditional continuous training vs interval training. The results show two important events. The first that in both cases either in continuous and interval group blood pressure decreased and the general cardio respiratory fitness level increased and that between the two groups the interval training showed the major results (77, 78). It is so advisable to perform this type of training though is less time consuming and beneficial in hypertension or non-hypertension conditions (79).

Fitness also finds utility in rehab of individuals undergoing residential treatment for methamphetamine (MA) dependence (80). This study assesses the feasibility and efficacy of an 8-week endurance and resistance-training program on fitness measures. Individuals recovering from MA dependence showed substantial improvements in aerobic exercise performance, muscle strength and endurance, and body composition with fitness training.

At the end of this section, we may state that these findings demonstrate the feasibility of physical exercise interventions in particular conditions and show an excellent responsiveness to a different kind of exercise stimulus resulting in physiological changes that might enhance recovery from drug dependence and certainly could translate into a quality of life improvements (Fig. 2).

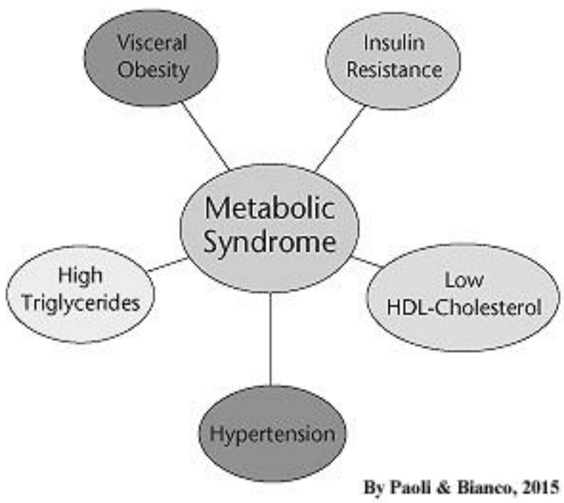


**Fig. 2:** Characteristics of the metabolic syndrome

### *Training through Fitness activities*

Raising awareness, that fitness improves the quality of life, has pushed a greater number of people to practice physical activities. These have evolved over the years, giving rise to several studies focused on exercise prescription guidelines(7), progression models in resistance training for healthy adults (81), program variables and key training principles (82) and new disciplines (83). Having already seen that fitness training has positive effects body, we are going to clarify what are the differences between some of these fitness activities (84).

An immediate comparison between traditional training *vs.* functional training on strength development in adults (85) has shown that there are no statistical differences between the two protocols, but these become evident if we stratify by gender, evincing a greater strength increase due to traditional training in women compared to functional training. Another important consideration must be done when considering the training frequency: this must not be neither too bland nor too frequent, advising then a frequency of 3 times a week to maximize improvements (86). Other comparison was done between Mission Essential Fitness circuit-style training program and a standard Army Physical Readiness Training on fitness, physiological, and body composition changes (87). Active duty Army personnel were randomly assigned to two groups (MEF = 34 or APRT = 33) for 8 weeks of training (15 sessions each). The MEF program included functional movements focused on strength, power, speed, and agility. Fifteen exercises were performed continuously for 60 to 90 seconds for 45 minutes.

Baseline and post-test measures included the Army physical fitness test, physiological indicators, body composition, and additional fitness indicators.

The MEF participants significantly increased their push-ups, bench press, and flexibility and significantly decreased their 2-mile run and step test heart rate compared to participants doing APRT. Both groups maintained body composition and reported no injuries. Other Authors compared 7-week physical training program with traditional army physical fitness training in improving the selected measures of physical fitness and military task performance. Subjects performed a 30-meter rush wearing a fighting load, a simulated casualty recovery wearing a fighting load, a one-repetition maximum (1RM) bench press, a maximum repetition pull-up test, a medicine ball put, a vertical jump. The participants were assigned by block randomization to either traditional Army physical training (TT) of calisthenics and running or a novel program (NT) of calisthenics, resistance, aerobic, speed, power, and agility training. NT was superior to TT in improving bench press medicine ball put, 30-m rush times and casualty recovery times. These findings suggest that a short-term physical training program is effective in improving strength, power, and speed among previously conditioned men. This "*functional*" novel approach as seen is useful both for civil and military population in strength and fitness development (85, 88).

In recent years, even kettlebells have re-emerged as a popular training modality for strength and conditioning in fitness activities (89). This type of training is usually considered part of resistance training but recent evidence has shown that can even considerably increase VO2 max.

