The effect of education on knowledge and management of elder abuse: a randomized controlled trial

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Abstract

Background: abuse of older adults may occur to a disproportionate extent in institutions. Lack of familiarity with protocols when managing abuse once it occurs is one of the reasons why it persists. Educational interventions are one of the ways to improve knowledge and management in this area.

Objective: to compare the effectiveness of attending an educational course (Group 1) to printed educational material (Group 2) in improving management of abuse of older people. To determine if positive attitude and low burnout scores are related to improvement.

Design: randomized controlled trial.

Setting: North London, UK.

Subjects: nurses, care assistants and social workers working with older people.

Methods: staff answered questionnaires pre- and post-intervention.

Results: the study was completed by 64 (81%) of staff. Baseline scores on knowledge and management abusive scenarios were low. Those randomized to Group 1 improved after intervention and Group 2 deteriorated (Group 1 = 3.7 [standard deviation = 8.1], ANOVA F = 23.0; P = 0.0001 and Group 2 = −2.9 [standard deviation = 10.0]). There was a ceiling effect with those who knew more learning less. The significant independent variables in regression analysis to predict learning were being randomized to Group 1 (P = 0.003; odds ratio = 6.8; 95% confidence interval = 1.9–24.5) and low baseline knowledge and management score, (P = 0.015, odds ratio = 4.8, confidence interval = 1.4–16.9). Most staff had a positive attitude towards people with dementia; positive attitude score correlated with baseline knowledge, but did not predict learning.

Conclusion: identifying, documenting and reporting abuse of older people is not carried out consistently. Whilst an educational course goes some way in improving this, it needs to be targeted to take into account the baseline knowledge.

Keywords: abuse of elderly, education, randomized controlled trial

Introduction

Background and scientific rationale

In 1975, Baker coined the phrase ‘granny battering’ to describe a newly identified problem; physical abuse of older people [1]. At first, as with any new concept, the idea had variable acceptance [2]. As recently as 1991, the then Minister for Health stated that abuse of older people was not a major issue. There is now, however, general and governmental acceptance that elder abuse is a problem, which has resulted in the Department of Health policy entitled “No Secrets” [3].

Research regarding elder abuse has focused primarily on characteristics of the abused person and suggests that people with dementia may be particularly vulnerable [4]. More contemporary emphasis has moved to the circumstances and abuser.

Abuse may occur to a disproportionate extent in institutional settings. One large survey of staff working
in nursing homes found that 36% had observed physical abuse and 81% witnessed psychological abuse [5]. In the UK, over 25% of telephone calls to the Action on Elder Abuse helpline, raised concerns about institutional settings [6].

Colin-Shaw has suggested that mistreatment of older people by staff can be conceptualized as sadistic or reactionary [7]. The latter occurs when a person has been asked to do too much with insufficient personal or training resources. Thus a negative attitude towards patients and their behaviour has been explained by emotional exhaustion [8], and staff who admitted to physical abuse were frequently thinking of quitting, scored high on burnout and experienced high conflict with patients [9]. Garner and Evans summarise the literature and conclude that carers need to learn skills so that they can make sense of complicated communications from their patients without becoming overwhelmed by punitive feelings [10].

It is unclear how to change the behaviour and attitude of staff. A Cochrane review of the effectiveness of education on changing the behaviour of health care professionals and patient outcomes compared printed material with either no intervention, or educational packages, such as attending seminars [11]. They found ‘at best a modest effect’ of printed material on practice of professionals. In contrast, one study found that attendance at an abuse detection programme was effective, in that there was a self-reported decrease in abuse from 11% to 5% [12].

Objectives and hypotheses

There has been little work evaluating the effect of educating staff to increase their skills to deal with abuse. The primary objective of this study was to measure whether attendance at an educational course is superior to printed educational material alone in improving knowledge and management when dealing with a range of abuse of older people. The secondary objective was to examine whether improvement in such knowledge and management is associated with improved attitude to older patients with dementia and decreased staff burnout.

Methods

Eligibility criteria

Eligible participants were all those employed by the local community health trust or social services who worked with older people, and had not yet attended a course on managing abuse of older people. This encompassed nursing staff, care assistants, care managers and social workers. This trust had a policy on management of elder abuse in place prior to the study being carried which was consistent with “No secrets” [3].

Protocol

The Local Ethics Committee gave approval to the protocol. Potential participants were approached by either BR or GK, given an information sheet and a consent form. The recruitment and follow-up period was October 1999 until August 2000. The mean time to follow-up was 29 days following recruitment.

Assignment

All eligible participants were randomized using computer-generated numbers into either Group 1 or 2 (see Figure 1). The randomization was concealed until the intervention was allocated.

