

Commentary

Physical activity: practice this idea

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Abstract: Sedentary habits or insufficient activities to promote health benefits can influence the occurrence of chronic diseases. The cardiovascular risk factors arise, at least partially, from the individual-environment interaction during life, and worsen with aging and lack of physical exercise. Health promotion and prevention are among the greatest challenges of public health policies. However, physical activity turns out to be rarely recommended and, thus have a very poor adhesion. In spite of consensus about the benefits of physical activity in both primary and secondary prevention, only 32% of adults and 66% of children and adolescents, according to Healthy People 2010 guideline, practice leisure-time physical activity. Thus, the regular practice of physical activity and healthy habits require changes in basic concepts in government and social policies. The higher involvement of public and private sectors related to health and education, the more expressive would be the reduction in socioeconomic costs and the improvement in quality of life.

Keywords: Exercise, physical activity, barrier

Sedentary lifestyle is a term applied to characterize the decrease of energy expenditure by either the absence or reduction of physical activity, which can reduce functional capacity and is associated with substantial health consequences. Sedentary habits or insufficient activities to promote health benefits can influence the occurrence of chronic diseases. The cardiovascular risk factors arise, at least partially, from the individual-environment interaction during life, and worsen with aging and lack of physical exercise.

If the projection of the World Health Organization is correct, the number of elderly will be about 15 times higher in 2025, without correlation with population increase during the same period (*Active ageing: a policy framework WHO/NMH/NPH/02.8*). Considering the comorbidities associated with sedentarism, direct and indirect socioeconomic costs will rise significantly for public and private health systems.

Health promotion and prevention are among the greatest challenges of public health policies. However, health does not seem to be one of the most important goals in life [1-3]. The

health care system faces a challenge in the paradigm of healthy habits' incentives. The greatest impact on reducing health care costs could probably be achieved with the balance between care and prevention [1-3].

Regular physical activity is inversely associated with all-cause mortality in adults [3, 4]. Moreover, the regular exercise practice reduces cardiovascular disease's risk, type 2 diabetes mellitus, osteoporosis, depression, obesity, breast cancer, colon cancer, falls in the elderly, among others [4].

Given the several evidences of health benefits of physical activity, professional organizations for the dissemination of technical-scientific health is, in fact, recommended, although not followed. Physical activity turns out to be rarely recommended and, thus have a very poor adhesion. In spite of consensus about the benefits of physical activity in both primary and secondary prevention, only 32% of adults and 66% of children and adolescents, according to Healthy People 2010 guideline, practice leisure-time physical activity [7]. Even among recipients of medical care, the referral to physical rehabilita-

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tion and their adherence in physical activity are relatively low [6, 9, 10]. Therefore, if today's children and teenagers are the adults of tomorrow, we can speculate that the sedentary population will increase expressively and, as a result, the costs with health.

However, inactive people generally believe in their physical condition, regardless of their health status, which makes it more challenging for professional organizations to educate them. Moreover, many health professionals are also "convicted sedentary", making it even more difficult to introduce the idea of habit changing to someone. In the other hand, nobody is born inactive; one becomes inactive over time. Thus, education is the key to reverse this fact. Teaching healthy habits at school age is essential to their incorporation into the everyday living and improving motor skills (as it shows, indeed, that 80% of school-age students have inappropriate abilities) [1, 3].

On the other hand, there are few available results on physical activity's cost-effectiveness and with limited evidence. The social cost seems to be higher in groups with pre-existing conditions than in those "healthy but sedentary" ones [6]. Therefore, future studies on cost-effectiveness of the physical activity should include a group of healthy active people with a history of regular physical activity, because physical activity itself can delay chronic degenerative diseases' development and even prevent its occurrence, in some cases [4, 5].

The report of 2006 from *Health and Safety Executive* (HSE) showed an increase in physical activity in both, men and women. Nonetheless, these promotions are usually targeted to those who have previously practiced physical activity. There is a clear need to promote exercise among the least active ones. The promotion of media campaigns and work's or dwelling's events need to be organized by public and private agencies in order to sensitize population to adopt healthier lifestyle habits [1, 3] and, also, motivate practitioners of healthy habits to keep them up.

