

Dietetic assistants improved postoperative clinical outcomes in older women with hip fracture

Duncan DG, Beck SJ, Hood K, Johansen A. Using dietetic assistants to improve the outcome of hip fracture: a randomised controlled trial of nutritional support in an acute trauma ward. *Age Ageing*. 2006;35:148-53.

Clinical impact ratings: Hospitalists ★★★★★☆ Geriatrics ★★★★★☆

QUESTION

In older women with acute nonpathologic hip fracture, does the use of dietetic assistants (DAs) improve postoperative clinical outcomes?

METHODS

Design: Randomized controlled trial.

Allocation: Concealed.*

Blinding: Blinded (outcome assessors).*

Follow-up period: Up to 4 months.

Setting: A teaching hospital in Wales, United Kingdom.

Patients: 318 women > 65 years of age with acute nonpathologic hip fracture in a single trauma ward.

Intervention: Personal attention of DAs ($n = 153$) or conventional pattern of nurse- and dietitian-led care, including routine provision of oral nutritional supplements ($n = 165$). DAs provided appropriate help to ensure that patients met their nutritional needs: checking personal and cultural food preferences; coordinating appropriate meal orders with catering staff; ordering nutritional supplements when necessary; providing appropriate feeding aids; assisting with food choice, portion size, and positioning at mealtimes; sitting with, encouraging, and feeding the frailest patients at mealtimes; and collecting information to aid nutritional assessment by the dietitian.

Outcomes: Postoperative mortality in the acute trauma unit. Secondary outcomes were inpatient and 4-month mortality, length of stay (LOS), acute ward complications, energy intake, and nutritional status.

Patient follow-up: 95% (intention-to-treat analysis).

MAIN RESULTS

Fewer patients in the DA group died in trauma unit than did those in the conventional-care group (Table). Mortality at 4 months was also lower in the DA group (Table). Patients in the DA group had higher energy intake (1105 vs 756 kcal/d, $P < 0.001$) and less reduction of mid-arm circumference (-0.89 vs -1.28 cm, $P = 0.002$). Groups did not differ for inpatient mortality (Table), acute-unit LOS (139 vs 141 d, $P = 0.44$), in-hospital LOS (133 vs 134 d, $P = 0.81$), acute-ward complications (130 vs 125,

$P = 0.29$), handgrip strength improvement (2.17 vs 0.16 Nm, $P = 0.32$), weight loss (-0.35 vs -1.00 kg, $P = 0.16$), or hemoglobin reduction (-1.15 vs -1.36 g/dL, $P = 0.47$).

CONCLUSION

In older women with hip fracture, dietetic assistants improved postoperative clinical outcomes.

Sources of funding: Women's Royal Voluntary Service; British Dietetic Association; Shire Pharmaceuticals; Wales Office of Research and Development.

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*See Glossary.

Dietetic assistants (DAs) vs routine care (RC) in older women with acute nonpathologic hip fracture†

Outcomes	DAs	RC	RRR (95% CI)	NNT (CI)
Mortality in trauma unit	4.1%	10%	59% (3 to 83)	17 (9 to 519)
Mortality in hospital	8.3%	15%	44% (-8 to 71)	Not significant
Mortality at 4 mo	13%	23%	43% (6 to 66)	11 (6 to 89)

†Abbreviations defined in Glossary; RRR, NNT, and CI calculated from data in article.

COMMENTARY

Nutrition plays a role in the development and maintenance of healthy bone structure. Appropriate consumption of nutrients, including vitamins (i.e., vitamin D and C) and proteins, can facilitate the healing process after fractures and can prevent complications during the post-fracture period (1). Duncan and colleagues tested the effectiveness of intervention by DAs and concluded that it improved postoperative clinical outcome in older women after hip fracture.

A few points should be considered: First, the mortality rate after hip fractures in this study (10% in the routine-nursing group) seems to be higher than the usual North American mortality rate ($\pm 6\%$) (2) in similar populations. The authors do not mention cause of death, which may have helped to understand the differences in mortality rate found in their study.

Second, the intervention provided by DAs (6 hours every day) was intensive and well beyond the current nutrition support on many surgical wards. The positive effect on mortality found in the interven-

tion group could be explained by the closer-than-usual supervision provided by the DAs. This was an unblinded trial and thus a co-intervention should be considered because the patients and the DAs were aware of who was receiving the treatment. This might be an underlying explanation for the effect that is further supported by lack of improvement in nutritional markers (e.g., weight or albumin).

Regardless of the explanation, a mortality benefit was observed and was a positive finding in this study.

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