



ELSEVIER  
MASSON

Available online at  
**SciVerse ScienceDirect**  
www.sciencedirect.com

Elsevier Masson France  
**EM|consulte**  
www.em-consulte.com/en

**Diabetes**  
& *Metabolism*

Diabetes & Metabolism 39 (2013) 78–84

Original article

# Impact of lifestyle intervention on body weight and the metabolic syndrome in home-care providers

E. Gerstel<sup>a</sup>, Z. Pataky<sup>b,\*</sup>, C. Busnel<sup>c</sup>, O. Rutschmann<sup>d</sup>, I. Guessous<sup>d</sup>, C. Zumwald<sup>c</sup>, A. Golay<sup>b</sup>

<sup>a</sup> Department of Internal Medicine, University Hospital of Geneva and University of Geneva, Geneva, Switzerland

<sup>b</sup> Service of Therapeutic Education for Chronic Diseases, WHO Collaborating Centre, Department of Community Medicine, University Hospital of Geneva and University of Geneva, Gabrielle-Perret-Gentil 4, CH-1211 Geneva 14, Switzerland

<sup>c</sup> Fondation des Services d'Aide et de Soins à Domicile, Geneva, Switzerland

<sup>d</sup> Department of Community Medicine, University Hospital of Geneva and University of Geneva, Geneva, Switzerland

Received 1<sup>st</sup> February 2012; received in revised form 11 July 2012; accepted 17 July 2012

## Abstract

**Aim.** – The study evaluated the impact of lifestyle intervention on body weight, metabolic syndrome parameters, nutrition and physical activity in home-care providers (HCPs).

**Methods.** – Of 551 screened employees of a nursing agency, 173 were eligible to participate and were assigned to either the intervention ( $n = 129$ ) or the control ( $n = 44$ ) group. Participants in the intervention group followed an educational programme that encouraged physical activity and healthy nutrition, and were equipped with bicycles free of charge. Anthropometric, biological and lifestyle parameters were assessed at baseline, and after 6 and 12 months.

**Results.** – Body weight, waist circumference and systolic blood pressure significantly decreased at 12 months in both study groups. Incidence of the metabolic syndrome in the intervention group at 12 months was reduced by 50% (from 17 to 9.2%;  $P = 0.04$ ). There were also decreases in LDL cholesterol ( $-0.36$  mmol/L;  $P < 0.01$ ), total cholesterol/HDL cholesterol ratio ( $-0.57$ ;  $P < 0.01$ ) and fasting glucose ( $-0.4$  mmol/L;  $P < 0.05$ ), and an increase in HDL cholesterol ( $+0.22$  mmol/L;  $P < 0.01$ ) in the intervention group. At 12 months, a decrease in daily caloric intake ( $-391$  kcal/day;  $P < 0.001$ ) and an increase in the percentage of participants engaging in physical activity ( $+3.4\%$ ;  $P < 0.05$ ) were also observed in the intervention group.

**Conclusion.** – Lifestyle changes among HCPs are possible with relatively modest behavioural education and within a short period of time. Educational strategies and workshops are effective, efficient and easy to perform, and should be encouraged in HCPs to promote the implementation of lifestyle modifications in their patients.

© 2012 Elsevier Masson SAS. All rights reserved.

**Keywords:** Lifestyle; Intervention study; Metabolic syndrome; Physical activity; Nutrition

## Résumé

Effets d'une intervention sur le mode de vie sur le poids et le syndrome métabolique chez des employés d'un établissement de soins à domicile.

**But.** – Évaluer les effets d'une intervention sur le mode de vie sur le poids, les paramètres du syndrome métabolique, la nutrition et l'activité physique chez des employés d'un établissement de soins à domicile.

**Méthodes.** – Parmi 551 employés initialement évalués, 173 remplissaient les critères d'inclusion et ont été inclus soit dans le groupe intervention ( $n = 129$ ), soit dans le groupe témoin ( $n = 44$ ). Les participants du groupe intervention ont bénéficié d'un programme éducatif structuré pour les encourager à pratiquer une activité physique et à manger équilibré. Un vélo leur a été offert. Des paramètres anthropométriques, biologiques et le mode de vie ont été examinés au départ et après six et 12 mois.

**Résultats.** – Le poids, le périmètre abdominal et la pression artérielle systolique ont diminué à 12 mois dans les deux groupes. Dans le groupe intervention, l'incidence du syndrome métabolique a diminué de 50 % à 12 mois (17 % vs 9,2 %,  $P = 0,04$ ). Le LDL-cholestérol ( $-0,36$  mmol/L,  $P < 0,01$ ), le rapport cholestérol total/HDL-cholestérol ( $-0,57$ ,  $P < 0,01$ ) et la glycémie à jeun ( $-0,4$  mmol/L,  $P < 0,05$ ) ont diminué et le HDL-cholestérol ( $+0,22$  mmol/L,  $P < 0,01$ ) a augmenté. Une diminution des apports énergétiques ( $-391$  kcal/j,  $P < 0,001$ ) ainsi qu'une augmentation du pourcentage de personnes pratiquant une activité physique ( $+3,4$  %,  $P < 0,05$ ) ont été observées à 12 mois dans le groupe intervention.

