



Effective Public Health Practice Project Summary Statement

October 2006

This is a summary statement written to condense the work of the authors of a systematic review. The reference for the full review is below. The intent of this summary is to provide an overview of the findings and implications of the full review. For more information on individual studies included in the review, please see the review itself.

Reference for Review: Asikainen, T.M., Kukkonen-Harjula, K., Miilunpalo, S. (2004). **Exercise for health for early postmenopausal women: a systematic review of randomised controlled trials.** *Sports Medicine*, 34, 753-78.

Issue

Menopausal or postmenopausal women face many changes that may lead to the loss of health related fitness (HRF) if they are not active. Health related fitness consists of morphological fitness (body composition and bone strength), musculoskeletal fitness (muscle strength and endurance, flexibility), motor fitness (postural control), cardiorespiratory fitness (maximal aerobic power, blood pressure) and metabolic fitness (lipid and carbohydrate metabolism).

The link between physical activity and the unwanted symptoms of menopause (such as hot flashes, anxiety and insomnia) has not been clearly established (Fugate et al., 2004; Gold et al., 2004). Because little evidence is available on this topic, the National Institutes of Health (NIH) is conducting an observational study to investigate mood and behaviour changes in the time period surrounding and including menopause. In part, this study will be used as a screening protocol to recruit subjects for related studies (www.clinicaltrials.gov).

The Mandatory Health Programs and Services Guidelines (Ontario Ministry of Health and Long-Term Care, 1997) include a Chronic Disease Prevention objective to increase to 40% the proportion of all adults who include at least 30 minutes of accumulated, moderate physical activity on most, if not all, days of the week by the year 2010. In a more recent document (Healthy Weights, Healthy Lives, 2004), the Chief Medical Officer of Health identified healthy eating and regular physical activity as ongoing priorities. Neither of these guidelines directing public health strategies in Ontario identifies postmenopausal women as a group, nor do they discuss the benefit of exercise with specific regard to women who have passed menopause. In both documents, postmenopausal women are included in public health strategies because they belong to the "adult" age category.

Review Content Summary

This systematic review assessed the feasibility of exercise programs for women aged 50-65 and their effects on health-related fitness. The reviewers described results from 28 randomized controlled trials of walking, aerobic exercise and/or resistance training. No trials appear to have directly compared one type of exercise with another. Exercise programs ranged from 10 weeks

to 2 years in duration. Drop out rates were similar for different types of exercise programs, but average injury rates ranged from 3% for walking to 33% for strength training with weight machines. Walking, the simplest form of exercise evaluated, resulted in positive effects on weight, body fat, bone mineral density and VO_{2max} . Musculoskeletal fitness (muscular strength, endurance, flexibility) improved, compared to control, with resistance training. Unfortunately, the link between exercise and the unwanted symptoms of menopause (e.g., hot flashes, anxiety, insomnia) was not explored.

Comments on this Review's Methodology

The reviewers searched several health and sports databases, as well as sports medicine journals, to locate randomized trials. Studies were selected using well-defined criteria and were assessed for quality using criteria based on published methods. None of the studies fulfilled all of the reviewers' quality criteria: >100 participants, <20% dropout rate, and at least one other criterion such as blinding of outcome assessors. Study participants were volunteers or came from a population-based sample. Because of variation among the studies, no meta-analysis was performed. Characteristics and results for individual studies were presented in tables. Narrative synthesis was provided by exercise type (walking, aerobic exercise and resistance training) and a large number of fitness measures (morphological, musculoskeletal, metabolic and cardiorespiratory). Unfortunately, no p-values or confidence intervals were reported on differences between experimental and control groups. Control interventions were not described. No studies made a direct comparison between different types of exercise programs (e.g., aerobic exercise versus walking).

Evidence and Implications for Practice & Policy

Evidence points ARE NOT weighted or ranked according to strength.

What's the evidence?	Implications for practice and policy:
<p>Walking</p> <ul style="list-style-type: none"> > Improvements were observed in measures of HRF with programs in which walking was the primary mode of exercise. 	<ul style="list-style-type: none"> > Walking is the easiest type of exercise program to implement, support and encourage in public health. > These programs required limited supervision, and had a low drop out rate, high attendance and a low injury rate. > Further research should be conducted to investigate the effects of walking on unwanted symptoms of menopause.
<p>Walking plus aerobic exercise</p> <ul style="list-style-type: none"> > Improvements were observed in measures of HRF when aerobic exercise was used in conjunction with walking. 	<p>Walking alone should be compared directly with walking plus aerobic exercise in a randomized trial.</p>
<p>Resistance training</p> <ul style="list-style-type: none"> > Improvements in measures of HRF were observed with strength training using weight machines. 	<ul style="list-style-type: none"> > Resistance training requires machines, supervision and costly memberships, and may result in higher injury rates and lower attendance rates than the other programs.

What's the evidence?	Implications for practice and policy:
<p>Aerobic plus Resistance Training</p> <p>> Many favourable effects were observed in measures of HRF in response to programs that combined aerobic and resistance training.</p>	<p>> Same as above.</p>
<p>General Implications: As public health practitioners in Ontario, we should lead or support campaigns that encourage increased physical activity of any kind in anyone of any age. The exercise should be part of everyday living and easy to perform without having to visit a gym or use machines. The relative benefits that menopausal women derive from different types of exercise should be determined in randomized trials that directly compare more intensive programs to walking-based programs and assess changes in menopausal symptoms and quality of life.</p>	

Cost Benefit or Cost-Effectiveness Information: Not included in review.

References Used to Outline Issue

- Fugate, S.E., & Church, C.O. (2004). Nonestrogen treatment modalities for vasomotor symptoms associated with menopause. *The Annals of Pharmacotherapy*, 38, 1482-1499.
- Gold, E.B., Block, G., Crawford, S., Lachance, L., FitzGerald, G., Miracle, H., et al. (2004). Lifestyle and demographic factors in relation to vasomotor symptoms: baseline results from the Study of Women's Health Across the Nation. *American Journal of Epidemiology*, 159 (12),1189-1199.
- National Institute of Mental Health. (2006). *Perimenopause-Related Mood and Behavioral Disorders*. Retrieved July 25, 2006, from: <http://clinicaltrials.gov/ct/show/NCT00001231?order=12>.
- Ontario Ministry of Health and Long-Term Care. (1997). *Mandatory Health Programs and Services Guidelines*. Retrieved October 13, 2006 from: <http://www.health.gov.on.ca/english/providers/pub/pubhealth/manprog/mhp.pdf>
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