

Feasibility and acceptability of a physical activity promotion programme in general practice

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Background. Physical activity promotion in general practice is advocated though not incorporated into daily practice. Several barriers must be overcome to develop a feasible and acceptable programme.

Objective. The aim of this study was to conduct a process evaluation of a physical activity promotion programme in general practice (PACE), in which patients visited their provider (GP or practice nurse) twice.

Methods. Process evaluation was conducted by means of telephone-administered, semi-structured interviews with providers and practice assistants. The main topics of the interviews were overall impression of PACE, PACE training, content and usability of the intervention materials, counselling, implementation of the intervention, and opportunities for future use.

Results. In the 15 participating general practices, a total of 17 providers and 12 practice assistants were interviewed. The overall impression of the PACE programme was positive. Most providers experienced the provided material and training as helpful. Some problems concerning the number of forms used and patients having difficulties completing the forms were mentioned. Most providers (70.6%) spend 10 min or more discussing PACE during the first consultation. The second consultation mostly was completed within 10 min. Patients overestimating their level of physical activity was mentioned as the main barrier in providing the counselling. PACE was evaluated as suitable for implementation in Dutch general practice, and 60% of the providers actually intended using PACE in the future.

Conclusion. The PACE programme was evaluated as being both acceptable and feasible in a selection of Dutch general practices. Positive adaptations will be made in order to implement PACE successfully in general practice at a wider scale.

Keywords. General practice, health promotion, physical activity, programme evaluation.

Introduction

The enhancement of regular physical activity in the general population currently is one of the key issues of preventive measures in public health.¹ An important source of information on healthy lifestyles is the primary care physician, e.g. the GP, as he encounters a large proportion of the population on a regular basis and usually has a long-lasting relationship with his patients.²

Previous research on primary care-based physical activity interventions indicate that a small, but positive effect on patients' levels of physical activity can be achieved.³ However, not all physicians actually incorporate physical activity promotion into their daily practice. Common practice in general practice is mostly to act on and react to health-related questions from the patient.⁴ Moving from this relationship to patient education on lifestyle-related behaviours requires a shift in focus from both parties. It is already known that patients accept information and advice on lifestyle-related behaviours from their GP, especially when there is a long-lasting and good relationship between patient and GP, and when the advice is related to a current health problem.⁵ Behavioural counselling on smoking cessation, dietary behaviour and physical inactivity might therefore be more influential when linked to a relevant complaint.² In The Netherlands, this approach

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would be in line with the policy of the Dutch College of General Practitioners (NHG), who stimulate regular check-ups of and prevention in high-risk populations, and advocate lifestyle counselling to patients with certain chronic diseases and/or risk factors for cardiovascular disease.

GPs mention several barriers inhibiting counselling on physical activity.^{2,6–8} Lack of time is mentioned frequently as the main barrier. In The Netherlands, GPs make appointments for 10 min consultations, and recent data suggest that the mean length of a consultation is actually 10.2 min.⁹ Obviously, little time is left to provide additional lifestyle information and advice. Lack of patient interest, the belief that patients will not follow the advice given, lack of knowledge about physical activity, and lack of training on behavioural counselling are also powerful barriers. As well as aiming at effectiveness at the patient level, a preventive intervention implemented in general practice must also aim at overcoming these barriers in order to be feasible. The PACE method is developed to enable primary care physicians to provide behavioural counselling on physical inactivity (PACE: physician-based assessment and counseling for exercise).^{7,10} PACE aims to overcome important barriers, incorporates the transtheoretical model of behaviour change and provides follow-up by telephone. As results of a pilot study in the USA show, PACE enables the physician to provide effective counselling in a short period of time.^{7,10} Physicians, staff members and patients accepted PACE, and it proved to be feasible in primary care in the USA.

The aim of the study described herein is to evaluate the acceptability and the feasibility of the PACE programme in Dutch general practice and to evaluate whether PACE was successful in overcoming the main barriers for promoting physical activity in primary care.

