

Abstract

Promoting Healthy Living among Nurses: A Pilot Study

Issue. Nurses are a high-risk group for developing metabolic conditions and cardiovascular disease (CVD) linked to physical inactivity, unhealthy diet, and smoking.¹⁻⁴ CVD is the leading cause of death in North American women. Since 90% of nurses are women, they are an important population to target with health approaches to prevent CVD. The identified CVD risk among nurses is compounded by increased workload, shift work, and aging.⁵ Nurses' health and work-related problems correlate with chronic disease, disabilities, stress, and burnout, all of which have a negative impact on absenteeism, workplace retention, health care costs, and employer spending.^{3,6}

Study Purpose. To evaluate the effect of an ecologically-based, workplace physical activity and nutrition (PA/N) intervention program, including healthy workplace environmental components, on selected anthropometric, physiological, lifestyle- (smoking and alcohol consumption, pedometer step count) and workplace-related (absenteeism) outcome measures. Integral to this purpose was to: a) test the utility and feasibility of a variety of instruments that measure variables related to the intervention and outcomes; and b) determine the degree to which self-efficacy and social support mediate the effect of the PA/N intervention on the outcome measures.

Objectives. 1) Involve nurses employed at two urban and two rural hospitals on Vancouver Island, British Columbia, in a three-month PA/N intervention program; 2) examine changes in anthropometric, physiological, lifestyle- and workplace-related outcome measures during the study period; 3) use Van Manen's framework for hermeneutic phenomenology⁷ to explore nurses' lived experience of participation in the PA/N intervention program; 4) utilize the ecological assessment model developed by Richard et al.⁸ to evaluate the integration of the ecological approach in the PA/N intervention program;; and 5) test the feasibility of using the same methods and instruments in a future large-scale study.

Methods. The study employed the mixed methods, quasi-experimental (repeated measures) design. *Participants:* Nurses were recruited from two urban and two rural hospitals and non-randomly assigned to intervention and comparison groups. Twenty nurses ($N = 20$) completed the study. Median age was 45.3 years, 100% were females, and 90% and 10% were RNs and LPNs, respectively. *Data Collection:* Anthropometric, physiological, lifestyle-and work-related outcome measures, focus group interviews, and five questionnaires (Self-Efficacy and Social Support Surveys for Diet and Exercise Behaviors, Block 2005 Food Frequency Questionnaire [FFQ], International Physical Activity Questionnaire [IPAQ], and Checklist of Health Promotion Environments at Worksites [CHEW]). *Data Analysis:* Three-way mixed ANOVA, ANCOVA (self-efficacy and social support), t -tests, Pearson and Spearman correlations, and cross-tabulations. *Intervention:* The sequentially implemented PA/N intervention included guidelines outlined in Canada's Food Guide⁹ and the Frequency, Intensity, Time, and Type (F.I.T.T.) Program¹⁰, health information relating to physical activity and nutrition, and instructions for participants to record their physical activity, pedometer step count, and dietary intake in log books on a daily basis. Individualized and workplace intervention strategies of the PA/N program were evaluated in the ecological assessment.

