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WILEY

[Intervention Review]

Exercise for acutely hospitalised older medical patients

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ABSTRACT

Background

A high incidence of functional decline (deterioration in physical or cognitive function) during hospitalisation of older adults is reported. The role of exercise in preventing these deconditioning effects is unclear.

Objectives

To determine the effect of exercise interventions for acutely hospitalised older medical patients on functional status, adverse events and hospital outcomes.

Search methods

We searched MEDLINE (1966-Feb 2006), CINAHL (1982-Feb 2006), EMBASE (1988 to Feb 2006), Cochrane Database of Systematic Reviews and Cochrane Central Register of Controlled Trials (The Cochrane Library Issue 1, 2006), PEDro (1929- Feb 2006), Current Contents (1993-Feb 2006) and Sports Discus (1830-Feb 2006). The Journal of the American Geriatrics Society was hand searched. Additional studies were identified through reference and citation tracking, personal communications with a content expert and contacting authors of eligible trials. There was no language restriction.

Selection criteria

Eligible studies were prospective randomised controlled trials (RCT) or prospective controlled clinical trials (CCT) comparing exercise for acutely hospitalised older medical patients to usual care or no treatment controls.

Data collection and analysis

Two independent reviewers extracted data relating to patient and hospital outcomes and assessed the method quality of included studies. Data were pooled in meta-analysis using the relative risk (RR) and absolute risk reduction (ARR) for dichotomous outcomes and the standardised mean difference (SMD) or the weighted mean difference (WMD) for continuous outcomes.

Main results

Of 3138 potentially relevant articles screened, 7 randomised controlled trials and 2 controlled clinical trials were included. The effect of exercise on functional outcome measures is unclear. No intervention effect was found on adverse events. Pooled analysis of multidisciplinary interventions that included exercise indicated a small significant increase in the proportion of patients discharged to home at hospital discharge (Relative Risk 1.08, 95% CI 1.03 to 1.14 and Numbers Needed to Treat 16, 95% CI 11 to 43) and a small but important reduction in acute hospital length of stay (weighted mean difference, -1.08 days, 95% CI -1.93 to -0.22) and total hospital costs (weighted mean difference, -US\$278.65, 95% CI -491.85 to -65.44) compared to usual care. Pooled analysis of exercise intervention trials found no effect on the proportion of patients discharged to home or acute hospital length of stay.

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Authors' conclusions

There is 'silver' level evidence (www.cochranemsk.org) that multidisciplinary intervention that includes exercise may increase the proportion of patients discharged to home and reduce length and cost of hospital stay for acutely hospitalised older medical patients.

PLAIN LANGUAGE SUMMARY

Exercise for older patients in hospital

This summary of a Cochrane review presents what we know from research about the effects of exercise for older patients who are admitted to hospital. The review shows that:

For older patients who are admitted to hospital, exercise sessions

- may not lead to any difference in function, harms, length of stay in hospital or whether they go home or to a nursing home or other care facility.

For older patients who are admitted to hospital, a special care programme that includes exercise

- may not lead to any difference in function or harms.
- may slightly reduce the length of stay in hospital, may slightly increase the number of patients who go home instead of to a nursing home or another hospital.
- may slightly reduce the cost of care to the health system.

There is not enough evidence to be certain of these results.

Why exercise for older patients when they are in hospital?

It has been argued that older people often leave hospital less able to function or move than before they were admitted. For example, one study shows that many older patients, who were able to walk on their own two weeks before going into hospital, needed help to walk when they left hospital. This may be because they are resting in bed during their hospital stay. Usual care in hospitals does not always include exercise. It is thought that if older patients exercise more during their hospital stay they may not lose as much function. Usual care in hospitals does not always include exercise.

What are the effects of exercise?

The studies included patients who were 65 years or older and were admitted to hospital with a medical illness. While in hospital they received either usual hospital care, usual care plus exercise sessions or a special overall care programme that included exercise. The exercise sessions and special programmes started within a few days of patients being admitted to hospital. Many of the programmes included walking.

Overall, there is not enough evidence to be certain of the benefits and harms of exercise sessions or programmes for older patients in hospital.

Function and harms (falls, move to an intensive care unit (ICU), or death): There may be little or no difference with exercise sessions or with an overall programme of care that includes exercise.

Going home and length of time in hospital: There may be little difference with exercise sessions. With a special care programme that includes exercise, patients may go home 1 day earlier and 6 more patients out of 100 may go home instead of to a nursing home or other care facility

- 81 patients out of 100 may go home after receiving an overall programme of care that includes exercise
- 75 patients out of 100 may go home after receiving usual care

Health care costs: Costs were not reported for studies of exercise sessions. A special care programme that includes exercise may reduce health care costs by approximately \$300 per patient hospital stay.