Interventions

Group 1 attended an educational course commissioned by the employing NHS trust and social services. Those in Group 2 were given reading material with the same content as the course. The programmes targeted identification and management of all types of abuse i.e. neglect, verbal, physical and financial abuse. They were based on the policy, practice guidance and procedures on responding to abuse and inadequate care of vulnerable adults which was operational in both health and social services.

![Diagram of participant flow through both arms of the study.](image-url)
Masking

The participants unavoidably knew to which arm of the trial they had been allocated. The tutor of those in Group 1 was blind to who was participating in the study. The raters were blind to the allocation, as there was no indication on the completed assessment either concerning the identity of the participants or which group they had been randomized to or whether the instrument being scored was pre- or post-intervention. The group allocations were disclosed after scoring was completed.

Outcome measures

The participants were asked to complete a set of questionnaires before and after the research intervention.

Knowledge and management questionnaire (KAMA)—vignette questionnaire

Investigators have used vignettes since the 1950s to encourage discussion of topics that respondents might find particularly difficult [13]. Vignettes have also been used in the field of elder abuse to find out about GPs’ experiences of a range of abusive situations [14]. This method allows the candidate to be presented with a wide range of problems quickly with little practical inconvenience. Examiners use realistic or actual clinical scenarios, which the specialist institutions find helpful in distinguishing between candidate competency. Hayes et al. [15] conclude that vignette-based instruments are useful in identifying the areas of knowledge that improve following an educational intervention. Almquist et al. [16] examined the predictive value of (i) written-knowledge tests (ii) a multiple-station examination and (iii) an actual medical performance compared to a videoed consultation. The score on the written knowledge test was comparable to the score obtained when real consultations were assessed (Pearson’s correlation coefficient ranging from 0.43 to 0.56).

As KAMA was to be measured twice, we developed a parallel form questionnaire (A and B) consisting of seven vignettes with open questions about what the staff member should do in the scenario described. At baseline, version A was given to every other participant and version B to the rest, at follow-up those who were given A at baseline received B and vice versa.

Participants were asked to give as full an answer as possible. Standard comprehensive answers were developed based on the written teaching material. All answers had a core component, which encompassed ensuring safety of the abused person, recording and reporting the abuse. An example of a vignette and the model answer is given in Figure 2. The total possible score from the form of questionnaire B was higher than A, therefore the modified total score is expressed in percentages.

The Maslach Burnout Inventory (MBI)

The MBI [17] consists of three components; emotional exhaustion, personal accomplishment and depersonalization; frequency and intensity of thoughts and emotions. Scores are grouped into three ranges, high, medium and low burnout. Missing scores are dealt with by using the mean.

Attitude of Health Care Personnel towards Demented Patients (AHCPDP)

The AHCPDP [18] scale employs a five point Likert scale. Total score represents an overall positive or negative attitude. The author gives norms for multi-disciplinary staff. These were positive for 85% of those working in old age psychiatry and 73% of qualified nurses. Possible scores range between 1 and 30 for positive attitudes and −1 to −30 for negative attitudes. Missing items are dealt with by using the mode.

Analytical methods

Data were entered into SPSS-PC.

Methods used to enhance the quality of measurements

Validity and reliability analyses of the KAMA internal consistency was measured by comparing the relationship between the total score and individual item scores of the vignettes and Cronbach’s alpha was computed. Alternate forms reliability coefficient was calculated for versions A and B. Inter-rater reliability was measured by two raters scoring (GK and BR) a random sample of the questionnaires independently and an agreement

![Figure 2. Example of Vignettes in KM questionnaire with model answers.](image)
coefficient was calculated. Construct validity was computed using Spearman's correlation coefficient for the total vignette score and grades of professional standing and years of experience.

**Difference between randomized groups**

We examined differences between completers in Groups 1 and 2 in demographics and scores on baseline questionnaires. We analyzed nominal data using chi-squared statistic; relative risks (RR) and 95% confidence intervals (CI) were calculated. Mean scores and standard deviation (SD) were calculated reported in knowledge and management, attitude and burnout scales. Changes in the mean scores between randomized groups were analyzed using independent t-test and the ANOVA when there were baseline differences between groups to ensure that baseline difference differences were accounted for in the analysis [19].

**Analysis of learning**

We created a dichotomous variable for learning (we defined learning by the KAMA score increasing). We examined how learning was related to demographic variables, randomization and change in attitude and burnout scales. We used Spearman's correlation to examine if baseline score on KAMA questionnaire or length of experience was correlated with improvement in score.

Logistic regression was used to find significant independent predictors of learning; odds ratio (OR) and 95% CI were calculated. The independent variable randomization group, gender, years of experience, attitude, initial KAMA score was dichotomized at the median, grade of staff, whether employed by health or social services and whether the initial vignettes were A or B were entered as possible predictors of learning.