**Table 1:** The most common fitness activities performed nowadays within fitness centers and gyms

| Fitness Training Activities | Group Fitness Training Activities |
|---|---|
| Resistance Training (RT) | Step Aerobics |
| Upper Body RT | Aerobics |
| Lower Body RT | Zumba |
| Total Body RT | Ballroom Dancing |
| Power Training (PT) | Indoor Cycling |
| Upper Body PT | Pilates |
| Lower Body PT | Mixed Martial Arts |
| Total Body PT | Yoga |
| Strength Training (ST) | Autogen Training |
| Upper Body ST | Aqua - Gym |
| Lower Body ST | Martial Arts |
| Total Body ST | Total Body Conditioning |
| Functional Training (FT) | Latin American Fitness |
| Upper Body FT | Hip Hop |
| Lower Body FT | Funky |
| Total Body FT | Core Training |
| Rehabilitative Training (RhT) | Balance Training |
| Upper Body RhT | Flexibility Training |
| Lower Body RhT | Tai Chi |
| Total Body RhT | Qi Gong |
| | Capoeira |
| Circuit Training (CT)<br>• General Conditioning<br>• Strength<br>• Power<br>• Skill | |
| Cardiovascular Fitness Training / Endurance Training (CFT)<br>• General Endurance<br>• Weight Loss (Also called "*fat-loss*")<br>• Maximal Aerobic Capacity (Also called "*endurance*")<br>a. Intensive Cardiovascular Fitness Interval Training<br>b. Extensive Cardiovascular Fitness Interval Training<br>c. Incremental CFT<br>d. Constant CFT | |

This could be a useful tool for coaches in implementing cardiovascular fitness in a non-conventional way (90). It must be also said that kettlebell training in comparison to weightlifting training even if both are effective in increasing strength and power, don't generate strength gains like weightlifting movements (91). Talking about non-conventional fitness training even though scientific literature has still a lack in this matter of research, cross fit is gaining interest around the world (92). Cross fit can be defined as a high intensity power training for resistance and aerobic training. A study conducted amongst 23 males and 20 female over a 10 week training program wanted to investigate the effects of cross fit on aerobics and body composition. Results of this study showed significant improvements of VO2max in males and females as well as decreased body fat percentage in males and females. These improvements were significant across all levels of initial fitness. Significant correlations between absolute oxygen consumption and oxygen consumption relative to body weight was found in both men and women indicating cross fit improved VO2max scaled to body weight independent of changes to body composition. These data suggest that cross fit significantly improves VO2max and body composition in subjects of both genders across all levels of fitness (92). This section pointed out the fact that nowadays there is a large variety of fitness activities available within gyms and fitness centers (Table 1). Even though they significantly differ with each other, the common aim they have is the well-being of the people through the improvement of the physical fitness components and the psychological balance.

## Discussion

Evidence has shown that practicing and improving fitness has positive effects on human body. In children and adolescents, the effects of practicing regular physical activity can give a positive base for a healthy future life. Aerobic training especially it has been shown in improving cardiovascular fitness. Other positive shown effects are the reduction of fat mass and increased insulin sensitivity. This physiological condition is essential in the prevention of various diseases such as diabetes, metabolic syndrome and more in general the major cardiovascular disease. Furthermore having a high level of fitness helps even an in ordinary task that in general makes life easier. Even in elderly, documented benefits occur with increased fitness levels. It is possible to prevent the physiological strength decrease with a proper fitness resistance training protocol that is important because has known, strength is the most important motor skill, and having a good level of strength can prevent early hospitalization. Furthermore, especially in elderly women a regular fitness based program can improve or prevent osteoporosis, a dramatic condition that with the increase of physical inactivity is spreading worldwide.

Beyond age, regular physical activity and a healthy lifestyle (so an increased fitness level) can help individuals in being "*healthy*". Has previously shown, regular physical activity increases insulin sensitivity and this enables the body to use glucose and other nutrients in a better way than sedentary. This condition is determinant in pathologies such as diabetes that are positively correlated to physical inactivity. Even CVD are linked with fitness especially with aerobic fitness and this reduces morbidity for secondary pathologies. Therefore, a positive healthier condition is doubly beneficial: in first instance for the gain in health and secondary for the reduced medical costs that a healthy individual has to sustain. Further considerations although have to be done not only on the health related consequences of fitness, but should be observed in the "*performance*" aspects that everyday gym, and not only, practitioners are used too. During the last decade, has shown, various fitness disciplines have emerged, these are valid and useful in improving fitness compared to "*traditional*" training. The evolution of society in maximization production and reducing application time is also reflecting in fitness and performance: we can see this in the massive number of *high intensity* protocols that have been developed. Examples like HIIT, cross-fit, boot camp training, functional training routines and many more are the proof of this evolution. This means that fitness training is evolving dynamically in accordance to the needs of people. In conclusion, the world of fitness, gyms and fitness centers is a big, diversified and specialized community in continuous evolution, also online through thousands of www pages.

## Conclusion

The needs of society and the will to increase health and promote positive lifestyles is making fitness a pivot around which everything revolves. Children, adolescents, healthy and not healthy adults can all benefit from practicing fitness training and although these activities according to personal characteristics can be recreational and fun. A minimum of 60 minutes per day of physical activity is recommended, but seen, how said, this world is dynamically evolving, it is important to stay up to date with new findings from scientific literature.

## Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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The authors declare that there is no conflict of interests.

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