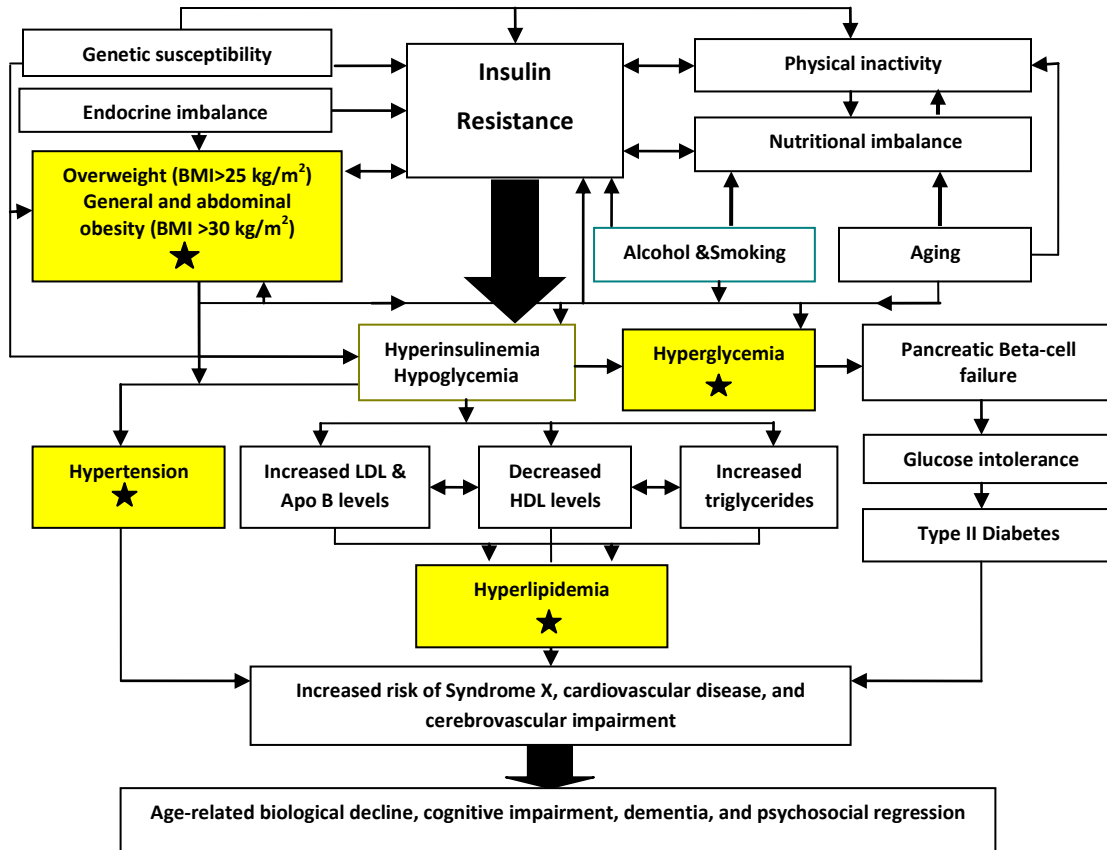
Results and Conclusion. *Quantitative Results:* Statistically significant main effects were achieved for anthropometric, physiological, and lifestyle-related outcome measures: blood glucose (-0.4 mmol/L), diastolic blood pressure (-0.6 mmol/L), resting heart rate (-5.4 bpm), body mass index (-1.1 kg/m²), body fat (-1.3%), waist-to-hip ratio (-1.4 cm), and pedometer step count (+3311). There was no mediating effect of the psychosocial variables self-efficacy and social support on the

anthropometric and physiological outcome measures and pedometer step count. Significant correlations were found between half of the instrument subscales and the outcome measures. There was no significant difference between urban and rural nurses how they rated their self-efficacy and social support. *Qualitative Results:* Themes include Healthy Behaviours (sub-themes: Awareness, Attention to Self, Motivation to Act Now, and Motivation to Act Later) and Unhealthy Behaviours (sub-themes: Lack of Awareness, Limited Attention to Self, Decreased Motivation to Act Now). *Health Benefits:* Improved sleep and mood, and increased energy. *Ecological Assessment:* Health promoting strategies of the PA/N program received a moderate ecological score of 2.9 out of 4. However, nurses who participated in focus group interviews expressed dissatisfaction about the effectiveness of health promotion strategies already implemented at the workplace. *Conclusion:* Although no difference between intervention and comparison groups could be demonstrated, combined group or cross-sectional scores translated to decreases in anthropometric and physiological outcome measures and an increase in pedometer step count. These results support the feasibility of implementing a larger ecologically-based, workplace PA/N intervention study to promote health and prevent CVD among nurses. Such a study needs to focus on multiple risk factors, barriers for behavioural change, and the broader social context of nurses, including their families and communities.

Key References

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Schematic Overview of Increased Risk of Developing Metabolic Abnormalities Linked to Syndrome X, Chronic Conditions, Cardiovascular Disease, and Cerebrovascular Impairment (Adapted from Whitaker, 2000. Reprinted with permission from Hachette Book Group and Dr. J. Whitaker)



★ = Independent risk factors for developing Syndrome X and CVD.