Effects of psychosocial group rehabilitation on health, use of health care services, and mortality of older persons suffering from loneliness: a randomized, controlled trial

Pitkala KH, Routasalo P, Kautiainen H, Tilvis RS

Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

CRD summary
The study evaluated the costs and health effects of a psychosocial group rehabilitation programme for lonely older persons. The authors concluded the intervention reduced mortality, improved subjective health and reduced resource utilisation in lonely elderly persons, reversing deteriorating health due to loneliness. The study was generally well conducted and the authors conclusions appear appropriate. There remains some uncertainty in the cost-effectiveness of the intervention.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The study evaluated the costs and health effects of a psychosocial group rehabilitation programme for lonely older (≥75 years) persons.

Interventions
There were two interventions: psychosocial group rehabilitation and control (usual community care). The psychosocial group rehabilitation group received one of three psychosocial group rehabilitation therapies: art and inspiring activities; exercise and health-related discussion; and therapeutic writing and group psychotherapy. Therapies consisted of 12 weekly sessions of five to six hours with groups of seven to eight elderly participants.

All psychosocial group rehabilitation therapies were delivered by two professional group leaders drawn from specialist nurses, physiotherapists and occupational therapists. All group leaders received nine days of training designed to enhance their leadership and therapeutic capabilities in serving older persons and teach them the interventions. Programmes were predetermined but modifiable by participants. Transportation, coffee breaks and lunches were provided. There was no charge to participants.

Location/setting
Finland/Social Care

Methods
Analytical approach:
The economic evaluation was conducted alongside a multicenter (six sites) randomised controlled trial conducted in 2003. Time horizons of analyses varied by outcome. The perspective was not stated.

Effectiveness data:
The trial used a series of postal surveys and telephone contact to identify suitable participants who met the inclusion criteria and responded to the initial postal survey; the response rate was 71.2% (4,113 responders). Of those initially responding approximately 37.5% were identified as suffering from loneliness. After subsequent postal questionnaire and telephone discussion 235 participants were recruited to the trial. Participants were divided into three groups based on their preferences and interests. In some study sites only one of the therapies was available; for these sites participants with an interest in that therapy were selected were possible. Randomisation was undertaken in 16 person clusters in each of the six study sites, which enabled the forming of eight person groups. Persons with moderate or severe dementia, blindness, deafness, lack of mobility without another person's aid and those living in institutions were
excluded.

The primary outcomes in the economic evaluation were subjective health measured using a four-point scale (ranged from healthy to very unhealthy) and mortality at 24 months. Subjective health was collected at three, six and 12 months. Mortality was derived from registry data. Treatment effect on mortality was measured using hazard ratios.

**Monetary benefit and utility valuations:**
Not relevant.

**Measure of benefit:**
The clinical effectiveness outcomes were used as measures of benefit.

**Cost data:**
Resource use was derived from patient questionnaires collected at three, six and 12 months; data were retrieved from local health care registries at the same time period. Resources use categories included days in primary hospitals, days in specialist hospitals, physician visits and ambulatory visits in specialists hospitals. Costs were derived from Finnish unit costs and reported in 2001 euros (€). Confidence intervals for costs were generated using a 5,000 repetition bootstrap Monte Carlo simulation.

**Analysis of uncertainty:**
Outcomes were tested for statistically significant differences using a variety of appropriate tests.

**Results**
Overall, subjective health improved more often in the intervention group (p=0.007) than the control group. At 24 months, survival was significantly higher in the intervention group (97% versus 90%, p=0.042). The age, gender, comorbidity, and cognition adjusted hazard ratio for survival was 0.39 (95% CI 0.15 to 0.98, p=0.044).

The total health services use per person annual costs in the intervention group were €1,522 (95% CI €1,144 to €2,191) in the intervention group and €2,465 (95% CI €1,826 to €3,372), an €943 difference in favour of the intervention. The difference was larger than the €881 per person annual cost of the intervention.

**Authors’ conclusions**
The authors concluded that it may be possible to reverse the deteriorating effects of social isolation, reducing health care costs and mortality while increasing participant health by using the study’s psychosocial group rehabilitation programme in lonely older persons.

**CRD commentary**
**Interventions:**
The interventions were described thoroughly. The control arm represented standard care and enabled appropriate comparisons to be made. Further definition of what was included in standard care would enable better assessment of whether standard care in Finland is generalisable to other settings.

**Effectiveness/benefits:**
The study methods were well described and appeared appropriate. Exclusion criteria included people living in institutions, deaf persons, blind persons and those who needed aid from others to move, which some may consider to be too restrictive in a population over the age of 75 years. The participates were selected based on their interest and preference for particular activities and the impact of this on the results should not be overlooked. The pragmatic approach to identifying and selecting participants could have potentially introduced an element of bias. However, if introduced into clinical practice it is likely that the same type of participates would elect to participate and therefore the effect seen in this study may be reflective of clinical reality.

The scale used for subjective health appeared to be derived specifically for this study. However, a general instrument of patient quality of life and additional measurements of the Montgomery-Asberg depression scale would have been appropriate. Use of a subjective unvalidated tool increases uncertainty in the findings.
Costs:
The perspective of costs was not reported but it was apparent that a health services perspective was adopted. Resource use and unit costs were derived appropriately for health expenditures. The total cost of the intervention was reported but was not broken into component parts, which limited any assessment of generalisability and transferability of the intervention costs.

Analysis and results:
On the whole the analysis was well reported. A full economic evaluation (in which the cost of the intervention and comparator were included and an incremental analysis was presented) would have produced more robust results with which to inform decision making and given a better picture of uncertainty surrounding any such decisions to implement the interventions.

The authors conducted a thorough comparison of their study results to those of others and found that their results were in concordance. The authors referenced additional study results reported in other papers for qualitative analysis of participant empowerment and well-being (Savikko 2008) and effects on forming long-standing new friendships (Routasalo et al. 2009). Both of these publications reinforced the findings of this study.

The authors acknowledged some limitations: the study had extremely good adherence (2.5% intervention drop-out), which may not be representative; and the sample size calculations, although the study appeared sufficiently powered for resource use and mortality.

Concluding remarks:
The study was generally well conducted and the authors conclusions appear appropriate. There remains some uncertainty in the cost-effectiveness of the intervention.

Bibliographic details
Pitkala KH, Routasalo P, Kautiainen H, Tilvis RS. Effects of psychosocial group rehabilitation on health, use of health care services, and mortality of older persons suffering from loneliness: a randomized, controlled trial. Journals of Gerontology Series A - Biological Sciences and Medical Sciences 2009; 64(7): 792-800

PubMedID
19223606

DOI
10.1093/gerona/glp011

Original Paper URL
http://biomedgerontology.oxfordjournals.org/content/64A/7/792.abstract

Other publications of related interest


Indexing Status
Subject indexing assigned by NLM

MeSH
Aged; Aging; Female; Finland; Health Care Costs; Health Services for the Aged /economics /utilization; Health Status; Humans; Interpersonal Relations; Loneliness /psychology; Male; Psychotherapy, Group /methods; Risk Factors; Survival Analysis