Methods

Design and subjects

This process evaluation is part of a randomized-controlled trial (RCT) on the effect of a PACE intervention in Dutch general practice on levels and determinants of physical activity. Twenty-nine general practices, located throughout The Netherlands, participated in the study. Randomization took place at general practice level and was stratified by the providers' own level of physical activity (i.e. whether or not meeting the ACSM/CDC physical activity guideline), as it is known that physically active GPs and practice nurses (PNs) are more likely to promote physical activity regularly to their patients.⁸ Fifteen general practices were randomized in the intervention group and 14 in the control group. The inclusion criteria for patients were: being diagnosed with hypertension and/or hypercholesterolaemia and/or non-insulin-dependent diabetes

mellitus (NIDDM), aged between 18 and 70 years, physically able to be at least moderately physically active, and not being in the maintenance phase for regular physical activity. Approximately 25 patients per practice were included during the inclusion period (October 2001–July 2002). All patients visited their provider (GP or PN) at baseline for a 10 min consultation. As well as discussing the specific medical condition of the patient (hypertension, hypercholesterolaemia or NIDDM), the provider also advised the patient on becoming more physically active. The content of this advice in both the intervention group and the control group is described below. The Medical Ethical Committee of the VU University Medical Center approved the research procedures.

PACE intervention

The PACE intervention is based on the transtheoretical model of behaviour change and social-cognitive theory,¹¹ and aims at promoting the adoption of or long-term participation in regular physical activity in adults.¹⁰ The PACE materials and the main intervention components are described in detail elsewhere.⁷ To be able to implement the PACE method in The Netherlands, the PACE materials were first translated into Dutch, adjusted for the Dutch population, and then pilot tested in two general practices (four GPs), including a total of 14 patients. Changes in the PACE materials were made after evaluation with these GPs and their patients.

The intervention consisted of two visits to the provider and two booster telephone calls with a PACE physical activity counsellor. On arrival at the general practice, the patients were handed an assessment form by the practice assistant which they were asked to complete, from which the practice assistant then was able to determine a PACE score (1–8). Based on this score, patients received one of three stage-specific counselling protocols (either the pre-contemplation, contemplation/preparation or action/maintenance protocol). Each protocol contained stage-specific information and questions, which the patient was asked to answer prior to the visit to the provider. Table 1 shows a short description of the content of the counselling protocols. During the visit, the provider reviewed the protocol, counselled the patient by emphasizing stage-specific issues, gave positive feedback and summarized an exercise prescription on the protocol. The patient took the completed protocol home, and the provider completed a registration form for administration, which was also faxed to the PACE team. A booster telephone call was made 2 weeks after the initial visit, in order to stimulate the patient to continue changing their behaviour in a positive direction and to discuss possible problems or questions raised. Providers only received feedback on the booster calls when changes in the exercise prescription were discussed. During the follow-up consultation with the provider 4 weeks after the initial visit, all patients again completed the assessment form.

TABLE 1 Short description of the content of the three stage-specific PACE counselling protocols

Stage of change	Protocol	Contains:
Pre-contemplation	Getting out of your chair	Information about the physical activity guidelines and a list of benefits of physical activity. Subject is asked to list personal reasons to become physically active.
Contemplation/preparation	Planning the first step	Subject is asked to develop a realistic physical activity programme (describing preferred activities, duration, time and place, and identifying social support), to identify barriers and to develop solutions to overcome these barriers. Example activities and an example of an activity log are given.
Action/maintenance	Keeping the PACE	Subject is asked to review his current physical activity programme, to identify future barriers and plan ways to prevent relapse. Information on staying active (e.g. injury prevention, warm-up, cooling down) and on getting back on track after relapse.

However, only those who had actually changed their stage of change (either positively or negatively) received a new counselling protocol to complete. During the consultation, the provider reviewed the registration form (and possibly a new counselling protocol) and discussed progression. Changes in the exercise plan were noted on the registration form, which again was faxed to the PACE team. A final booster telephone call followed 8 weeks after this second visit, mainly aiming at relapse prevention.

