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HEALTH-RELATED OUTCOMES OF PHYSICAL ACTIVITY AND EXERCISE

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Annotation: This article devoted to open the theme health-related outcomes of physical activity and exercise and discovered the latest researches. On the other hand, in the article moderate level of physical activity was discussed.

Key words: *Mental health, Physical health, physical fitness, cause mortality, epidemiological studies, maximal treadmill test, all-cause mortality, compulsive behavior.*

Mental health and well-being are critical aspects of a fulfilling life, influencing how we think, feel, and act. In the workplace, these elements play a significant role in overall productivity, job satisfaction, and the ability to navigate challenges. This chapter explores the definitions and dimensions of mental health and well-being, the interplay between physical and mental health, the subjective nature of well-being, the prevalence and causes of mental ill health, and an understanding of specific mental health issues such as stress, depression, anxiety, burnout, trauma, and significant life changes. Mental health encompasses our emotional, psychological, and social well-being. It affects how we think, feel, and behave, influencing our handling of stress, interpersonal relationships, and decision-making. Good mental health is more than the absence of mental disorders; it is the ability to manage life's challenges, work productively, and make meaningful contributions to the community. Well-being is a broader concept that includes physical, mental, and social aspects of health. It is about feeling good and functioning well, experiencing positive emotions, having a sense of purpose, and maintaining healthy relationships. Well-being is not static; it fluctuates based on life circumstances, social support, and personal resilience.

To understand behavioural aspects of physical activity, it is important to identify the proposed links between physical activity and health that have emerged over recent years. Comprehensive overviews can be found in Bouchard et al. (1994), Dishman et al. (2004) and Hardman and Stensel (2003), and in a summary in the CMO's Report (Department of Health 2004a)[1]. Physical activity, physical fitness and chronic disease Much of the literature dealing with the health outcomes of physical activity has been associated with chronic diseases and

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health risks such as coronary heart disease (CHD) and obesity. The CMO's report in England summarized the level and strength of evidence for a relationship between physical activity and cardiovascular disease, overweight and obesity, Type 2 diabetes, musculo-skeletal disorders, psychological well-being and mental illness, and cancer.

All-cause mortality large studies in Finland and the USA have shown that those who are physically more active are less likely to suffer premature death and thus have greater longevity. Prospective epidemiological studies have established that sedentary living carries at least twice the risk of morbidity and all-cause mortality. This is also the case when physical fitness is assessed, rather than just physical activity. For example, Blair et al. split their sample of over 10,000 men and 3,000 women from the Aerobics Center Longitudinal Study in Dallas, into five fitness categories based on scores on a maximal treadmill test[2]. Age-adjusted all-cause death rates showed significantly greater risk for the lower fitness groups. Lee and Skerrett (2001) identified papers investigating the nature of the relationship between physical activity and allcause mortality. They included only those with at least three levels of physical activity in order to test a dose–response relationship and this yielded forty-four studies. Evidence for an inverse dose-response relationship was found for physical activity in thirty-four (77 per cent) of the studies. The authors concluded that there is 'clear evidence' for this association[3]. A link between exercise and mental health has been suggested for centuries. Data have now been accumulated on the complex processes involved and a clearer picture has emerged over the past few years. Although this topic is dealt with specifically in several chapters in this book (see Part III), summary statements will be made here also. Drawing on clinical and epidemiological studies, as well as narrative and meta-analytic reviews, it can be concluded that physical activity, usually of a moderate level:

- has a small-to-moderate beneficial effect on anxiety reduction and stress reactivity;
- has a moderate-to-large beneficial effect on mild to moderate depression;
- has a small effect on self-esteem and a moderately favourable effect on self-perceptions, mood and psychological well-being;
- has been associated with positive effects on selected measures of cognitive function and psychological adjustment.

Some of these statements will be moderated by age, gender or other factors. Risks of exercise and physical activity Although the evidence supports quite clearly the beneficial health effects of physical activity, there are some aspects that may be contraindicated for some groups,



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or situations in which a particular health risk is elevated during physical activity. The most commonly cited risks of exercise are sudden cardiac death and musculo-skeletal injury. Although the risk of sudden cardiac death is elevated with exercise, the balance of cardiac benefit and risk as a result of being an exerciser is positive. Siscovick et al. reported that men who exercised vigorously for more than twenty minutes each week had an overall risk of primary cardiac arrest only 40 per cent of their sedentary counterparts [4]. It appears, therefore, that despite a temporary rise in risk during exercise, this is outweighed by the long-term effects of exercise on cardiac risk. Knowledge on the musculo-skeletal risks of exercise is not extensive, although clinical studies have been conducted on swimming, running, cycling, callisthenics and racket sports and have identified a number of injuries (Koplan, Siscovick and Goldbaum 1985; Pate and Macera 1994). Blair, Kohl and Goodyear (1987) reported three population studies on the rates of running injuries. In their first study, they found that 24 per cent of runners reported an injury during the previous year and the rate increased with body weight and weekly distance run. In their second study, Blair et al. found that when comparing runners with non-runners at a preventive medicine clinic, only knee injuries were significantly higher in runners. Finally, a worksite population study found that risk of injury was associated with a number of factors, including increased age and body mass index.

Few studies have assessed control groups, hence our knowledge of physical activity-related injuries relative to sedentary cohorts is poor. Some mental health problems have been identified with exercise, such as eating disorders or dependence on exercise. Polivy (1994) located only eleven studies on addiction to exercise and concluded that exercise could indeed be a compulsive behaviour for some individuals[5]. This is likely to be unhealthy due to increased risk of injury, fatigue, illness and psychological ill health. However, the prevalence of exercise dependence is not known and is likely to be very small.

Summing up all given facts above it should be noted that understanding mental health and well-being is crucial for creating a supportive and productive workplace. By recognizing the interconnectedness of physical, mental, social, and spiritual well-being, we can foster environments that promote holistic health. Awareness of the subjective nature of well-being and the commonality of mental ill health enables us to address these issues with empathy and effectiveness. By identifying and understanding specific mental health problems, we can implement strategies to support those affected, ensuring a healthier, more resilient workforce. Physical health and mental health are interconnected, like the roots and leaves of a plant. Good

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physical health enhances mental well-being, while poor physical health can increase the risk of mental health problems. Regular exercise, a balanced diet, adequate sleep, and avoiding harmful substances contribute to both physical and mental health.

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