



Package of Office Exercise Training as a New Idea for Office Workers

***Ardalan SHARIAT¹, Shamsul BAHRI MOHD TAMRIN¹, Manohar ARUMUGAM²,
Rajesh RAMASAMY³, Mahmoud DANAEI⁴**

1. Dept. of Occupational Health, Faculty of Medicine and Health Sciences, University Putra, Malaysia
2. Dept. of Orthopedics, Faculty of Medicine and Health Sciences, University Putra, Malaysia
3. Dept. of Immunology, Faculty of Medicine and Health Sciences, University Putra, Malaysia
4. Unit of Enhancements Academic Performance, University Malaya, Malaysia

***Corresponding Author:** Email: ardalansh2002@gmail.com

(Received 19 Nov 2015; accepted 11 Dec 2015)

Dear Editor-in-Chief

“Musculoskeletal discomfort of the neck, shoulder and lower back affects individuals and has socio-economic outcomes; it is the most common global musculoskeletal disorder” (1, 2). The highest rate is seen in industrialized societies, in which 70-80% of adults are affected at some time. Around 1% of those living in the USA suffer recurrent bouts of this disorder (3).

Creating a practical solution to this problem in office workers is a high priority, and this has led to the aim of producing a package of training exercises which can be performed in the office and will prevent musculoskeletal discomfort but without producing any side-effects. The first aim of this package will be to improve the flexibility and strength of trunk muscles (the absence of which leads to soreness and pain). Previous research suggests that doing a series of physical activities would be useful(4) but, so far, there have been no clear instructions regarding the specific exercises that should be undertaken. The main hypothesis underlying this study, based upon the scientific literature, is that the prevention and treatment of musculoskeletal discomfort can be achieved by increasing the flexibility and strength of trunk muscles, especially those in the neck, shoulder and lower

back regions. Therefore, the exercises should include some stretching and resistance training, and they should be easy to perform by office workers in their working environment without the need for any special apparatus. The exercises should target the upper and lower body, particularly the core muscles and vertebral column, since these are the areas where the problems are most prevalent.

The optimal timing for doing this package is 3 times per week during work hours. Each exercise in the package should be done 10 times (or for 10-15 s), with 60-90 s rest between different exercises. The duration of this package should be short, and it should be gentle enough not to cause fatigue or pain. It is suggested that the correct way to perform the exercises should be taught by demonstration either in person or using social media. Displaying an advertisement in the workplace can be helpful. It is also suggested that the protocol is overseen by a qualified coach.

To ascertain the correct intensity of perceived exertion when performing the tests, a pre-test session and at least one post-test session (after 2 months) are suggested. It is expected that improvements in the strength and flexibility of subjects' trunk muscles of the neck, shoulder and

lower back areas will be seen after 2 months, associated with decreased pain and discomfort of these areas. The Borg CR-10 scale, range of motion (of the neck, shoulder, hip and knee), musculoskeletal discomfort questionnaire and electromyography (EMG) are useful instruments to measure flexibility, strength and pain in the target areas (5).

As a take-home message, the package of exercise training for the office is new and is designed to improve the flexibility and strength of the trunk muscles of office workers. The package can reduce the symptoms of pain and discomfort in the trunk muscles, particular those in the shoulder, neck and lower back regions. It can also reduce the pain experienced during and, especially, after working hours. Getting to sleep more easily and feeling more comfortable during sleep are other positive effects of this package.

Acknowledgments

Special thanks to Faculty of Medicine and Health Sciences, University Putra Malaysia. The authors declare that there was no conflict of interests.

References

1. Coggon D, Ntani G, Palmer KT, Felli VE, Harari R, Barrero LH, et al. (2013). Disabling musculoskeletal pain in working populations: Is it the job, the person, or the culture? *PAIN®. Elsevier*, 154(6):856–63.
2. Shariat A, Bahri Mohd Tamrin S, Daneshjoo A, Sadeghi H (2015). The Adverse Health Effects of Shift Work in Relation to Risk of Illness/Disease: A Review. *Acta Medica Bulg*, 42(1):63–72.
3. Helmick CG, Felson DT, Lawrence RC, Gabriel S, Hirsch R, Kwoh CK, et al. (2008). Estimates of the prevalence of arthritis and other rheumatic conditions in the United States: Part I. *Arthritis Rheum*, 58(1):15–25.
4. Tamrin SBM, Yokoyama K, Aziz N, Maeda S (2014). Association of risk factors with musculoskeletal disorders among male commercial bus drivers in Malaysia. *Hum Factors Ergon Manuf Serv Ind*, 24(4):369–85.
5. Medicine AC of S. *ACSM's guidelines for exercise testing and prescription* (2013). Lippincott Williams & Wilkins.