There is consensus that regular physical activity is part of a healthy lifestyle and its practice is associated with health benefits, as well as their irregularity or absence is associated with an

increase in chronic diseases. Long-term actions and reaching a higher proportion of the population could have significant impact on health and economy. The example of some countries, like France, England and Belgium, which encourage workers to use their bicycles to commute, and provide financial benefits to both employees and businesses that adopt health improvement strategies. It is estimated that this incentive can generate savings in the order of \$ 6.5 billion dollars/year with health (<http://www1.folha.uol.com.br/ambiente/1039790-na-franca-empresas-cobrirao-gasto-de-bicicleta-para-funcionarios.shtml>).

Thus, the regular practice of physical activity and healthy habits require changes in basic concepts in government and social policies. The higher involvement of public and private sectors related to health and education, the more expressive will be the reduction in socio-economic costs and the improvement in quality of life.

Disclosure of conflict of interest

None.

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References

- [1] Artinian NT, Fletcher GF, Mozaffarian D, Kris-Etherton P, Van Horn L, Lichtenstein AH, Kumanyika S, Kraus WE, Fleg JL, Redeker NS, Meininger JC, Banks J, Stuart-Shor EM, Fletcher BJ, Miller TD, Hughes S, Braun LT, Kopin LA, Berra K, Hayman LL, Ewing LJ, Ades PA, Durstine JL, Houston-Miller N, Burke LE; American Heart Association Prevention Committee of the Council on Cardiovascular Nursing. Interventions to promote physical activity and dietary lifestyle changes for cardiovascular risk factor reduction in adults. *Circulation* 2010; 122: 406-41.
- [2] Bulwer BE. Sedentary lifestyles, physical activity, and cardiovascular disease: from research to practice. *Crit Pathw Cardiol* 2004; 3: 184-93.
- [3] Brown WJ, Leung J, McCaul KA, Flicker L, Almeida O, PHankey GJ, Lopez D, Dobson AJ

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- Physical activity and all-cause mortality in older women and men. *Br J Sports Med* 2012 Jan 4; 46: 664-8.
- [4] Ciolac EG. Exercise training as a preventive tool for age-related disorders. *Clinics* 2013; 68: 710-7.
- [5] Pavey TG, Anokye N, Taylor AH, Trueman P, Moxham T, Fox KR, Hillsdon M, Green C, Campbell JL, Foster C, Mutrie N, Searle J, Taylor RS. The clinical effectiveness and cost-effectiveness of exercise referral schemes: a systematic review and economic evaluation. *Health Technol Assess* 2011; 15: 1-254.
- [6] Marcus BH, Williams DM, Dubbert PM, Sallis JF, King AC, Yancey AK, Franklin BA, Buchner D, Daniels SR, Claytor RP; American Heart Association Council on Nutrition, Physical Activity, and Metabolism (Subcommittee on Physical Activity); American Heart Association Council on Cardiovascular Disease in the Young; Interdisciplinary Working Group on Quality of Care and Outcomes Research. Physical activity intervention studies: what we know and what we need to know. *Circulation* 2006; 114: 2739-52.
- [7] Garber CE, Blissmer B, Deschenes MR, Franklin BA, Lamonte MJ, Lee IM, Nieman DC, Swain DP; American College of Sports Medicine position stand. Quantity and quality of exercise for developing and maintaining cardiorespiratory, musculoskeletal, and neuromotor fitness in apparently healthy adults: guidance for prescribing exercise. *Med Sci Sports Exerc* 2011; 43: 1334-59.
- [8] European Association of Cardiovascular Prevention and Rehabilitation Committee for Science Guidelines; EACPR, Corrà U, Piepoli MF, Carré F, Heuschmann P, Hoffmann U, Verschuren M, Halcox J; Document Reviewers, Giannuzzi P, Saner H, Wood D, Piepoli MF, Corrà U, Benzer W, Bjarnason-Wehrens B, Dendale P, Gaita D, McGee H, Mendes M, Niebauer J, Zwisler AD, Schmid JP. Secondary prevention through cardiac rehabilitation: physical activity counseling and exercise training: key components of the position paper from the Cardiac Rehabilitation Section of the European Association of Cardiovascular Prevention and Rehabilitation. *Eur Heart J* 2010; 31: 1967-74.
- [9] Guimarães GV, Carvalho VO, Torlai V, Bocchi EA. Physical activity profile in heart failure patients from a Brazilian tertiary cardiology hospital. *Cardiol J* 2010; 17: 143-5.
- [10] Suaya JA, Shepard DS, Normand SL, Ades PA, Prottas J, Stason WB. Use of cardiac rehabilitation by Medicare beneficiaries after myocardial infarction or coronary bypass surgery. *Circulation* 2007; 116: 1653-62.