Can practice nurses increase physical activity in the over 65s? Methodological considerations from a pilot study

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SUMMARY

There is ample evidence of the benefits of exercise for older people. Less is known about the most effective strategies for promoting the participation of older people in exercise regimes. An approach whereby practice nurses used motivational interviewing, based on Prochaska and Di Clemente's model of behaviour change, was piloted in two general practices. The strategy appeared feasible and will be tested further in a large controlled trial.

Keywords: physical exercise; elderly; practice nurses.

Introduction

EVIDENCE from observational studies demonstrates the physical and mental health benefits of exercise, including a reduction in coronary artery disease and osteoporosis, and improved self-esteem among active adults.[1] Even in very elderly people, functional mobility and strength can be promoted through exercise programmes.[2] This pilot study aimed to test the feasibility of conducting a controlled intervention in primary care by assessing recruitment rates and the acceptability of the intervention.

Method

Two practices were recruited into this study. Practice A was a suburban practice, Practice B an inner city practice. In each case, the practice nurse attended two days' training before patient recruitment began. Recruitment occurred opportunistically, using posters, flyers, doctor referrals, and direct invitations. Each nurse was asked to recruit 20 patients. Patients were randomly allocated to either the control or the intervention group. Some patient recruitment difficulties were encountered in practice B. The practice nurse had several periods of sickness absence and also had to cover the work of an absent colleague. Owing to the resultant recruitment problems, the findings below represent data from 20 patients attending practice A who were recruited over a seven-week period.

Demographic details, including smoking and alcohol habits, medical history, height, weight, pulse, and blood pressure were recorded. Patients were excluded if they had poorly controlled angina, heart failure, uncontrolled BP (>220/120), or any significant or progressive disabling condition. The Physical Activity Readiness Questionnaire (PAR-Q) was used to assess fitness to participate.[3]

The intervention design incorporated criteria found to be successful elsewhere:[4] home-based, unsupervised, informal exercise was supported by professional contact through motivational telephone calls. The GHQ-28,[5] the COOP scales,[6] the Tokyo Social Competence Scale,[7] and the SF-36[8] were used to measure health and social function. Godin and Shephard's form[9] was used to determine weekly leisure time activity. Beliefs and attitudes about exercise and health were assessed using a modified version of the Decisional Balance measure[10] and Lau *et al*'s Health as a value scale.[11]

In the intervention group, baseline assessment was followed by a motivational interview based on the transtheoretical model.[12] The patient's position in this 'Stages of Change' model was noted. The nurse and the patient developed an individualized planned activity schedule, designed to increase exercise activity. Personal preferences and local facilities were considered. The overall aim was to encourage five sessions a week of moderate exercise lasting 30 minutes, in line with current recommendations.[13-15] The nurse telephoned the intervention patients at two and six weeks: the activity plan was discussed, along with barriers to exercise and how these might be overcome. Leisure time activity levels were noted.

The control group received standard advice about the benefits and types of recommended activity and were asked to attend again in eight weeks, when reassessment occurred.

To provide objective data, ambulatory monitoring using Polar© heart rate monitors occurred for eight hours a day over a three-day period at the beginning and end of the study. Patients were requested to keep a concurrent physical activity diary. Semi-structured one-to-one interviews were conducted at the end of the study with six patients and the nurses to assess the acceptability of the instruments, the intervention, and health beliefs about exercise.

Results

Most patients were male (n = 13) and the mean age was 72.2 years (SD = 4.26). Most patients were recruited through direct invitation. A few who responded to the poster subsequently withdrew when they learned that no specific exercise classes were being offered. One patient was lost to follow-up, because of illness. The nurses recommended an extended recruitment period.

Patients used the heart rate monitors competently. The questionnaires were generally straightforward to complete, although the wording of some questions on the GHQ and self-efficacy components proved problematic for some. Intervention group patients were happy to be telephoned. The opportunity to increase physical activity was hindered by poor health, bad weather, and altered domestic circumstances. However, there was some perceived physical benefit from participating and an increased awareness of how to be more active. Views on physical activity remained unchanged. No-one had minded participating, but some were ambivalent about future participation.

Although involvement in the study had taken more time and

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effort than the nurses had initially anticipated, the assessments and associated paperwork proved feasible. The telephoning schedule would require closer attention in a larger study.

Reported activity increased in both groups: a treatment effect was not apparent in this small sample. All patients had relatively good scores on the health status and quality-of-life measures: there were no differences between or within groups over time. There was little concordance between self-reported activity levels and heart rates ($r = -0.1, -0.3, 0.1$, n.s.): individuals tended to overestimate how active they were. This emphasizes the need to verify self-report data.[16]

Conclusion

The degree to which the practice nurse can increase physical activity in people aged over 65 has been assessed, and the findings will inform the design of a larger randomized controlled trial.

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