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Adherence-dependent longitudinal effects of Nordic Walking on clinical, functional, cardiometabolic outcomes in sedentary men undergoing prostate cancer screening: a real-world prospective study

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Background: A sedentary lifestyle increases prostate cancer (PCa) risk and contributes to cardiometabolic disease. Nordic Walking (NW) is a simple, accessible form of physical activity that may improve population health. We investigated adherence-dependent longitudinal effects of supervised NW on clinical, functional, and cardiometabolic outcomes in sedentary men undergoing PCa screening.

Methods: This real-world prospective observational study, embedded within the DP3 trial, enrolled sedentary men aged >50 years undergoing PSA testing. Fifty-seven participants joined a supervised NW program (two sessions/week, up to 12 months), while 49 matched controls maintained usual habits. PSA levels, functional tests, anthropometric measures, and questionnaires on lifestyle, well-being, and disease risk factors were collected at baseline, 6, and 12 months. NW adherence was quantified as the number of sessions attended. Exploratory proteomic profiling was performed in a subset.

Results: At 6 months, NW participants showed significant improvements in physical fitness, activity levels, and body composition compared with controls. After 12 months, benefits included reductions in weight, BMI, waist/hip circumference, and blood pressure, together with enhanced functional capacity. Higher adherence correlated with greater gains in fitness, body shape indices, and PSA reductions. Exploratory proteomics suggested modulation of immune, metabolic, and neurobiological pathways.

Conclusions: A supervised NW program is feasible and effective in sedentary men, with health benefits proportional to adherence. This real-world evidence underscores structured physical activity, such as supervised NW, as a safe, scalable, and non-invasive lifestyle strategy for chronic disease prevention, cancer risk reduction, and healthy aging in the community.

Trial registration: the study has been retrospectively registered in the ISRCTN registry with study registration number ISRCTN86138886

Keywords

Nordic Walking; adherence; prevention; cardiometabolic risk

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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