The effect of daily exercise on the prevention of musculoskeletal and cardiovascular diseases. Literature review.

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Introduction

«**Using a simple mobile application related to daily activity shows a significant increase in a user's physical activity for over 8 weeks**» (Glynn et al., 2014). The development of technology and medicine meet on mobile telephony devices, which have become an integral part of our everyday life. Through these devices you enable the user, among other things, to record some personal health data such as diet, weight, walking, sleeping and exercise. Many recording applications of the above data have been rendered in recent years and used by the general public to record their daily performance(Rooksby et al., 2014).

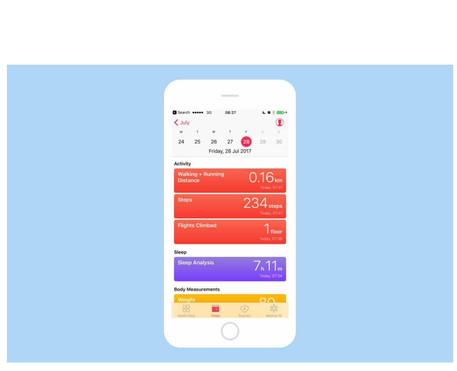
Depression from daily exercise seems to be the fourth major risk factor for global mortality, causing 3.2 million deaths per year worldwide (Virot P., 2011). These statistics have confused the research community, medicine and mobile phone technology. As reported, by the end of 2010, there have been over 17,000 mobile applications that track a user's daily exercise, and it is estimated that 500 million people, 1/3 of mobile users worldwide, use applications to improve their quality their lives(Kirwan et al., 2012).

Walking is the most common form of exercise, meanwhile it seems to help pain reduction and reduces the symptoms of osteoarthritis, and if walking is combined with daily dosing can bring positive results to the cardiovascular system(White et al., 2013).

The aim of the research is to upgrade the existing knowledge and to highlight the ideal number of steps a person needs to do, to prevent musculoskeletal and cardiovascular diseases within a daily exercise base.

Material and method

The review was based on clinical studies, randomized studies or systematic reviews that took place over the last five years (2013-2018) to validate existing knowledge. The search was conducted in PubMed, EBSCO, SPORT Discus databases, meanwhile the google scholar search browser was also used. Keywords used within the databases were per / day, musculoskeletal system, cardiovascular system. Surveys from around the world were used including articles that used mobile phone or watch applications. Unpublished articles were not included as well as non English articles or those including animals.



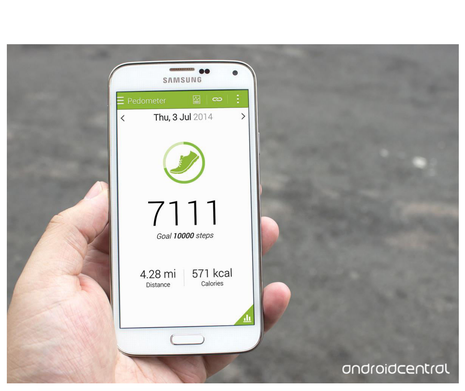




***Figure 1**. The images show some types of walk-through gauges from a mobile phone*

Results

In a post-menopausal study, the 10,000 steps were not enough, claiming that the 12,500 steps are those that can improve the health of women with a high energy index, while women with low energy activity 7,500 are enough (Kroemeke et al., 2014).

People who suffer from multiple sclerosis should take 5903 steps a day to maintain their musculoskeletal system healthy and help prevent various conditions (Dlugonski et al., 2013)

In people with stage-2 diabetes, a survey showed that these individuals should do walking on a daily basis of 4,000 steps and over to control their glucose levels (Van Dyck et al., 2013).

While people with osteoarthritis need to perform daily about 8,200-11,800 steps (White et al., 2014).

Regarding the healthy population, a survey reveals that 5000 steps - known so far- on daily basis should be avoided and instead suggesting that 7500 steps where 3,000 of these done within 30 minutes is the ideal figure for healthy individuals (Houle et al., 2013; Shift et al., 2013; Pillay et al., 2015; Thus, another survey conducted in 2017 reports that the 5000 steps are enough for healthy individuals (Dohrn et al., 2017). However, a 2018 survey indicates that 10 000 steps per day are the most ideal (Saldias et al., 2018).

Research conducted on people with long-lasting sedentary lifestyles has shown that an hour of daily physical exercise can not compensate for the negative effects of daily inertia. While it is reported that reducing daily inertia with low-intensity activities such as walking and standing is more effective than one-hour exercise a day to improve insulin factors (Duvivier et al., 2013)

Conclusions

A daily exercise program should be proposed to all health clients and especially those who are mobile phone application users, could benefit a walkthrough of 7,500 steps a day. Following the general framework, the general public should be encouraged to restrict periods of immobility, increase walking and exercise frequency. The 7500 steps recommended, are not excessive and can offer many benefits such as the prevention of musculoskeletal and cardiovascular diseases.

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