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An educational model for improving diet counselling in primary care A case study of the creative use of doctors' own diet, their attitudes to it and to nutritional counselling of their patients with diabetes

Niels de Fine Olivarius[a,*], Birthe Palmvig[b], Anne Helms Andreasen[a,c], Jonas Trøjgaard Thorgersen[a], Christina Hundrup[a]

[a]*Research Unit and Department of General Practice, University of Copenhagen, Copenhagen, Denmark*
[b]*Steno Diabetes Centre, Gentofte, Denmark*
[c]*Department of Biostatistics, Institute of Public Health, University of Copenhagen, Copenhagen, Denmark*

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Abstract

Aiming to improve the quality of diet recording and instruction in primary care, we developed a simple semi-quantitative food frequency questionnaire for type 2 diabetic patients and had doctors record each other's diet habits with the same questionnaire. The analysis of the diet composition was given to the doctors who considered the educational model to be fun, instructive and thought-provoking. Doctors with a relatively unhealthy diet and a relatively high body weight tended to show dissatisfaction with their own diet, had poor self-assessed knowledge about nutrition, and even a wish to improve their own diet after having seen the result of the diet interview. The proportion of diabetic patients being treated with diet alone tended to decrease with their doctors' decreasing diet counselling skills, which indicates that doctors' attitudes may exert an effect at patient level.

Keywords: Nutritional counseling; Nutritional education; Nutritional assessment; Primary care; Continuing medical education; Doctors' diet; Doctors' attitudes; Doctors' knowledge; Body mass index; Educational model; Food frequency questionnaire.

1. Introduction

In most countries care of type 2 diabetic patients is mainly in the hands of primary care physicians [1]. Without access to dieticians the primary care physicians have to give nutritional counselling themselves, a task for which they often do not consider themselves qualified [2–4].

Within the framework of a randomised trial [5] we developed a simple semi-quantitative food frequency questionnaire and an educational model to improve doctors' diet counselling skills. The model's core element was doctors' recording of each other's diet habits with the same questionnaire.

We present the educational model which included doctors' self-reported diet and a comparison of this diet with doctors' attitudes to diet counselling and with their tendency to treat their diabetic patients with diet alone.

2. Methods

2.1. Study design

The study ''Diabetes care in general practice'' is a multipractice randomised controlled trial to improve diabetes care in general practice. In 1988, 474 general practitioners volunteered for the study and were allocated to an intervention and a control group [5]. The 243 intervention doctors were taught to employ structured care at six consecutive, optional, annual half-day seminars. Structured

* Corresponding author. Tel.: +45 3532 7160; fax: +45 3537 1282.
E-mail address: no@gpract.ku.dk (N. de F. Olivarius).

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care included regular follow-up and individualised goal-setting for important risk factors supported by prompting of doctors, feed-back on individual patients, and short clinical guidelines.

2.2. Diet counselling policy

As only a few practices had access to a dietician, doctors were supposed to do the diet counselling themselves. The doctors received guidelines concerning diet (seven pages) and diet counselling was a prominent subject at the first three seminars. The general practitioners were taught simple diet rules: increase complex carbohydrate to at least 50% of the diet, and in particular increase water-soluble fibres. Reduce the fat content to a maximum of 30%. Reduce alcohol intake. Eat five–six meals a day and increase physical exercise. The doctors were taught to use a simple, pragmatic food frequency questionnaire in order to make appropriate suggestions to their patients for changes in the amount and content of their food.

2.3. Doctors' self-testing of the questionnaire

Even after the second seminar, doctors still ranked diet counselling highest on their list of wishes for subjects for future seminars. The third seminar in 1991 was therefore devoted entirely to diet counselling. In a questionnaire the doctors answered four questions about their attitudes to their own diet and diet counselling (Table 2). Subsequently, the doctors were asked to form groups of three: one doctor did a diet interview with another doctor and recorded the result in the food frequency questionnaire, and the third doctor was observer. Every 30 min the doctors switched roles and all doctors had their diet habits recorded and were advised about possible changes by their colleague. The doctors also gave information on their age, sex, height, and body weight in the questionnaire.

After the seminar the information on the food frequency questionnaires was quantified by the study dietician (BP) and analysed with the computer programme Dankost, ver. 2. This programme is based on the Danish food composition database from the Danish Institute for Food and Veterinary Research. For both present diet and the suggested new diet, total energy intake (kJ) and energy distribution (protein/carbohydrate/fat/alcohol, %) were calculated. This information was later sent to the doctors together with a written evaluation from the study dietician of the quality of present diet and appropriateness of the suggested changes. During the whole process a frank and honest tone was encouraged.

2.4. Statistical analysis

Categorical variables were compared using χ^2-test, and categorical variables and BMI were compared using Kruskal–Wallis test. Linear regression was used to study the importance of doctors' attitudes for their own energy percentages. The nominal level of statistical significance was $p < 0.05$ (two-sided).

3. Results

A total of 113 doctors participated in the seminar, and all provided information on their current dietary intake. Many doctors said that it had been an instructive, thought-provoking experience to be advised about their own food habits immediately before or after they had themselves counselled another person about diet. Doctors wrote: ''We broke down the barrier, us and patients, since it was suddenly about our food habits. It hurt a little but was probably a good idea.'' ''It was a fun idea, and revealing, with diet planning.'' ''It is difficult to remember and be completely honest about what you tuck into in a day''. Many said that they would be less resistant to recording patients' diet with the simple food frequency questionnaire in the future.

The characteristics of study doctors are shown in Table 1.

Most doctors were satisfied with their own diet and fairly satisfied with their own knowledge about diabetes diet (Table 2). However, they found the task of changing patients' diet habits difficult. We did linear regression analyses with total energy or the single energy percentages as outcome variables and age, sex, BMI and group allocation according to the answers to the questions in Table 2 as predictor variables. The doctors' answers to these questions did not predict their own total energy intake, protein %, carbohydrate % and alcohol %. ''Knowledge about diabetes diet'' did, however, predict doctors' fat % which in an unadjusted analysis was 36.1/34.4/40.7 among doctors who were satisfied/fairly satisfied/not satisfied with their knowledge (means, $p = 0.016$, Wald test). Doctors' median BMI

Table 1
Characteristics of study doctors

	Study doctors (n = 113)
Male gender (%)	77.0
Age distribution (years, %)	
35–44	46.0
45–54	44.3
55–65	9.7
Total energy intake (mean, kJ)	9,420
Energy distribution (%)	
Protein	14.8
Carbohydrate	44.5
Fat	35.5
Alcohol	5.2
Body mass index (median, kg/m^2)	
Men	23.9
Women	21.3

Values are proportions (%), means or medians. Diet information from semi-quantitative food frequency questionnaires filled in during an interview by a fellow doctor.