Physical Activity and Nutrition Intervention for Singaporean Women Aged 50 Years and Above: A Study Protocol for a Community Based Randomised Controlled Trial

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Abstract : Singapore has a rapidly aging population, where the majority of older women aged 50 years and above, are physically inactive and have unhealthy dietary habits, placing them at 'high risk' of non-communicable diseases. Given the multiplicity of less than optimal dietary habits and high levels of physical inactivity among Singaporean women, it is imperative to develop appropriate lifestyle interventions at recreational centres to enhance both their physical and nutritional knowledge, as well as provide them with the opportunity to develop skills to support behaviour change. To the best of our knowledge, this proposed study is the first physical activity and nutrition cluster randomised controlled trial conducted in Singapore for older women. Findings from this study may provide insights and recommendations for policy makers and key stakeholders to create new healthy living, recreational centres with supportive environments. This 6-month community-based cluster randomised controlled trial will involve the implementation and evaluation of physical activity and nutrition program for community dwelling Singaporean women, who currently attend recreational centres to promote social leisure activities in their local neighbourhood. The intervention will include dietary education and counselling sessions, physical activity classes, and telephone contact by certified fitness instructors and qualified nutritionists. Social Cognitive Theory with Motivational Interviewing will inform the development of strategies to support health behaviour change. Sixty recreational centres located in Singapore will be randomly selected from five major geographical districts and randomly allocated to the intervention (n=30) or control (n=30) cluster. A sample of 600 (intervention n=300; control n=300) women aged 50 years and above will then be recruited from these recreational centres. The control clusters will only undergo pre and post data collection and will not receive the intervention. It is hypothesised that by the end of the intervention, the intervention group participants (n = 300) compared to the control group (n = 300), will show significant improvements in the following variables: lipid profile, body mass index, physical activity and dietary behaviour, anthropometry, mental and physical health. Data collection will be examined and compared via the Statistical Package for the Social Science version 23. Descriptive and summary statistics will be used to quantify participants' characteristics and outcome variables. Multi-variable mixed regression analyses will be used to confirm the effects of the proposed health intervention, taking into account the repeated measures and the clustering of the observations. The research protocol was approved by the Curtin University Human Research Ethics Committee (approval number: HRE2016-0366). The study has been registered with the Australian and New Zealand Clinical Trial Registry (12617001022358).
Keywords : community based, healthy aging, intervention, nutrition, older women, physical activity