Evaluation of an integrated falls education group programme

This article describes how a working group helped develop an education programme for older patients using local hospital and community services and explains how the programme was evaluated.

The serious consequences of a fall cannot be overstated. Falls are a major cause of disability and a leading cause of mortality in the over 75s in the UK. In England, 400,000 people a year attend accident and emergency departments as a result of accidents, with 14,000 annually dying due to an osteoporotic fracture (Department of Health (DH) 2001). Problems associated with falling include loss of mobility, psychological difficulties such as fear of falling and increase in dependency and/or disability, hypothermia, pressure-related injury, soft tissue damage and infection (Tinetti et al 1994, Tinetti et al 2003, Dunn et al 1992, Chattopadhyay et al 2000, Woods 2000, Lord et al 2001), and other non-fatal injuries (Blake et al 1988).

Tinetti et al (2003) go on to say that multi-factorial interventions are advised once thorough assessment has been undertaken. Guidelines from the National Institute for Health and Clinical Excellence (NICE 2004) suggest that successful multi-factorial interventions include components of strength and balance training; home hazard assessment and intervention; vision assessment and referral; and medication review with modification/withdrawal.

In order to meet the needs of those referred to specialist services, it is therefore important to consider all the implications of designing a falls programme in the community where many educational elements are incorporated.

Exercise has been well researched and is a proven, effective means of reducing the risk of falling (American Geriatric Society et al 2001, RCN 2005). National and local guidelines have assisted clinicians in developing evidence-based services over the past seven years and it is from these that the programme described here was developed and implemented (Simpson et al 1998a, Dorset Health Authority 2000, American Geriatric Society et al 2001, RCN 2005).

Background to the project

During 2003, in my capacity as falls adviser to North Dorset and South West Dorset primary care trusts (PCTs), I established a small working group. The proposal was to develop a falls education group programme for patients using the Westhaven Community Hospital (NHS) services and clients from the Acorns day centre, social care and health (SC&H) services in the Weymouth area.

In line with the NICE guidelines, launched in 2004, local staff education has been a priority in order to ensure they are competent in falls assessment and prevention, and so provide service users with the motivation and encouragement to participate in the most appropriate falls prevention programmes (Mitchell 2004, Warren et al 2004, NICE 2004, RCN 2005).

Representatives from both organisations met on a regular basis to discuss the feasibility of an integrated falls service for community-dwelling older people. Local NHS clinicians had identified suitable candidates for the group programme, while the senior practitioner in occupational therapy and lead staff at the Acorns agreed on who might benefit from those already attending the centre. The working group decided to commence the group programme in the autumn of 2003 but various difficulties meant that this was postponed until the spring of 2004.

Group participants

Potential participants were discussed by the responsible working group members – the social care and health day centre manager, the community falls prevention worker, the ward team leader and hospital rehabilitation team members – who then reached a consensus on who would take priority by considering criteria including: a previous fall; living at home; and motivation to attend the group. The person's GP confirmed that there were no contraindications for participation. Contact with the GP also provided the opportunity to raise issues of falls awareness such as polypharmacy.

Each invited older person was asked individually, in person, if they wanted to participate. The working group debated whether anyone with memory disorders could participate effectively. It was agreed that they should be invited to attend the group.

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Development of the programme

Staff trained by Leicester College in chair-based exercise, an evidence-based programme using balance and strength components, would lead the sessions, and speakers were invited to cover the educational element (Dinan et al. 1999). A minimum of two of these individuals would be present at each session.

The day centre manager agreed to the use of a room in their premises free of charge with provision for refreshments. Clients who already attended the day centre came in the SC&H minibus. Others came by taxi which was funded by the local PCT.

Eight older people were invited to attend the programme. However, only five actually attended due either to ill health or not being available on the agreed dates. One of the attendees was a carer, whom it had earlier been agreed would be necessary, particularly if any of the clients had a memory impairment.

Outcomes

Before starting the programme, the Weymouth and Portland falls worker undertook a range of assessments at the client's home (the carer was not asked to complete these), including:

- Falls Risk Assessment (FRA) (South West and North Dorset PCT policy assessment) (Mitchell et al. 2002)
- Timed Unsupported Steady Stand (TUSS) (Studenski et al. 1994)
- 180 degree turn (Nevitt et al. 1989)
- CONFbal (confidence scale) (Simpson et al. 1998b)
- SF36 (Quality of Life Measure-Short Form 36) (Ware and Sherbourne 1992)
After the course, the same measures were undertaken plus the client satisfaction questionnaire (CSQ-8) (Attkisson and Greenfield 2004, Ogles et al 1996). The carer was asked to complete this. It was essential to provide meaningful outcomes to the programme in order to offer a thorough evaluation (Nocon et al 1998). In doing so it was anticipated that both clients and practitioners would see what changes had taken place. A proforma was used for each client in order to determine their progress through the range of 17 chair-based exercises with colour coding for their graded thera-band use. Thera-bands are graded lengths of rubber latex, ranging from light to heavy resistance. The falls adviser and falls worker determined the level of risk and suitability for each client, ensuring the exercises were individually tailored.

