Selected Summaries

Does prescription of physical activity matter at primary care?

Bellanger W, Peurois M, Connan L, Navasiolava N, Missud D, Py T, Bègue C. (Department of General Practice, University of Angers, Angers, France; University of Angers, Univ Rennes, EHESP, Inserm, IRSET-ESTER, SFR ICAT, 49000 Angers, France; University of Angers, CHU Angers, CRC, INSERM, CNRS, MITOVASC, Equipe CarMe, SFR ICAT, 49000 Angers, France.) Comparing physical activity prescription with verbal advice for general practice patients with cardiovascular risk factors: Results from the PEPPER randomised controlled trial. *BMC Public Health* 2023;**23:**1–2.

SUMMARY

An open, multicentre, pragmatic randomized controlled trial with a parallel design was conducted in Pays-de-la-Loire region of France between 2015 and 2019 to determine whether a written physical activity prescription combined with a pedometer served as a simple, low-cost strategy for general practitioners (GPs) in France to increase physical activity among those with cardiovascular risk factors. They included 121 adults between the ages of 35–74 years who visited their GP, had type 2 diabetes, hypertension or hypercholesterolaemia and were considered to have insufficient physical activity.

The intervention consisted of the GPs writing a personalised physical activity prescription stating the number of daily steps to be taken (for example: '4000 steps above your usual number of steps'), the provision of a pedometer (Omron HJ-321-E, to be carried in a pocket or a bag), information about the benefits of physical activity and a logbook to keep daily physical activity records. The control group received standardized verbal advice: 'Try to do at least 15 minutes of brisk walking or another activity that makes you breathe faster than normal every day of the week.' All the patients had 3-monthly follow-ups.

Baseline and outcome assessment (at 3 and 12 months) was done for all the participants using a tri-axial accelerometer (Actigraph wGT3X-BT) and self-administered questionnaires: International physical activity questionnaire (IPAQ), short form-36 (SF-36) questionnaire and determinants of physical activity questionnaire (DPAQ). The patients had to wear the accelerometer around their waist for 7 days from morning to night. This recorded their wear time, number of steps, metabolic equivalents (METs) and time spent doing activities of different intensity levels.

The primary outcome was the change in total weekly energy expenditure at 3 months compared with the baseline, measured using an accelerometer, in MET-min. Secondary outcomes for objective measures were changes at 3 and 12 months for accelerometer-recorded step count and time spent performing light, moderate and vigorous physical activity, weight, waist circumference and blood pressure. Other secondary outcomes were subjective such as changes in weekly physical activity level in MET-min (as per IPAQ) and quality of life, and perceived barriers to physical activity at 3 and 12 months.

About half the participants recruited were males, retired or unemployed and obese. Adherence to the study procedures were good, with only 21% of the participants displaying non-regular use of the logbook and pedometer at 9 months. Baseline activity was heterogeneous, with weekly steps ranging from 13 600 to 98 700 steps, time spent doing moderate-intensity activity ranging from 1 to 625 minutes/week, and energy expenditure ranging from 11 940 to 20 540 MET-minutes/week.

For the primary outcome, no statistically significant between-group difference was observed. However, there was a significant increase in the time spent doing moderate activity and in the weekly step count (monthly increase of 4 minutes and 438 steps/week, respectively more in the intervention group compared to the controls). There were no other significant changes observed. Difficulties reported by the participants were most in the domain of 'motivation lost'.

The authors concluded that prescribing personalised physical activity goals could therefore be an effective solution to encourage sedentary patients to engage in physical activity.

COMMENTS

This article addresses the important issue of increasing physical activity. It has been proven that insufficient physical activity is a risk factor for non-communicable diseases (NCDs) and the WHO considers it to be the fourth leading risk factor for mortality.[1] Physical inactivity in adults is defined as less than 150 minutes of moderate activity or its equivalent a week.[1]

Since no masking was present, there is a possibility of contamination at the patient level, where the controls could have used their own pedometer to increase physical activity. Also, contamination at the provider level could not be ruled out. Authors provided no data on the quality of intervention and verbal advice delivered by GPs. Hawthorne bias is also a possibility, with participants increasing their activity during the week they wore the accelerometer. Taking into account so many factors in minimization (dynamic randomization) is not recommended since the number of participants in most cells would be zero.

Regarding the feasibility and pragmaticism of the trial, there is some amount of workload increase for the GPs to counsel patients about the benefits, review the logbook and make weekly and three-monthly goals, that might act as a barrier for increase in physical activity.

Any intervention to increase behavioural change requires repeated reinforcement. It also depends in what stage of the transtheoretical model the patient is in.[2] There is always a high likelihood for participants to initially be enthusiastic to increase activity but to lose interest over time, as was shown by the most common difficulty being motivation loss. This might be the reason for low effect sizes for the primary outcome in the study.

As per the social cognitive theory of behaviour change, human functioning depends on the interaction between behaviour, personal factors such as instincts, traits, drives and environmental factors which represent situational influences. Other variables which play a role are self-efficacy, outcome expectations, reinforcements, self-control and observational learning.[3] This essentially means that to change behaviour, the individual's confidence needs to be raised, preferably through a series of small steps; the behaviour should be incentivised or rewarded; environmental constraints need to be addressed and repeated reinforcement should be done.[3] It has been found that

even prolonged, intensive interventions which are framed based on the models of behaviour change do not have a prolonged effect.[4]

There are numerous barriers that hinder physicians from routinely counselling patients to increase their physical activity. One of them is lack of provider time. Visits are usually brief and concern multiple other health problems. Other issues are lack of provider skills and lack of routine screening for physical activity in the primary care settings.[5]

Indian context

Globally, the age standardized prevalence of insufficient physical activity has been found to be 27.5%.[6] In India, the cross-sectional National NCD Monitoring Survey done in 2017–18 found the age standardized prevalence of physical inactivity in adults to be 41.4%.[7] To promote fitness, the Ministry of Youth Affairs and Sports launched the FIT INDIA Movement in 2019 which has taken some initiatives to spread awareness about the importance of physical activity.

When considering a setting akin to India, a systems-based approach is required to increase physical activity. Regarding the healthcare set up, physicians need to be better trained in screening for and prescribing physical activity at every visit. The 5As approach to counselling (ask, advise, assess, assist, arrange) has been found to be useful for the same.[5] Caregivers and family members may also be counselled by doctors so they can provide motivational support. The task may be time consuming but the advice from a physician is more likely to be taken seriously and followed.

The NP NCD programme includes provisions to increase lifestyle counselling given to the population at all levels of healthcare, in urban and rural areas. Right from the village level, accredited social health activists (ASHAs) are expected to perform health promotion activities, through behaviour change communication, in an attempt to prevent NCDs and reduce risk factors. At the community health centre level and above, a counsellor is to be appointed solely for the NCD clinic.[8] How well these measures are being implemented need looking into. The health workforce needs training to increase their priority on lifestyle modification advice, vacant posts need to be filled and essential health technology needs to be procured at all levels. This should be made an overriding priority for all national and state governments, to help decrease the burden of NCDs in India.

Apart from this, from the school level, education should be spread regarding the importance of physical activity and active behaviour should be promoted in children. The favourable ecosystem of built environment such as pavements, parks, outdoor gymnasiums and cycle paths should be made available, accessible and sustainable to the general public. Workplaces should provide facilities and time to allow their employees to engage in physical activities. Political commitment is necessary to increase fitness at a national level by increasing the awareness and the activities of the FIT INDIA Movement.

Conflicts of interest. None declared

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