**Sample size and interim analysis**

We calculated sample size using the common standard deviation and the mean change in scores for the first fifteen completers in Group 1 and 2, set at 90% power and 0.01 significance for a two sided test. Mean change was 4.0 and standard deviation of 5.0. We found that 30 participants would be needed in each arm of the study.

**Results**

**Reliability and validity of knowledge and management questionnaire**

**Reliability**

*Internal consistency.* The item-total correlation of individual questions and total score ranged from 0.46 to 0.89 for version A of the questionnaire and 0.46 and 0.79 for version B. Cronbach's alpha for form A was 0.78 and for form B 0.76.

*Inter-rater reliability* employing two-tailed Pearson's correlation coefficient was 0.978 ($P=0.01$).

*Test retest* reliability was calculated by two tailed Pearson's correlation coefficient as 0.685 ($P=0.01$).

**Validity**

*Concurrent validity.* Baseline KM scores correlated with years of experience. Version A: Spearman's correlation 0.47, $P=0.001$; version B: 0.42, $P=0.05$. The baseline mean score on KM was significantly associated with whether the respondents were qualified or were care assistants (version A Mann–Whitney $Z=4.5, P=0.000$; version B Mann–Whitney $Z=2.6, P=0.009$).

*Parallel form validity.* There was no significant difference between the pre-intervention scores for version A of the questionnaire at 26.8 (SD 14.3) and version B at 24.0 (SD 8.8).

**Flow and follow-up of participants**

Of the 87 people approached by the researchers, one refused to participate. The baseline assessment was completed by 79 participants, of whom 7 refused the post-intervention assessment. Follow-up data was obtained on 64 (81%) of those who consented to take part. Table 1 shows the characteristics of participants compared to non-participants and non-completers. There were no significant differences.

From now on we analyse data from the 64 people who completed the study. Tables 2 and 3 show characteristics of those randomized to Groups 1 and 2. There were no significant differences in those randomized to either intervention group in terms of gender, years of experience, professional status, whether employed by health or social services, attitude to people with dementia and burnout scores. There was a significant difference at baseline in KAMA scores ($P<0.05$) with those randomized to Group 2 scoring higher.

There was a significant difference between intervention groups in final KAMA score with those randomized to Group 1 improving after intervention and Group 2 deteriorating (Group 1 $=3.7$ [SD=8.1], ANOVA $F=23.0; P=0.0000$ and Group 2 $=2.9$ [SD=10.0]). There was no difference in change in scores between the parallel forms of the questionnaire (A and B) in each randomization group.

Those who knew less learnt more; baseline scores correlated negatively with improvement on KAMA questionnaire for both intervention groups (Group 1 Spearman's correlation $=-0.394, P=0.028$ and Group 2 Spearman's correlation $=-0.551, P=0.001$). Improvement in scores on KAMA questionnaire was not correlated with either experience or associated with place of employment (health or social services).
Learning was highly associated with being randomized to Group 1; 26/31 (83.9%) compared to 5/33 (15.2%) in Group 2 (chi square = 11.7; \( P = 0.001 \); OR = 7.1; 95% CI = 2.2–23.0). The only significant variables in a logistic regression analysis to predict learning were being randomized to Group 1 (\( P = 0.003 \); OR = 6.8; 95% CI 1.9–24.5) and low baseline KM score, (\( P = 0.015 \), OR = 4.8, CI = 1.4–16.9).

### Attitude to people with dementia

At baseline 96.9% of staff had a positive attitude as measured with the AHCPDP instrument [18] and attitudes was significantly correlated with KAMA (Spearman's correlation = 3.71; \( P < 0.0001 \)). Neither intervention produced significant change in attitude. Learning on the KAMA was not associated with attitude change.

When attitude was compared to mean years of experience, there was no significant difference between the groups before or after the educational intervention.

Trained staff had a significantly more positive attitude than untrained staff (pre-intervention mean attitude score = 13.5; SD 5.4 and 5.6; SD 4.2, respectively; \( P < 0.0001 \); mean difference 7.9; CI = 5.1–10.7) and post-intervention (mean score = 14.3; SD 5.5 and 6.2; SD 5.3, respectively; \( P < 0.0001 \); mean difference 8.2; CI = 5.0–11.2).

### Knowledge and management in the management of abuse

It is vital that staff are able to identify abusive situations and are confident in their management. In the past, perpetrators of abuse have survived in institutions because staff are frequently unsure of what to do, whom to tell and how to proceed if managers do not take action [20]. Our study found that at baseline staff often do not recognize, record and report abuse.

As in other studies the educational literature did not increase knowledge despite staff knowing that they would be re-tested [11].

We had not expected to find that those who knew more at the beginning learnt less as their greater baseline scores indicate either greater interest, time spent learning or ability to learn. This ceiling effect could be explained by a limited scope for learning. Tailoring courses according to the initial knowledge of participants is essential.

