

## **Prevention of Workplace Musculoskeletal Disorders among Computer Operators**

**Mohammad Hossein Delshad<sup>1</sup>, Sedigeh Sadat Tavafian<sup>2\*</sup>,  
Anoshirvan Kazemnejad<sup>3</sup>**

The muscle strength decline is a risk factor for shorter lifespan due to lower health-related fitness (HRF). HRF levels influence not only health conditions and productivity, but also cause workday loss, and lower mood and performance in the workplace. Factors like lack of knowledge/skill in fitness principals, poor dietary habits, traditions, low physical activity (PA) level, low movement, time constraint on doing regular exercise due to academic stress, insufficient social support, intimidating exercise environment, and limited exercise facilities cause lower HRF [1]

During recent years, there were numerous advances in our understanding of the essential processes that cause people's behavior. It could be concluded that different systems can form different behaviors. For instance, different educations could shape different behaviors [2].

Health behaviors are “overt behavioral patterns, actions or habits that lead to health maintenance, health restorations, and health improvement. In this regard, health behavior theories are a family of psychological models that have been used to understand and predict health behaviors [2].

Prolonged sitting in the working place tends to be associated with musculo-skeletal disorders of which low back pain (LBP) is the most prevalent [3]. However, too much sitting is associated with an increased risk of chronic diseases and premature death [4].

Although the sedentary behavior is most prevalent among office workers, less is known about the factors that determine sedentary behavior. Personality-characteristic patterns of feeling/thinking, and attitudes might be related to sedentary behavior. In particular, there is now good evidence implying that personality

---

1. PhD Candidate, Department of Health Education and Health Promotion, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran      Email: H.Delshad@modares.ac.ir  
2. Associate Professor, Health Education and Health Promotion, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran      Email: Tavafian@modares.ac.ir  
3. Professor, Department of Biostatistics, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran  
Email: Kazem\_an@modares.ac.ir

characteristic relates to the amount of time spent in physical activity [4].

Positive, informed change in health behaviors is typically the ultimate aim of health education and health promotion major [5].

Lower back, neck, and shoulder pains are the most common reported musculo-skeletal disturbances (MSDs). Approximately 80% of the public population is affected by these disorders at a certain point during their lifetime. Exercise therapy is the most commonly used approach for the treatment and therapy of MSDs. Stretching prepares several benefits for office workers at work and may improve morale and team cohesiveness [6].

The effects of stretching on the prevention of upper limb disorders among computer operators have been reported as an improvement in the function of the arm muscles [7]. However, the authors have reached to this conclusion that there is little or no statistically significant empirical evidence about the benefits of exercises for decreasing MSDs' symptoms [6]. Health promotion and health education programs play a key role to promote and raise healthy behaviors. The main task of health education and health promotion is to understand the health behavior and to transform knowledge about health behavior into effective strategies. Research in health education and health behavior, finally, will be judged by its contribution to improving the

health of populations [5]. At the end, health education specialists are responsible for assessing the roots of all unhealthy behaviors like sedentary behaviors; they can activate the circulation of knowledge, research and practice in this regard.

## References

1. Liu J, Shangguan R, Keating XD, Leitner J, Wu Y. A conceptual physical education course and college freshmen's health-related fitness. *Health Edu* 2017; 117(1): 53-68.
2. Sheeran P, Klein WM, Rothman AJ. Health behavior change: Moving from observation to intervention. *Annu Rev Psychol* 2017; 68: 573-600.
3. Weston E, Le P, Marras WS. A biomechanical and physiological study of office seat and tablet device interaction. *Appl Ergon* 2017; 62: 83-93.
4. Allen MS, Walter EE, McDermott MS. Personality and sedentary behavior: A systematic review and meta-analysis. *Health Psychol* 2017; 36(3): 255-263.
5. Glanz K, Rimer BK, Viswanath K. *Health behavior: Theory, research, and practice*. 6<sup>th</sup> Edition, san Francisco, CA: John Wiley & Sons, 2015; p:100-120.
6. Gasibat Q, Simbak NB, Aziz AA. Stretching exercises to prevent work-related musculoskeletal disorders: A review article. *AJSSM* 2017; 5(2): 27-37.

7. Choi SD, Rajendran S, Ahn K. Stretch & Flex Programs: Effects on the reduction of musculoskeletal disorders & injuries. *Prof Saf* 2017; 62(5): 38.