Exercise as medicine: Are primary care professionals equipped to prevent chronic disease through physical activity prescription?

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Introduction

Noncommunicable diseases (NCDs), comprising of cardiovascular diseases (CVD), cancers, and diabetes are the leading causes of death globally.[1] Of the 57 million deaths that occurred worldwide, almost two-thirds of them can be attributed to NCDs.[1] This rapid increase in NCDs might be attenuated through cost-effective and metabolically beneficial interventions, such as increased physical activity (PA). In combination with an increase in PA prescription, the health of Canadians and costs to the healthcare system may benefit from a shift to disease prevention rather than treatment. The following paper will address the need for primary healthcare physicians to combat physical inactivity, chronic disease, and rising healthcare costs through effectively prescribing exercise as medicine.

PA has been shown to decrease the risk of contracting many acute and chronic diseases.[1] Furthermore, it is well established that regular moderate-to-vigorous physical activity (MVPA) exercise lowers the risks and symptoms associated with the co-morbidities of obesity;[2] all of which are said to be key drivers of the increase in chronic disease. Despite the supporting evidence and awareness of the medical community regarding the importance of being physically active, only 15% of Canadians are meeting the Canadian Society of Exercise Physiology's recommendation of 150 minutes of MVPA a week, which is needed to obtain substantial health benefits from PA.[3]

Burden of physical inactivity on society

Approximately 3.2 million deaths per year are attributed to physical inactivity, and individuals who are physically inactive have a 20-30% increased risk of mortality.[1] The total healthcare cost of physical inactivity in Canada was calculated to be $6.8 billion in 2009 with direct costs reaching $2.4 billion or 3.8% of the Canadian healthcare budget.[4] The vast amount of research on the health benefits of PA in recent years, and the concurrent economic burden of inactivity, exacerbate the need for primary healthcare professionals to assist in preventing acute and chronic disease by prescribing PA rather than pharmacological interventions. Therefore, it is important to note that given the association with decreased PA and ones susceptibility of acquiring a NCD, prescribing PA is a cost efficient way to decrease this burden.

Combating physical inactivity: What can be done?

Non-pharmacological interventions, where health professionals recommend lifestyle and behaviour modifications, may be an important treatment and could be prescribed prior to utilizing pharmacological strategies; the body of literature supporting this position continues to grow. Woolcott and colleagues.[5] found that healthcare costs were reduced when PA was prescribed, thus making PA beneficial to both the financially stressed healthcare system and the individual. Interestingly, physicians can play a role in decreasing this healthcare burden, as patients are more likely to follow an exercise regimen if prescribed and/or advised by their physician.[6] This is important as more than 66% of Canadians consider their family physician their primary line of care; it is this group of individuals with who they first consult with on health issues.[7] Consequently, it proves worthwhile for primary care employees to be trained and educated in PA.

Current barriers and future Implications: Merging the fitness and healthcare industries

It is recommended that physicians provide their patients with individualized exercise prescriptions. However, physicians identify barriers to writing exercise prescriptions, as they do not feel competent in doing so.[8] Interestingly, in a recent study examining fourth year medical students at ▶

the University of British Columbia, it has been noted that the students' engagement in PA can impact their attitudes towards exercise prescription and counselling.[9] Specifically, those with higher PA levels had more confidence in exercise prescription.[9] Medical schools in the United States have incorporated exercise-counselling courses in their curriculum, and these courses have improved the students' confidence and knowledge regarding prescribing exercise as medicine.[10] Therefore, education on prescribing PA should commence in medical school, with an objective of increasing medical students' personal PA levels and thus increasing confidence in prescribing exercise. Furthermore, additional research is needed to understand whether medical students' efforts to combat NCDs through PA prescription translates into positive patient outcomes and experiences.

The healthcare system and other related sectors involved in the effective prescription of exercise must merge in order to reduce the burden physical inactivity, chronic disease, and rising healthcare spending have on global health levels. The American College of Sports Medicine and the Canadian Society of Exercise Physiology's campaign "Exercise is Medicine" is becoming more recognized; however, in the authors' opinions, the best advocates and promoters of this campaign are the medical societies and colleges. Given that individuals trust and value their physician's opinions and advice, it would be beneficial for medical students to be trained in exercise prescription early on in their medical training to ensure that the next prescription a physician writes is one for the "exercise pill." ■

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Shawn Slade is Maters of Science candidate in Health Promotion at Western University in London, Ontario. His Master's thesis examined the perceived barriers, facilitators, and health benefits of sustaining a fitness facility membership amongst active and less active adult women. Shawn will be continuing his research at Western and has plans to study personal trainers as a method of preventative healthcare in Canada for his PhD dissertation. Shawn's research stems from over ten years of experience as a personal trainer working with physicians and allied healthcare providers.

Nadine Shaban

Nadine is a talented fitness writer and nutrition expert who also holds a Masters Degree in Exercise Physiology from the University of Windsor. Her research specialty is glucose handling in Type 2 diabetics during high intensity interval exercise (HITT). Nadine is currently finishing her nursing degree at Western University. Nadine also holds a B.S. in Kinesiology from the University of Windsor. In addition, Nadine is a certified strength coach under Charles Poliquin, a certified Biosignature Practitioner through Charles Poliquin, and a certified nutritional consultant through Precision Nutrition. Nadine's personal philosophy is to challenge people beyond what they believe they are capable of accomplishing. She hopes to inspire people to adapt to a healthier lifestyle. She believes people not only need to change their mindset towards exercise, but must also have a positive and balanced relationship with food. She truly believes a healthy mind represents a healthy body.