Intervention providers were trained in a 1 h individual training session and received a physician manual for reference. The main aims of the training were increasing the knowledge of physical activity, health and behaviour change, introducing and practising with the PACE materials, and answering questions. Most of the information was provided in the first half-hour of the training, whereas the second half-hour was used for practising counselling with PACE. Providers were contacted after their first PACE consultations, to discuss any problems or questions raised. The practice assistants were trained in a half-hour individual training session and received an assistant manual describing both the intervention and the research procedures.

Control condition

Providers in the control group were asked to discuss the patient's current level of physical activity, and, when appropriate, to stimulate the patient to become more physically active. A standard example text on physical activity promotion was provided. Providers were restricted to this advice and were instructed to give further advice only to patients who took the initiative by asking questions. No further consultations discussing physical activity were planned.

Process evaluation

Both the provider (GP or PN) and the practice assistant of the intervention practices were interviewed after the

final consultation. The telephone-administered interview was semi-structured and consisted of both open-ended and structured questions. Mostly, the answers to the structured questions could be given on a 5-point Likert scale (e.g. agree very much, agree, neutral, do not agree, do not agree at all). The interview with the provider was based on the questionnaire previously used by Long *et al.*,⁷ and consisted of 43 questions. The main topics discussed with the provider were: overall impression; preparation for the consultations (PACE training for providers and physician manual); consultations (e.g. providing counselling, barriers in counselling, time spent); usage of PACE protocols; self-efficacy; and opinion on follow-up, screening and future use. The questionnaire for the practice assistant consisted of 36 questions and was partly similar to the questionnaire of the provider (e.g. overall impression, content of the PACE training for practice assistants and opinion on future use). However, the questions asked were aimed mainly at the process of filling out the protocols by the patients and practical issues concerning implementation. Furthermore, both the provider and the practice assistant were asked for suggestions for adaptations to the programme.

Results

A total of 17 providers (14 GPs and three PNs) and 12 practice assistants was interviewed. In two practices, both the participating GP and the PN were interviewed. The organization of the study in three practices did not include the participation of a practice assistant, and consequently no practice assistant was interviewed.

Providers' opinions on PACE and self-efficacy

The overall impression of the majority of the providers was positive. The main results of the providers' opinions on the PACE programme are described in Table 2.

TABLE 2 Providers' (GPs or PNs) and practice assistants' opinion on the PACE programme, self-efficacy of the providers and implementation opportunities (values are percentages)

Item	Negative	Neutral	Positive
Provider opinion			
What is your overall impression of PACE?	0	17.6	82.4
According to provider			
Did patients feel that PACE was useful?	11.8	17.6	70.6
What was the overall impression of the employees? ^a	0	23.1	76.9
Preparation for consultations			
Was the PACE training for the provider useful?	17.6	11.8	70.6
The physician manual was handy	11.8	23.5	64.7
Was too little, enough or too much time spent on training? ^b	0	82.4	17.6
Advising with protocols			
How helpful was the PACE material in advising on p.a.?	0	11.8	88.2
Advising on p.a. with PACE was easy	5.9	5.9	88.2
How simple was it to use the counselling protocols?	0	5.9	94.1
The protocols were handy to use in a short period of time	23.5	23.5	52.9
Barriers in counselling (categories: very/somewhat/not inhibiting)			
Insufficient time	11.8	23.5	64.7
Counselling protocol not fully completed	5.9	35.3	64.7
Patient asked a lot of questions or had difficult questions	5.9	11.8	82.4
Patient was already regularly physically active	11.8	35.3	52.9
Patient was not adequately staged	35.3	29.4	35.3
Did you find the follow-up useful? ^c	11.8	17.6	70.6
At the follow-up consultations, how often did you^d			
Discuss previous recommendations	0	11.8	88.2
Provide additional advice	29.4	41.2	29.4
Provide new advice	41.2	52.9	5.9
Self-efficacy providers			
PACE improved my ability to provide p.a. counselling ^e	17.6	29.4	52.9
PACE increased my insight in the health benefits of regular p.a.	11.8	5.9	82.3
I felt I had sufficient knowledge of the personal situation of the patient to provide suitable individual counselling ^f	17.7	0	82.3
I estimate that a large proportion of the patients increased their p.a. level as a result of PACE	11.8	29.4	58.8
I myself became more physically active as a result of PACE.			
Inactive providers at baseline	42.9	0	57.1
Active providers at baseline	88.9	11.1	0
Assistant opinion			
What is your overall impression of PACE?	0	33.3	67.7
According to assistant			
Did patients feel that PACE was useful?	16.7	33.3	50.0
Preparation for consultations			
Was the PACE training for practice assistants useful?	0	16.7	83.3
The assistant manual was handy	0	16.7	83.3
Was too little, enough or too much time spent on training? ^b	0	100	0
I estimate that a large proportion of the patients increased their p.a. level as a result of PACE	25.0	50.0	25.0
Are you content with your own role in PACE; did you do too much, enough or too little?	0	58.3	41.7
Implementation opportunities			
Do you think PACE could be implemented in general practice? ^g			
Provider	5.9	41.1	52.9
Practice assistant	0	83.3	16.7
I would recommend PACE to my colleagues	23.5	17.6	58.8
Are you planning on using PACE in the future? ^h	5.9	35.2	58.8
Do you think that prior to participating in PACE, patients should be screened for any risks? (no/possibly/yes)	88.2	11.8	0

