

Physical Activity Why and How?

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Human beings are designed for physical activity. Human movement is positively related to health. The physically active life-style has changed and it seems that many people are not sufficiently active.

Physical activity is often defined as any bodily movement produced by skeletal muscles that require energy expenditure [1]. Physical activity also means a multidimensional behaviour defined as “the behaviour that involves human movement, resulting in physiological attributes including increased energy expenditure and improved physical fitness” [2].

Physical fitness includes both health and skill related fitness. Muscular endurance, muscular strength, cardiorespiratory endurance, body composition and flexibility are examples of health related components of physical fitness whereas agility, balance, coordination, speed, power and reaction time are examples of skill related components [1].

Modern physical activity research began in the 1950s with the studies by Morris and colleagues on bus drivers and conductors [3]. Today there is strong scientific evidence that regular physical activity promoting health and preventing many chronic diseases. [4-7]. Physical activity has multifactorial effects, meaning that it affects many systems in the body at the same time and can thereby influence both physical and mental health [4,8-12].

The effect of physical activity is dose dependent in terms of frequency, duration, intensity and type of physical activity and can be measured with different kind of subjective and objective methods [13-15]. Physical activity is complex, meaning that it is difficult to measure in an objective way. It can be measured directly (heart rate monitor) or indirectly (self-reported questionnaires). Self-reported physical activity and self-administered recall questionnaires are the most used methods to assess physical activity behaviour [16-17].

A retrospective questionnaire can be used to recall what physical activities that were completed over the day or during a longer period. Recall bias may exist and self-reported physical activity could be over- or underreported [18].

The guidelines for physical activity have changed over time. Earlier recommendations focused on high intensity physical activity whereas nowadays the recommendations focus on more moderate intensity physical activity lifestyle to improve health [19]. The current guidelines for adolescents involve 60 minutes or more of either moderate or vigorous intensive physical activity per day, and more than 60 minutes provides additional health benefits. The majority of these physical activities should be aerobic-type activities. At least three times a week adolescents should be engaged in physical activity of vigorous intensity, including those that strengthen muscles and bones [5-7].

The Swedish recommendation for the population is that: “All individuals should be physically active for a combined minimum of 30 minutes, preferably every day. The intensity should at least be moderate, such as a brisk walk. Additional health effects can be achieved if the daily amount or intensity is increased beyond this.” In order to affect various diseases, an individually adapted recommendation is needed that takes each individual circumstance into account [20].

It has been reported that causes of mortality are delayed if regular physical activity is carried out, and that benefits are associated with higher amounts of physical activity in a dose-response relationship [21]. Physically inactive subjects, who are unwilling or unable to meet physical activity recommendations, however still can get health benefits from being engaged in less physical activity than the recommendations; “some is good, more is better” [21].

This has led researchers to search new ways to tackle the problem and for a greater understanding of the effect of the physical activity.

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