VIEWPOINT

Physical Activity: The Need of a Physician's Prescription

Imed Harrabi, Saad Al Ghamdi

Family and Community Medicine Center, Najran Armed Forces Hospital, Najran, Saudi Arabia

Corresponding author: Dr. Imed Harrabi Email: imed_harrabi@yahoo.fr
Published: 01 September 2014
Ibnosina J Med BS 2014;6(5):196-198
Received: 30 March 2014
Accepted: 21 June 2014
This article is available from: http://www.ijmbs.org

Abstract
Healthcare providers are uniquely positioned to influence the sedentary epidemic trend by prescribing physical activity more frequently and more precisely. Specific written exercise prescriptions can increase patient compliance substantially. Methodical physical activity counseling, even for a short duration, will at least to some degree increase the weekly physical activity of previously sedentary patients. Frequency, intensity, timing and type are the key elements of physical activity prescription.

Key words: Physical activity, General practice, Counseling

Background

Physical inactivity has become epidemic (1). It is also called "Sedentary Death Syndrome", and patients are asking what to do about it. For this reason, the concept of physical activity prescription has been developed to augment physical activity counseling by health care providers (2). It is aimed at encouraging physicians to undertake more active patient counseling and enable them to supply patients with written practical instructions.

Counseling Patients about Physical Activity

Clinicians are uniquely positioned to play a critical role in helping patients increase their physical activity levels. One randomized, controlled trial that tested the delivery of a "written prescription" for physical activity (versus verbal instruction) showed that written prescriptions increased the proportion of people performing any activity from 51% to 86% (P=.004) (3). That methodical physical activity counseling, even for a short duration, will at least to some degree increase the weekly physical activity of previously sedentary patients was shown by several other controlled studies carried out in the USA (4-5), New Zealand (6), Spain (7) and Australia (8-9). In these studies, the advice given by physicians was accompanied by a written exercise prescription.

Table 1. Types and benefits of physical activity prescriptions

Type of physical activity	Benefits
Strength training/Resistance	Improves insulin sensitivity, increases lean muscle, prevents age-related declines, safer for people at high CV risk, reduces blood pressure, improves bone mineral density, useful for weight loss
Aerobic	Improves insulin sensitivity, increases lean muscle, prevents age-related declines, safer for people at high CV risk, reduces blood pressure, improves bone mineral density, useful for weight loss
Balance training	Reduces risk of falling, improves core strength and stability; improves mobility and healing, post-orthopedic surgery.
Any Exercise	Improves glycemic control, reduces the risk of diabetes, cancer, and heart disease, reduces stress

Consequently, the U.S. Preventive Services Task Force, an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness and develops recommendations for clinical preventive services, summarized the effectiveness of physician counseling (10). They concluded that 1) women need more intensive instruction than men, 2) written instruction in addition to verbal counseling by the physician improved results, and 3) providing specific, detailed instruction may lead to better compliance (10-11). Counseling techniques such as motivational interviewing (non-judgmental questioning to lead patients to understand the consequences of their behaviors) and helping patients set their own goals are also important strategies (12).

Physical Activity Practicing Safety

Safety precautions are also an important aspect of exercise prescription. The most common risk of physical activity is musculoskeletal injury, which can be minimized by advising patients to begin new physical activity habits gradually and ensure adequate warm up and cool down when engaging in more intensive physical activity (13). The type and the benefits of the recommended physical activity should be clearly discussed with the patient (14) (Table 1).

Intensity, Duration and Frequency of Physical Activity

Intensity and duration of exercise determine the total caloric expenditure during a training session and are integrally related. The American College of Sports Medicine (ACSM) (15) recommends that the intensity of exercise be prescribed at 60 to 90% of maximum heart rate (HRmax= 220-age). However, patients with a very low initial level of fitness respond to a low exercise intensity, for example 30 to 60% of HRmax. Several important factors to consider prior to determining the level of exercise intensity include: the patient's fitness level, presence of medications that may influence heart rate, risk of cardiovascular or orthopedic injury, a patient's preferences for exercise and specific program objectives. The ACSM (15) recommends 20 to 60 minutes of continuous aerobic activity. Initial goals should be set reasonably so that patients can reach preset goals with exercise sessions of moderate duration (20 to 30 minutes). Frequency is interrelated with both intensity and duration of exercise and therefore depends on those two variables. Patients with a low level of fitness benefit from multiple short daily exercise sessions. For patients of moderate to higher levels of fitness, 3 to 5 sessions per week are recommended. The number of exercise sessions per week may vary and are based on caloric expenditure goals, patient preferences and limitations imposed by lifestyle. The ACSM (15) recommends minimal thresholds of 300 kcal per exercise session performed 3 days per week or 200 kcal per session done 4 days per week. A reasonable approach in prescribed exercise programs is to target a weekly exercise caloric expenditure of approximately 1000 kcal. In order to achieve optimal physical activity levels, the goal is to bring the weekly expenditure closer to 2000 kcal as health and fitness permit.

