## Implementation Research on the Singapore Physical Activity and Nutrition Program: A Mixed-Method Evaluation

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Abstract : Introduction: The Singapore Physical Activity and Nutrition Study (SPANS) aimed to assess the effects of a community-based intervention on physical activity (PA) and nutrition behaviours as well as chronic disease risk factors for Singaporean women aged above 50 years. This article examines the participation, dose, fidelity, reach, satisfaction and reasons for completion and non-completion of the SPANS. Methods: The SPANS program integrated constructs of Social Cognitive Theory (SCT) and is composed of PA activities; nutrition workshops; dietary counselling coupled with motivational interviewing (MI) through phone calls; and text messages promoting healthy behaviours. Printed educational resources and health incentives were provided to participants. Data were collected via a mixed-method design strategy from a sample of 295 intervention participants. Quantitative data were collected using self-completed survey (n = 209); qualitative data were collected via research assistants' notes, post feedback sessions and exit interviews with program completers (n = 13) and noncompleters (n = 12). Results: Majority of participants reported high 'satisfactory to excellent' ratings for the program pace, suitability of interest and overall program (96.2-99.5%). Likewise, similar ratings for clarity of presentation; presentation skills, approachability, knowledge; and overall rating of trainers and program ambassadors were achieved (98.6-100%). Phone dietary counselling had the highest level of participation (72%) at less than or equal to 75% attendance rate followed by nutrition workshops (65%) and PA classes (60%). Attrition rate of the program was 19%; major reasons for withdrawal were personal commitments, relocation and health issues. All participants found the program resources to be colourful, informative and practical for their own reference. Reasons for program completion and maintenance were: desired health benefits; social bonding opportunities and to learn more about PA and nutrition. Conclusions: Process evaluation serves as an appropriate tool to identify recruitment challenges, effective intervention strategies and to ensure program fidelity. Program participants were satisfied with the educational resources, program components and delivery strategies implemented by the trainers and program ambassadors. The combination of printed materials and intervention components, when guided by the SCT and MI, were supportive in encouraging and reinforcing lifestyle behavioural changes. Mixed method evaluation approaches are integral processes to pinpoint barriers, motivators, improvements and effective program components in optimising the health status of Singaporean women.

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