### Analysis of data

The falls adviser and falls worker analysed the data after the course either manually or by using Excel. The working group, as stated, had predetermined which outcome measures would be most appropriate, bearing in mind not to overburden both the clients and the therapists with time-consuming paperwork. Client 4 (the carer) completed the CSQ-8 post course only.

Two men and three women (including one carer) completed the programme. There was equal representation of attendees from SHSC and the NHS facilities.

<table>
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<tr>
<th>Client ID</th>
<th>HOMEFAST Pre</th>
<th>HOMEFAST Post</th>
<th>CONFbal Pre</th>
<th>CONFbal Post</th>
</tr>
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<td>17/44=No change</td>
<td>23/30</td>
<td>17/30</td>
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<td>26/44</td>
<td>21/44 = -5</td>
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</table>

### Results

#### Pre and post outcome measures

Following completion of the programme, one client’s risk assessment score reduced from high to medium. The risk status for the other clients was unchanged.

Tables 2 and 3 refer to the outcome measures pre and post intervention. Table 2 indicates the risk status of each client. In the case of client 1, recurrent chest infections may have contributed to the poor score. The numbers following the seconds indicate the number of times the client touched the table to steady themselves.

Table 3 illustrates the results of the environmental hazards checklist and confidence scale. The figures to the right of each box are the maximum scores that can be scored with an expectation of reducing the score (on the left) following intervention.

### The Short Form 36 (SF36)

The SF36 was the agreed quality of life measure used. This examined the areas:

- PF Physical function
- MH Mental health
- RP Role limitation due to physical problems
- EV Energy/vitality
- RE Role limitation due to emotional problems
- P Pain
- GHP General health perception
- SF Social functioning
- CH Change in health status

An example of one client’s scale is shown in Table 4 to indicate the style of analysis and how changes occurred over the programme timeframe.

### Table 4 SF36 score

Table 4 (overleaf) demonstrates changes pre and post intervention. This was not untypical of the other participants’ outcomes.

- Change in health:
  - pre course 50
  - post course 50 = no overall change.

However, there were changes in individual areas:

- Improvements in:
  - RE 33 points — still under norm
  - GHP 17 points — within the norm
  - P 11 points

- Deteriorated in:
  - FF 55 points
Table 4 Client 2

<table>
<thead>
<tr>
<th>Pre</th>
<th>Score</th>
<th>Norm (N)</th>
<th>Standard deviation (SD)</th>
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<tr>
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<tr>
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</tr>
<tr>
<td>MH</td>
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<td>17.5</td>
</tr>
<tr>
<td>EV</td>
<td>40</td>
<td>63.4</td>
<td>21.1</td>
</tr>
<tr>
<td>P</td>
<td>22</td>
<td>79.2</td>
<td>23.5</td>
</tr>
<tr>
<td>GHP</td>
<td>30</td>
<td>67.9</td>
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</tr>
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<table>
<thead>
<tr>
<th>Post</th>
<th>Score</th>
<th>Norm (N)</th>
<th>Standard deviation (SD)</th>
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<tbody>
<tr>
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<tr>
<td>RP</td>
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<tr>
<td>GHP</td>
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Acknowledgements

Thanks to all those who developed the programme and to all the speakers who gave their time freely. Special thanks are extended to the Acorns for allowing us to use their accommodation and especially to Jan Cole (Weymouth and Portland extended to the Acorns for allowing us to give their time freely. Special thanks are extended to all those who developed the programme throughout the nine sessions. Also thanks to Anne Harris, researcher, Dorset Social Care and Health for supporting this work.

References


Table 4 Client 2

Participants who did not achieve expected outcomes were further investigated and assessed for future intervention, and responses to the client satisfaction questionnaire showed a high level of satisfaction.

Clients adhered to the programme and this was illustrated by their progression through the exercise regime and the HOMEFAST screening tool.

A cost analysis was undertaken which showed a marginal saving of the fall worker's time and travel for home visits, against the participants' travel costs. The social benefits outweighed all other factors as the peer support of group members was observed throughout the programme.

To illustrate how further intervention was decided upon, client 2 was, as a consequence of the programme and demonstrable outcomes, referred to the Acorns for social day care. The client was beginning to demonstrate emotional improvements and it was felt that future attendance in a social environment would enhance his quality of life. Furthermore, it was considered that as physical function/energy and vitality were reduced, the additional support from the day centre might alleviate any future discomfort. This particular client recently found himself living alone since his partner had been admitted to long-term care. Additional home demands, plus frequent visiting, was adding to the strain of daily living.

Integrated, person-centred schemes are developing across the country in line with the National Service Framework for Older People (DH 2001) philosophy and recommendations of the NICE guidelines (NICE 2004, RCN 2005). This is an example of an attempt to meet those recommendations.