Conclusions

While it is clear that everyone benefits from increased

physical activity in any form, offering patients more specific instruction can help better target individual goals. Physicians are also required to help their patients to get the recommended amount of physical activity and/or exercise.

References

1. World Health Organization. Promoting physical activity in the Eastern Mediterranean Region through a life-course approach.EMRO: WHO; 2014.
2. Finnish Diabetes Association, Physical activity prescription. In Editors: L Etu-Seppälä, P Ilanne-Parikka, E Haapa, J Marttila, S Korkee, T Sampo. Programme for the prevention of type 2 diabetes in Finland. Finland: Finnish diabetes association 2003. p. 76.
3. Elley CR,Kerse N, Arroll B, Robinson E. Effectiveness of counselling patients on physical activity in general practice: cluster randomised controlled trial. BMJ 2003;326:793
4. Calfas KJ, Long BJ, Sallis JF, Wooten WJ, Pratt M, Patrick K. A controlled trial of physician counseling to promote the adoption of physical activity. Prev Med. 1996;25(3):225-33.
5. Pinto BM, Goldstein MG, Ashba J, Sciamanna CN, Jette A. Randomized controlled trial of physical activity counseling for older primary care patients. Am J Prev Med. 2005;29(4):247-55.
6. Swinburn BA, Walter LG, Arroll B, Tilyard MW, Russell DG. The green prescription study: a randomized controlled trial of written exercise advice provided by general practitioners. Am J Public Health 1998;88(2):288-91.
7. Grandes G, Sanchez A, Sanchez-Pinilla RO, Torcal J, Montoya I, Lizarraga K, Serra J; PEPAF Group Effectiveness of physical activity advice and prescription by physicians in routine primary care: a cluster randomized trial. Arch Intern Med 2009;169(7):694-701.
8. Smith BJ, Bauman AE, Bull FC, Booth ML, Harris MF. Promoting physical activity in general practice: a controlled trial of written advice and information materials. Br J Sports Med 2000;34(4):262-7.
9. Marshall AL, Booth ML, Bauman AE. Promoting physical activity in Australian general practices: a randomised trial of health promotion advice versus hypertension management. Patient Educ Couns 2005;56(3):283-90.
10. Eden KB, Orleans CT, Mulrow CD, Pender NJ, Teutsch SM. Does counseling by clinicians improve physical activity? A summary of the evidence for the U.S. Preventive Services Task Force. Ann Intern Med 2002;137(3):208-15.
11. Douglas F, Torrance N, van Teijlingen E, Meloni S, Kerr A. Primary care staff's views and experiences related to routinely advising patients about physical activity. BMC Public Health. 2006;6:138.
12. Jalilian M, Moeini B, Hazavehei SM, Beigi AM, Sharifirad G, Nodeh FH. Physical activity stage-matched intervention: Promoting metabolic control in type 2 diabetes. J Educ Health Promot 2013 ;2:18.
13. Brügger O. Safety analysis of sport in Switzerland. Br J Sports Med 2014;48 (7):575. Abstracts from the IOC World Conference on Prevention of Injury & Illness in Sport, Monaco 2014. Abstract 42.
14. Erica Oberg, ND. Physical Activity Prescription: Our Best Medicine. Integrative Medicine 2007;6:18-21.
15. Thompson PD, Arena R, Riebe D, Pescatello LS. American College of Sports Medicine.ACSM's new preparticipation health screening recommendations from ACSM's guidelines for exercise testing and prescription, ninth edition. Curr Sports Med Rep 2013;12(4):215-7.