

# Physical activity was associated with a reduced risk of death from all causes among postmenopausal women

Kushi LH, Fee RM, Folsom AR, et al. *Physical activity and mortality in postmenopausal women*. *JAMA* 1997 Apr 23/30;277:1287-92.

## Objective

To evaluate the association between physical activity and all cause mortality in postmenopausal women.

## Design

7 year cohort analytic study.

## Setting

Iowa, USA.

## Participants

99 826 women were initially selected for the study and 40 417 (40.5%) adequately completed the questionnaire. All were postmenopausal women 55-69 years of age at baseline. 99% were white or of European descent.

## Assessment of risk factors

Levels of physical activity were assessed by a mailed questionnaire at baseline. The questionnaire also assessed smoking, dietary habits, alcohol use, personal medical history, weight, and body circumference.

## Main outcome measure

All cause mortality.

## Main results

2284 women died during follow up. Results were adjusted for age at baseline, menarche, menopause, and first live birth; parity; alcohol intake; total energy intake; cigarette smoking; oestrogen

use; body mass index at baseline; body mass index at age 18 years; waist to hip ratio; first degree female relative with cancer; hypertension or diabetes; education level; and marital status. After excluding women who reported cancer or heart disease at baseline or who died during the first 3 years of follow up, the relative risk (RR) of death from all causes among women who exercised regularly compared with women who did not exercise regularly was 0.77 (95% CI 0.66 to 0.90). Increasing frequency of moderate physical activity was associated with a reduced risk of death from all causes. RR for once weekly to a few times per month was 0.76 (CI 0.63 to 0.91); RR for 2-4 times per week was 0.70 (CI 0.58 to 0.85); and RR for > 4 times per week was 0.62 (CI 0.50 to 0.78) ( $p < 0.001$  for trend). Reduced risk of death with regular physical activity was seen for cardiovascular diseases (RR 0.72, CI 0.54 to 0.95) and for respiratory illnesses (RR 0.33, CI 0.16 to 0.67). Women who engaged in moderate physical activity as infrequently as once per week and did no vigorous physical activity also showed a reduced risk of death (RR 0.78, CI 0.64 to 0.96).

## Conclusion

Physical activity was associated with a reduced risk of death among postmenopausal women.

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## Commentary

Physical exercise has long been established as having an important influence on mortality and morbidity.<sup>1</sup> Studies have tended to emphasise the benefits of exercise for younger women in the prevention and limitation of osteoporosis in later years.<sup>2</sup> The work by Kushi *et al* is important, however, in highlighting the benefits of moderate and high level exercise for overall mortality for postmenopausal women.

As nurses, we should encourage postmenopausal women who exercise to continue doing so. The paper failed, however, to address a number of important issues for nurses working with this client group. Firstly, although data were collected on

education and marital status, data were not reported on other social class indicators such as occupation. Present occupation may be important for determining present social status and the opportunity for leisure activities. This would have been valuable information for nurses in promoting and encouraging exercise.

Secondly, although the study was of a quantitative nature, it should be read in conjunction with qualitative work which may offer explanations as to why women do or do not actively undertake health promoting activity.<sup>3</sup> Indeed, given that women who choose to exercise may be different from those who do not, and given that this study was not designed to

evaluate an exercise intervention for non-exercising postmenopausal women, nurses should be cautious about advising women who are not currently exercising to do so.

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- 1 Burns KJ. A new recommendation for physical activity as a means of health promotion. *Nurse Pract* 1996;21:18.
- 2 Graham H. Behaving well: women's health behaviour in context. In: Roberts H, ed. *Women's health matters*. London: Routledge, 1990: 195-219.
- 3 Willoughby OH. Osteoporosis exercise program at a glance. *Women's health center management* 1987;5:52.



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