

Evidence-Based Medicine: Acknowledging the Role for Physical Activity

Brendan M. Levac, MSc¹, Ellen L.R. Cusano, MBT¹, Ryan McGinn, MSc¹

¹Faculty of Medicine, University of Ottawa

ABSTRACT

Modern technology and lifestyles have created an environment that predisposes our population to inactivity, resulting in fewer people meeting the Canadian Physical Activity Guidelines. There is a clear link between inactivity and the risk of developing chronic health conditions including hypertension, type 2 diabetes, and cancer; however, exercise prescription and counselling by physicians is lacking. This may in part be attributed to inadequate training of physicians during medical school. In this commentary, we outline the demand for awareness and training of physicians to prepare them to prescribe physical activity, and propose steps to increase exercise prescription for improved population health.

RÉSUMÉ

La technologie moderne ainsi que nos habitudes de vie actuelles nous prédisposent à l'inactivité ce qui mène moins de personnes à respecter les directives canadiennes en matière d'activité physique. Un lien direct existe entre l'inactivité et le risque de développer des problèmes de santé chroniques incluant l'hypertension, le diabète de type 2, et le cancer. Toutefois, l'exercice et le counseling prescrits par les médecins sont peu pratiqués par les patients qui pourraient en bénéficier. Dans cet article, nous soulignerons le besoin de formation des médecins afin de mieux les préparer à prescrire de l'activité physique à leur patients et leur proposer des étapes pour améliorer la santé physique de la population.

It is well established that physical inactivity increases the risk of developing chronic health conditions, including hypertension, type 2 diabetes, stroke, cancers, dyslipidemia, and osteoarthritis, along with various gynecological and respiratory problems [1]. Cardiorespiratory fitness is one of the strongest health predictors and is associated with lower all-cause and cardiovascular mortality [2]. Despite the substantial body of literature to support the numerous benefits of exercise in all individuals, both for primary prevention and treatment of many chronic health conditions [3], there is a very poor adherence to the recommended 150 minutes per week of moderate-to-vigorous exercise as per the Canadian Physical Activity Guidelines [4,5]. According to the 2012 and 2013 Canadian Health Measures Survey, which directly measured adult Canadian physical activity levels, only 24% of males and 21% of females met the guidelines [6]. These overwhelming levels of inactivity have extensive consequences on overall health such that the annual economic burden attributable to physical inactivity is estimated to be \$10 billion [7]. The evidence supporting the widespread benefits of exercise on physical, mental, and emotional health has been recognized for decades, however modern technology and the built environment have nearly completely enabled society to function with a sedentary

lifestyle [5,8]. Importantly, modern medicine has underutilized the potential of physical activity in primary prevention and the treatment of many common health conditions [9,10]. Therefore, physicians are missing a vital opportunity to educate Canadians about lifestyle factors that contribute to poor health outcomes and implement systematic changes to enhance the delivery of exercise as preventative and therapeutic medicine, such as referral to exercise specialists and fitness assessments [10,11].

Physicians are situated at the critical interface between the ever-growing body of knowledge within the medical community and their patients who rely on their dissemination of that evidence base. While physicians dedicate countless hours educating themselves on the best available therapies and diagnostic tools, there are certain areas of medicine that are under-recognized. The role of exercise to combat the negative health effects of a sedentary lifestyle is under-recognized due to its inadvertent exclusion from medical school curriculum, and a lack of confidence and time amongst physicians to appropriately prescribe exercise [12]. To this end, Stoutenberg and colleagues (2015) interviewed 58 medical school program directors from the United States regarding exposure to curriculum focusing on the benefits of physi-

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cal activity in preventative medicine over the duration of the four year programs and found that, on average, students were given a total of 8.1 hours of instruction on the topic [13]. This data is further substantiated by a survey of fourth year medical students at the University of British Columbia, which reported that 69% of students perceived exercise counseling to be highly relevant to clinical practice and 86% thought that they lacked adequate training in the area of exercise prescription [14]. With minimal exposure to the concept of complementing treatment paradigms with physical activity, it is not surprising that physicians do not feel confident in prescribing and counselling their patients about exercise. Given the evidence-based approach to western medicine, it is clear that the inclusion of physical activity into the medical curriculum is long overdue. Furthermore, the notion that physically active physicians are more likely to counsel and advise their patients about exercise indicates that these curriculum changes should also encourage medical students to lead physically active lives by example [15].

Exercise is Medicine Canada (EIMC) was launched in 2012 as a national initiative in conjunction with many Canadian universities, focusing on the promotion of physical activity and exercise prescription in healthcare settings. Specifically, the individual university partnerships with EIMC have been an important first step in engaging medical students and exposing them to the various benefits of exercise on chronic health conditions and as a preventative measure. These EIMC campus initiatives provide exposure to exercise prescription and help to supplement the current lack of physical activity counselling education in the medical curriculum. As physical activity advocates and members of the EIMC on Campus initiative at the University of Ottawa, it is our hope that medical students will continue to participate in EIMC events as well as promote the goals and vision of the initiative in order to demonstrate the need for the inclusion of mandatory physical activity and exercise prescription training within medical education. Moreover, we hope that medical students will continue to adopt strategies to incorporate physical activity into their own lives. While this will contribute to maintaining their own physical, mental, and emotional health, leading a physically active lifestyle will also provide personal insight into the plethora of perceived and actual barriers to exercise faced by their future patients. By endorsing physically active lifestyles, medical students will be primed to be relatable, compassionate, and energetic physicians with the requisite confidence to consistently prescribe exercise to their patients. Ultimately, the EIMC network could be a critical resource for patients to access educational resources about fitness as an important personal health metric, and for physicians to refer their patients to qualified exercise professionals.

Within the current healthcare setting, exercise continues to be under-prescribed; however, there are a few simple suggestions that we feel could, when employed, facilitate improved adher-

ence to physical activity guidelines. First, if primary care physicians were to commit to keeping an exercise prescription pad in their office, then every appointment could be concluded with a brief discussion regarding a prescription for an accessible, cost-effective mode of exercise, such as walking 30 minutes per day, five times per week. In addition, it could be considered a standard practice to issue a follow-up visit 2–4 weeks after prescribing an exercise program, or making a referral to an exercise professional, to assess patient compliance and address any concerns in the same manner that prescription medications are followed to assess for efficacy and side effects.

In modern society, the perception of what exercise entails can be overwhelming and misconceived, especially in the context of the commercialized fitness industry where participating in exercise often falsely appears to require a “baseline” level of fitness [16]. Therefore, it should be the role of the physician together with exercise professionals to redefine exercise individually for each patient, and to encourage affordable and accessible options, including individual walking routines, free community-based fitness groups, and walking or running clubs.

As an initial step towards improving delivery of exercise counselling and prescriptions, medical students and physicians need to be adequately prepared with a physical activity arsenal. This begins with the inclusion of mandatory physical activity training in medical education, and promoting healthy, physically active physicians and medical trainees. Likewise, patients can also take on a leadership role in their overall health by engaging their physician in a dialogue about an appropriate exercise prescription or referral to an exercise professional. Together, physicians and patients need to recognize the efficacy and potency of exercise as a prescription for long-term health. If both parties agree on their specific definition of exercise and commit to meeting the Canadian Physical Activity Guidelines, routine exercise stands to be one of the largest returns on investment for health.

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