### Attitude to people with dementia

This study found that while a positive attitude to people with dementia was highly correlated with baseline

### Discussion

The main findings of this study were that there was a lack of knowledge of good management in dealing with elder abuse and that educational seminars were superior to printed material in increasing knowledge and good management in this field.

### Knowledge and management in the management of abuse

Scores on the subscales of the MBI showed that burnout was generally low pre-intervention and personal accomplishment was moderate. There were no significant differences between the randomized groups before or after intervention (see Table 3). Learning was not associated with change in burnout score.

### Table 1. Characteristics of participants and non-participants

<table>
<thead>
<tr>
<th></th>
<th>Participants (( n = 64 ))</th>
<th>Non participants (( n = 22 ))</th>
</tr>
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<tbody>
<tr>
<td>Female gender</td>
<td>51 (79.7%)</td>
<td>16 (72.7%)</td>
</tr>
<tr>
<td>Professional group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualified nurses</td>
<td>23 (35.9%)</td>
<td>7 (31.8%)</td>
</tr>
<tr>
<td>Care assistants</td>
<td>34 (53.1%)</td>
<td>12 (54.5%)</td>
</tr>
<tr>
<td>Other staff</td>
<td>7 (10.9%)</td>
<td>3 (13.6%)</td>
</tr>
<tr>
<td>Mean years of experience</td>
<td>12.5 (SD = 9.3)</td>
<td>8.8 (SD = 5.7)</td>
</tr>
<tr>
<td>Randomization to course attendance</td>
<td>31 (48.4%)</td>
<td>13 (59.1%)</td>
</tr>
</tbody>
</table>

SD = Standard deviation.

### Table 2. Characteristics according to randomization group. Group 1 attended an educational course, Group 2 were given educational material

<table>
<thead>
<tr>
<th></th>
<th>Group 1 (( n = 31 ))</th>
<th>Group 2 (( n = 33 ))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female gender</td>
<td>24 (77.4%)</td>
<td>27 (81.8%)</td>
</tr>
<tr>
<td>Professional group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualified nurses</td>
<td>9 (29.0%)</td>
<td>14 (42.4%)</td>
</tr>
<tr>
<td>Care assistants</td>
<td>19 (61.3%)</td>
<td>15 (45.5%)</td>
</tr>
<tr>
<td>Other staff</td>
<td>3 (9.6%)</td>
<td>4 (12.1%)</td>
</tr>
<tr>
<td>Health/social services employer</td>
<td>10/21</td>
<td>10/23</td>
</tr>
<tr>
<td>Mean years of experience</td>
<td>11.1 (SD = 10.0)</td>
<td>13.7 (SD = 8.5)</td>
</tr>
<tr>
<td>Mean attitude</td>
<td>9.5 (SD = 6.5)</td>
<td>8.8 (SD = 5.9)</td>
</tr>
<tr>
<td>Mean KAMA score</td>
<td>22.3 (range = 12.1–51.8; SD = 9.6)</td>
<td>28.5 (range = 8.9–58.9; SD = 13.3)</td>
</tr>
</tbody>
</table>

SD = Standard deviation.
knowledge, learning was not associated with change in attitude. As most staff had an initial positive attitude, we would not necessarily expect an improvement as they learnt. Qualified staff had a more positive attitude than unqualified, but there was no difference in attitude according to length of experience. This accords with most but not all previous studies [21, 22].

### Generalizability

This was a randomized-controlled trial with a good response rate and with no difference between participants and non-participants. Participants included both qualified and unqualified staff working in a variety of residential and hospital settings. We therefore think that these results are generalizable to those groups working with older people in the inner cities of the United Kingdom.

Staff knew that they would be tested again after receiving the printed material and this may have increased the chance of their reading printed material compared with the non-experimental situation. Nonetheless we do not know if they read the literature. Similarly, we do not know how much attention was given to the course by the participants.

We did not, however, measure management directly but by the participants answering questions as to what they would do in theoretical scenarios. This is a recognized and validated way of measuring practice but participants may still act differently in everyday practice. Our follow up period measured short-term change and we do not know if any improvement would be maintained.

### Conclusion

Many health and social service staff who work with older people need greater skills and knowledge on managing abuse of vulnerable adults. Suitably targeted educational seminars can improve knowledge and management in this field. Printed educational material is ineffective. The content of courses needs to be tailored according to the participants pre-existing knowledge. We are undertaking a qualitative analysis of the answers in this study with a view to designing an educational intervention in which the content is specifically targeted at gaps in knowledge.

### Key points

- Staff often do not recognize, record or report abuse.
- Educational seminars were superior to printed material (with the same content) in increasing knowledge and good management of abuse.
- Multidisciplinary education needs to be targeted according to baseline knowledge as those who know more learned less.

### References

Abuse of older adults in institutions


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