Numbers may not add up to 100, due to rounding. 'Pa.': physical activity.

^a $n = 13$.

^b Answer categories: too little (category: negative), enough (category: neutral), too much (category: positive).

^c Answer categories: useful/neutral/not useful.

^d Answer categories: not at all/now and then/sometimes/regularly/often.

^e Answer categories: not at all/a bit/somewhat/a lot/much improved.

^f Answer categories: no, not enough/not really/yes, enough/yes, very much so. The last two categories are combined in 'positive'.

^g Answer categories: no/possibly/reasonably/no. In this table, the categories 'reasonably' and 'possibly' are taken together in the neutral category.

^h Answer categories: yes, certainly/yes, I think so and I do not know yet/no, I do not think so and no, certainly not.

A couple of notable points will be discussed in detail. Some providers were negative about the preparation; they stated that the physician manual alone would have provided sufficient information. When asked about the barriers during counselling, providing counselling to people who were not adequately staged (e.g. were staged as active, but were in fact in pre-contemplation) appeared to be the most important barrier. Twelve percent of the providers mentioned insufficient time as a barrier. The follow-up was evaluated as useful, but some providers indicated they felt that the patients in the active stage did not need a follow-up consultation. The majority of the providers felt that their advice had been successful: they estimated that a large percentage of their patients had become more physically active as a result of PACE.

Practice assistants' opinion on PACE

The participating practice assistants positively evaluated the PACE programme, but only half of them thought that the patients were positive about PACE (Table 2). The practice assistants were less positive on the effect on the patients' level of physical activity than the providers. When asked about their own role in the PACE project, almost half of the assistants answered that they would have liked to have a more active role in the counselling (e.g. providing counselling).

PACE materials and time spend on PACE

Both the providers and the practice assistants mentioned that a substantial proportion of the patients had difficulties filling out the assessment form and with the counselling protocol (see Table 3). The most common mentioned problems were: not understanding how to stage oneself; too much text on the protocols; not able to comprehend the text; and difficulties understanding Dutch. Only 58% of the practice assistants said that the patients took the counselling protocol home, as was discussed during the training. At the first visit, most patients spent 1–4 min filling out the assessment form, and the same time to complete the counselling form (Table 4). However, a number of practice assistants reported that it took the patients 5 min or more to complete each form. At follow-up 4 weeks later, most patients were able to complete both within 4 min each. The duration of the PACE consultations varied widely. Most providers spent 10–14 min discussing PACE during the first consultation. However, 12% spent 15 min or more. During the second consultation, most of the providers were able to discuss PACE within 10 min.