\* Corresponding author. Tel.: +41 22 37 29 556; fax: +41 22 37 29 715.

E-mail address: zoltan.pataky@hcuge.ch (Z. Pataky).

**Conclusion.** – Un changement du mode de vie chez des employés de soins à domicile est possible même grâce à une intervention simple. Ces ateliers d'éducation efficaces et relativement faciles à mettre en place devraient être proposés dans des structures de soins à domicile afin que les infirmières puissent suggérer un changement de mode de vie à leurs patients.

© 2012 Elsevier Masson SAS. Tous droits réservés.

**Mots clés :** Mode de vie ; Syndrome métabolique ; Activité physique ; Alimentation ; Étude d'intervention

## 1. Introduction

Overweight and obesity are important health issues in both the developed and developing countries, and are increasing in prevalence [1,2]. A recent analysis showed that one-third of the world's adult population was overweight or obese in 2005 and could reach up to 60% by 2030 [3]. A similar trend was observed in Geneva (Switzerland), where the proportion increased between 1993 and 2003 from 44 to 59% among men and from 24 to 37% among women [4]. Overfeeding, inadequate nutrition and a sedentary lifestyle are the recognized risk factors for the development of obesity and become, in turn, cardiovascular risk factors [5,6]. The World Health Organization (WHO) has called for a worldwide initiative to increase physical activity and improve nutrition-related behaviours [7].

Low levels of physical activity and inadequate nutrition are behaviours that are modifiable by education [8], and it has been shown that multifaceted educational programmes are more efficient than single approaches [9]. Home-care providers (HCPs) play a key role in patient education and can affect the behaviour of patients in terms of controlling cardiovascular risk factors [10]. However, even though HCPs are often well informed about cardiovascular risk factors, nutrition and the importance of exercise, they often do not act in accordance with their knowledge [11]. Moreover, HCPs that do not behave in accordance with their own beliefs are probably less efficient in convincing their patients to do so. Programmes that aim to improve physical activity and nutrition are mostly patient-oriented. Nevertheless, HCPs are an important target for improvement, as they are at the centre of patient education on health-related behaviour. In particular, few authors have explored the impact of an educational programme on nutrition and physical activity targeted at HCPs [12].

The aim of the present study was to evaluate the impact of a lifestyle interventional programme on body weight, the metabolic syndrome, nutrition and physical activity among HCPs in a home-care nursing agency facility.

## 2. Methods

The *Fondation des services d'aide et de soins à domicile* (FSASD; Foundation for Help and Home Care Services) is a state-funded home-care nursing agency. It consists of 1900 HCPs who cover the Geneva (Switzerland) area, a population of nearly 500,000 habitants, and provides home-based nursing services. HCPs visit their patients' homes several times a day within an area of approximately 10 km, using their own cars most of the time. The FSASD executive committee in collaboration with the Service of Therapeutic Education for Chronic Diseases (the

WHO collaborating centre for patient education) proposed and developed a multifaceted interventional programme to encourage physical activity (mobility programme) and healthy nutrition (educational programme) among the agency's employees. The main goal was to improve the health status and satisfaction of FSASD employees as well as to consequently affect patients' physical activity and nutrition through such behavioural modifications in the HCPs.

### 2.1. Mobility programme

The intervention employed a multifaceted approach to encourage physical activity among FSASD HCPs. First, employees were encouraged to use non-motorized vehicles to get to their patients' homes as much as possible. To this end, 135 regular bicycles, 101 electric bikes and seven foldable bikes were provided free of charge at the agency workplace. Employees received exact instructions for adapting their transportation mode according to the distance to be covered: they were to walk for short distances (<300 m) and cycle for medium distances (<2 km). For longer distances or in cases of disability or bad weather, use of public transportation or a car-sharing system was permissible.

### 2.2. Educational programme

A 6-week cognitive behavioural education (CBE) programme on physical exercise and adequate nutrition was offered to all participants. Teaching methods were based on the cognitive and behavioural approaches used for obese patients that had recently been developed by the authors [8]. Key features of the method were an interdisciplinary teaching team, the subject's own experience-centred approach and long-term behavioural changes. Teaching consisted of practical exercises to suit the participants' individual preferences for nutrition and daily physical activities, and included trigger recognition, diet analysis, self-control and awareness learning, and tools for maintaining new habits. An initial conference was targeted at the participants' general knowledge of obesity, and the importance of physical activity and nutrition. The conference was followed by four motivational therapy workshops, which were focused on food preferences, physical activity and lifestyle choices. The workshops allowed participants to work in small groups (maximum 20 per group) and to immediately put into practice the knowledge they had acquired.

### 2.3. Study design

The FSASD covers eight city areas corresponding to eight different centres, five of which were assigned to the

Download English Version:

<https://daneshyari.com/en/article/3259975>

Download Persian Version:

<https://daneshyari.com/article/3259975>

[Daneshyari.com](https://daneshyari.com)