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On the Numerical Simulation of Bingham Fluid Flows Using Prox-Regularization

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Kurzfassung

Objective: The aim of this study is to analyse recruitment, motivation, barriers and adherence to increasing physical activity in a community-based 1-year intervention. **Research design and methods:** This study included a baseline investigation of 1,156 participants (67% female, 33% male), a post-intervention investigation after 4 months and a follow-up assessment after 1 year. All patients included in the study were physically inactive, had a body mass index (BMI) of less than 35 and were mobile enough to participate in physical training. The inclusion criteria are at least one of the following diagnoses: type 2 diabetes, above-normal cholesterol level (dyslipidemia) or above-normal blood pressure (hypertension). Theory-based activities to promote physical activity and nutrition counselling were implemented, and self-report questionnaires investigated attitude, experiences and barriers towards physical activity and self-reported health. **Results:** The findings indicated an increase in physical activity and fitness level, weight loss and lower body mass index both immediately after the training period and after 1 year. The programme led to reduced tobacco use. The recruitment of the patients is not representative of the general population. More better educated and female patients participated in the programme. Weight loss was the main motivation for participation, while weight gain was the main reason for dropping out of the programme. Patients who lived with a partner accomplished 10% more than did patients who lived alone, and patients who reported a good or very good state of health at baseline were more successful in completing the programme than were patients who reported having a "bad" state of health. The reported psychological barriers include physical barriers, emotional barriers, motivational barriers and time-related barriers. Motivation was strengthened by the training group, and especially the overweight patients experienced coherence and meaning in the group training activities. **Conclusions:** A theory-driven community intervention can lead to an increase in physical activity. Training with a group is beneficial for motivation and adherence.