Topics discussed during consultation

Table 5 shows the results of the constructs the providers rated as 'important' to discuss. No large differences appear to exist between the topics discussed with people in the three different stages. Discussing social support and verifying the self-confidence in ability to execute the

activity plan discussed were the least important constructs to discuss, according to the providers. Some providers mentioned having problems discussing relapse prevention, constructing a feasible exercise plan with the patient, and giving positive feedback. Other problems mentioned were counselling pre-contemplators, because of their lack of motivation, and counselling patients in action and maintenance, because providers felt there was little to discuss.

Implementation

Most providers were positive about the possibilities for future implementation and future use in their own practice, and would recommend PACE to their colleagues (Table 2). The remaining providers were positive about the implementation possibilities, but had some reservations, mostly due to practical issues (e.g. paper flow, lack of time). The practice assistants were somewhat more conservative in their view of the possibilities for implementing PACE; the majority thought that implementation was reasonably possible. Most providers judged that no risk screening for physical activity would be necessary when implementing PACE.

Conclusion and Discussion

The aim of this study was to evaluate the implementation of a method to promote physical activity (PACE) in 15 general practices in The Netherlands. Both the practice assistants and the providers evaluated PACE positively. Most providers experienced the provided material as helpful, but some problems with the paper flow and with the forms were mentioned. Providers spent 10 min or more discussing PACE during the first consultation, but the second consultation mostly was completed within 10 min. The most frequently mentioned barrier in counselling was the patient overestimating his level of physical activity. PACE was evaluated as suitable for implementation in Dutch general practice, and 60% of the providers actually intended using PACE in the future.

Strengths and limitations

A strength of this study is that it indicates that PACE is also feasible and acceptable in a setting different from the specific primary care setting in the USA.⁷ As the majority of Western countries are struggling with the search for effective and feasible methods for the promotion of regular physical activity, PACE seems to be an internationally applicable programme for this.

Several limitations can be mentioned. First, it is known that participants in studies promoting a healthy lifestyle are already more concerned about their health than the general population. Lack of patient interest as a barrier could therefore not be addressed in this process evaluation. Second, the finding that practice assistants

TABLE 3 Evaluation of the PACE materials (values are percentages)

Item	
Filling out assessment form: what problems did you encounter? ^a	
It took the patient too much time	41.7
The patient did not fully complete the score form	33.3
The patient filled in the score form incorrectly	41.7
The patient asked a lot of questions	33.3
Filling out counselling protocol: what problems did you encounter? ^{a,b}	
It took the patient too much time	45.5
The patient did not fully complete the protocol	54.5
The patient filled in the protocol incorrectly	45.5
The patient asked a lot of questions	45.5
What did the assistant do with the counselling protocol after consultation?	
Gave it to the patient, to take it home	58.3
Kept it in patient file	25.0
Threw it away	8.3
Collected all counselling protocols in a single file	8.3
Assistant used registration form for registration of consultations	83.3
The registration form was practical. (% (totally) agree)	
Practice assistant	58.3
Provider	76.4

^a Answers provided by practice assistants.

^b $n = 11$, in one general practice, the nurse practitioner completed the protocol with the patients.

TABLE 4 Time spent on the PACE method in general practice (min)

How much time was spent on the PACE method? ^a	<1	1–2	2–4	>5
Filling out assessment form				
1st visit	0	8.3	66.7	25.0
2nd visit ^b	0	33.3	50.0	8.3
Filling out counselling protocol				
1st visit	0	58.3	33.3	8.3
2nd visit ^b	0	0	66.7	25.0
Discussing PACE during consultation	<5	5–9	10–14	>15
1st visit	0	29.4	58.8	11.8
2nd visit	11.8	64.7	17.6	5.9

Numbers may not add up to 100, due to rounding.

^a Data on filling out the assessment form and the counselling protocol obtained from practice assistant; data on the time spent during consultations from the provider. Answer categories are the number of minutes, and values are percentages.

