Get Regular Exercise, Have Fewer Colds

Chubak J, McTiernan A, Sorensen B, et al. Moderate-intensity exercise reduces the incidence of colds among postmenopausal women. Am J Med 2006;119:937–42.

Study Overview

Objective. To assess the effect of regular moderate-intensity exercise on the incidence of colds and upper respiratory tract infections (URTIs) in postmenopausal women.

Design. Randomized controlled trial.

Setting and participants. Postmenopausal women who were overweight or obese, sedentary, and not active smokers were recruited from the Seattle, WA, area. Participants ($n = 115$) were randomized to at least 45 minutes of moderate-intensity exercise 5 days/wk (exercise group) or to once-weekly, 45-minute stretching sessions (control group) for 1 year. All participants were encouraged to maintain their usual dietary habits and were instructed on how to monitor for colds and URTIs and how to distinguish these conditions from other common ailments, such as allergies.

Main outcome measures. The primary outcome measure was the incidence of colds and URTIs, as identified by self-reported surveys. Surveys were collected at baseline and at 3, 6, 9, and 12 months.

Main results. 53 participants were allocated to the exercise group and 62 participants were assigned to the control group (mean age, 61 yr; mean body mass index, 30 kg/m^2). Baseline characteristics were similar between the groups. Over the course of the trial, participants in the exercise group exercised an average 166 min/week. The risk of colds decreased in the exercise group and increased in the control group; this difference was statistically significant ($P = 0.02$). 49% of participants allocated to the exercise group reported having no colds over the 12-month period compared with 31% in the control group. In the final 3 months of the study (months 9–12), the relative risk of having a cold in the exercise group compared with the control group was 0.32 (95% confidence interval, 0.13–0.81). There were no statistically significant differences in the number of URTIs between the exercise and control groups at any time during the study.

Conclusion. Moderate-intensity exercise on a regular basis may reduce the risk of colds in nonsmoking postmenopausal women.

Commentary

The list of health benefits from regular exercise continues to grow. Exercise has long been recognized as an important part of the primary prevention of cardiovascular disease and cancers [1,2]. A recent study suggested that exercise may also reduce cognitive decline in the elderly [3]. Further, studies have suggested that in addition to the documented anti-inflammatory effects of physical activity, exercise may improve immune function [4]. Previous trials demonstrated that regular exercise reduced the duration of colds and URTIs [5]; however, it was unclear whether physical activity reduced the overall risk incidence of these infections. To address this question, Chubak et al conducted a 12-month, randomized controlled trial comparing moderate-intensity exercise to stretching, which showed that the risk of colds could be reduced threefold through regular exercise.

Although this study suggests another potential benefit of exercise, there are several important limitations to the study. First, colds and URTIs were based on self-report. It can be challenging for an experienced provider to distinguish between colds and URTIs, and it is unclear how accurately participants classified their symptoms. Follow-up studies should incorporate bacterial and viral cultures within the design as a referent standard for diagnoses. An additional limitation was that data on the number of colds or URTIs were collected every 3 months, and it is unclear if participant recollection was reliable. Furthermore, because the intervention was not blinded, it is possible that exercisers may have been more likely to underreport colds. Earlier studies have involved daily diaries, but this would have been impractical for a year-long study. Finally, more participants in the control arm received flu vaccinations, which may have mitigated the effect of exercise on URTIs.

Applications for Clinical Practice

Long-term, moderate-intensity exercise not only reduces the duration of colds and URTIs but may reduce their overall occurrence. Regular exercise has cardiovascular benefits and may reduce the risk of some cancers. These results provide

additional support to the recommendation to encourage all patients to engage in regular exercise.

—Review by Harvey J. Murff, MD, MPH

References

1. Batty GD. Physical activity and coronary heart disease in older adults. A systematic review of epidemiological studies. Eur J Public Health 2002;12:171–6.
2. Rockhill B, Willett WC, Hunter DJ, et al. A prospective study of recreational physical activity and breast cancer risk. Arch Intern Med 1999;159:2290–6.
3. Larson EB, Wang L, Bowen JD, et al. Exercise is associated with reduced risk for incident dementia among persons 65 years of age and older. Ann Intern Med 2006;144:73–81.
4. Keast D, Cameron K, Morton AR. Exercise and the immune response. Sports Med 1988;5:248–67.
5. Nieman DC, Nehlsen-Cannarella SL, Markoff PA, et al. The effects of moderate exercise training on natural killer cells and acute upper respiratory tract infections. Int J Sports Med 1990;11:467–73.

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