^b $n = 11$; in one general practice, the interviewee did not hand out the forms.

were less positive about PACE could be due to the fact that they mostly had administrative tasks and would have preferred a more active role in the actual counselling, as most practice assistants are already involved in regular check-ups of patients with NIDDM or hypertension. Furthermore, practice assistants also had an administrative task in the research project (e.g. collecting questionnaires and performing measurements) and may have had difficulties distinguishing their opinion on the different tasks during the interview. Third, due to the low number of participating PNs, we were not able to make meaningful comparisons between the views of the GPs and those of the PNs. Last, as participating in the project meant investing time and

effort in promoting physical activity, the GPs, PNs and practice assistants presumably already have a greater interest in prevention and physical activity.⁷ This might result in a bias towards a more positive evaluation, which must be taken into account for future implementation.

Overcoming barriers

One of the aims of the PACE method is to overcome some frequently mentioned barriers to promoting physical activity. Only a small percentage of the participating providers were able to discuss PACE in a short period of time, in contrast to the American experience.¹⁰ Especially during the first consultation, most providers spent 10 min or more discussing PACE.

TABLE 5 Topics rated by providers as 'important' to discuss during PACE consultations

	Phase 1 ^a	Phase 2	Phase 3
Benefits	100	100	30
Barriers	93	94	71
Making exercise plan	80	88	59
Social support	67	77	41
Positive feedback	80	88	82
Self-confidence exercise plan	60	71	82
Relapse prevention	60	82	77
Self-motivation	93	94	77

Phase 1 = pre-contemplation, phase 2 = contemplation/preparation, phase 3 = action/maintenance. Numbers are percentages of providers classifying the topic as 'important' to discuss. The areas in bold indicate the topics the provider was specifically trained to discuss with the patients in the specific phase.

^a n = 15: two providers did not counsel a patient in phase 1.

However, lack of time was not a frequently mentioned barrier in this evaluation. This might be related to the fact that Dutch GPs usually have a long-lasting and good relationship with their patients.^{4,5} Therefore, they might be willing noticeably to invest a substantial amount of time and effort, in order to convince their patients of the importance of regular physical activity. The aim of the individual PACE training for providers was to increase knowledge and to improve behavioural counselling skills. Most providers were satisfied about the PACE training and the physician manual provided, and felt they were well prepared for the PACE consultations. The results, however, show some imperfections in the practical usage of the transtheoretical model. As shown in Table 5, many of the providers did not tailor their counselling to the individual stage of change, which is especially noticeable in the pre-contemplation phase. Repetition of the training might resolve this. This issue might also be an explanation of why the consultations lasted longer than planned beforehand. Furthermore, the fact that most providers indicated that they think that a large proportion of their patients had indeed increased their level of physical activity might be seen as an indicator of their feeling that PACE is effective and of their motivation to counsel more patients.

Implications for future use

Although overall the evaluation was positive, there are a few aspects that need further attention. (i) The fact that no definite distinction could be made between the topics discussed in the three stages used in PACE indicates that a deeper knowledge of this concept is warranted. (ii) Many providers and practice assistants described the intervention as 'a mass of paperwork' and the evaluation revealed that the paper flow was not always according to

the protocol. Attention should be paid to decreasing the number of forms used in order to create a smooth paper flow. (iii) Most providers mentioned having difficulties counselling patients who overestimated their level of physical activity. Overestimation of levels of physical activity in self-report is a well-reported phenomenon.¹² A recent study in The Netherlands revealed that 61.1% of subjects with an inadequate level of physical activity tended to overestimate their level of physical activity in self-report.¹³ As the staging in PACE relies on self-report, overestimation will be a common problem. An easy and practical staging algorithm might be one way to reduce this problem. However, providers should also be trained to be flexible in their individual approach to the patient. (iv) A PACE physical activity counsellor made the booster telephone calls for the purpose of this study. This raises the question of whether an employee of the general practice or an independent organization should make these calls in case of in future implementation. (v) Difficulties in the use of the assessment form and the counselling protocols were also mentioned, and specific attention should be paid to simplifying these forms.

To conclude, the results of this process evaluation show that the PACE method to enhance patients' level of physical activity was found to be both acceptable and feasible in a selection of Dutch general practices. Positive adaptations will be made in order to implement PACE successfully in Dutch general practice at a wider scale.

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