Poor staff awareness of analgesic treatment jeopardises adequate pain control in the care of older people

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Abstract

Background: undertreatment of pain is a common problem in geriatric care. The aim of this study was to compare the caring staff’s answers concerning the resident’s pain treatment with actual pharmacological pain treatment in a cross-sectional survey of the geriatric care population in the county of Västerbotten, Sweden.

Methods: a cross-sectional study in all geriatric care units in the county of Västerbotten, Sweden, including 3,724 inhabitants aged 65 years and over. The mean age was 83.3 and the number of cognitively impaired 2,047 (55.0%). Medication data were obtained from prescription records. The member of staff who knew the resident best judged their pain based on observations the preceding week.

Results: the reported pain prevalence in the sample was 56.7%. Of those residents reported to suffer from pain, 27.9% received no analgesics as regular medication. In 72.7% of those cases with reported pain and no pharmacological treatment, the staff member who knew the resident best still thought that the resident was receiving treatment for her/his pain.

Conclusion: a large proportion of the old people in geriatric care settings suffer from pain, and undertreatment of pain appears to be a significant problem. Even when the resident was not receiving pharmacological treatment for their pain, the assessor, who was expected to know the resident best, still believed in a majority of cases that the resident was receiving treatment. This highlights the need for better communication between the various professional categories involved in geriatric care.

Keywords: pain, analgesics, geriatrics, residential facilities, interdisciplinary communication, elderly
Method

Sample

The present study is a cross-sectional survey performed in May 2000 in the county of Västerbotten in northern Sweden. At that time the population of the area was approximately 256,000 people, of whom 44,211 (17.3%) were aged 65 years or more. The geriatric care settings in the county were 68 residential care facilities, 31 nursing homes, 66 group dwellings for people with dementia, 7 rehabilitation/short-stay units, 2 somatic-geriatric and 2 psycho-geriatric clinics.

The study forms were sent to the settings and the staff were asked to complete them and return them to the researchers. The staff received written instructions about how to complete the assessment form and were informed that the members of the research team could be contacted by phone to answer questions or provide additional guidance. The member of staff who knew the resident best was asked to complete the assessment scale for that resident and they were informed that their assessment should be based on observations of the resident’s state during the preceding week, i.e. the observation period should be 1 week.

The investigated population comprised a total of 4,357 people. The forms for 3,804 (87.3%) were completed and returned. Six units did not participate for various reasons including understaffing, and some single cases were also not assessed because of, for example, too short an observation period. Eighty cases were excluded because they were below 65 years and the remaining 3,724 cases became the study population.

The study was approved by the ethics committee of the Faculty of Medicine at Umeå University (registration number 00–170).

Procedures

The assessments were made using the Multi-Dimensional Dementia Assessment Scale (MDDAS) [10]. The scale measures, for example, mobility, functions in activities of daily living (ADL), pain, orientation, and behavioural and psychiatric symptoms and also includes registration of current drug prescriptions. The MDDAS has good inter- and intra-rater reliability [10]. A registered nurse always filled in the data concerning prescribed medication, from the resident’s prescription record. The research team then coded the drugs into a number of meaningful groups, e.g. analgesics, opioids and benzodiazepines, and every resident was assigned a dichotomous value for each group or substance. The information about dosage was not coded. A combination drug, e.g. Acetaminophen + opioid drug, was coded as one of each substance. Analgesics were grouped into the following categories (codes according to the WHO Anatomical Therapeutical Chemical [ATC] classification index) [11]: Analgesics (N02 + M01A), with the subgroups Opioid analgesics (N02A); Acetaminophen (N02B E); Non-Steroidal Anti-Inflammatory Drugs (NSAID) (M01A) and Acetylsalicylic acid (N02B A01 and also B01A C06). Acetylsalicylic acid is very seldom used as an analgesic drug in regular medication (only two people received Acetylsalicylic acid as their only analgesic) and the group consisted therefore mainly of those who were prescribed the drug as a thrombosis prophylaxis (ATC code B01A C06, which was not coded as an analgesic) and it is thus not presented. PRN medication (pro re nata, ‘as needed’) was coded only for those who were in pain and received no kind of analgesic as regular medication.

Pain was assessed by means of the following questions, with the alternative responses ‘Yes’, ‘No’ and ‘Don’t know’. Is the resident in pain? If ‘Yes’: Is the cause of the pain known? Does the resident receive treatment for his/her pain? Does the treatment help? Does the resident feel pain during physical activity? Does the resident feel pain during rest? Try to assess the resident’s experience of pain by entering a cross on the line below; the line being a 100 mm Visual Analogous Scale (VAS) without grading, from ‘No pain’ to ‘Worst possible pain’. The length from the left end to the cross was measured and rounded up to next whole centimetre, thus generating a value from 1 to 10. The VAS was only filled in when the resident was assessed as being in pain.

It is important to stress that a registered nurse copied the drug prescription record into the study form, and the rest of the assessments were made by the member of staff who knew the resident best, usually a nursing assistant. Hence, for each resident, usually two different people have contributed to the data.

An ADL score was calculated based on the resident’s ability to cope with dressing, hygiene, eating and bladder and bowel control. All ADL categories score 1–5, except the bladder control category, which scores 0–4. Hence the ADL score varies between 4 and 24, where a higher score indicates greater ADL independence. Cognitive impairment was measured using a subscale developed by Gottfries [12]. The scale comprises 27 items measuring the resident’s ability to orient herself/himself. Scores of less than 24 are considered to indicate cognitive impairment, which correlates with a sensitivity of 90% and a specificity of 91% [10] to the cut-off 24/30 traditionally used in the Mini-Mental State Examination (MMSE) [13]. Residents scoring less than 24 out of 27 were labelled ‘cognitively impaired’ despite the fact that the majority probably had a dementia disorder.

Statistics

All data handling were performed using the Statistical Package for Social Science, SPSS® version 10.0.

Results

Of the study population, 67.5% were women and 55.0% were cognitively impaired. Table 1 presents the basic characteristics of the population. The staff judged that 2,111 residents (56.7%) suffered from pain and, for these, the other questions concerning pain were answered. The staff had answered that the cause of the pain was known in 1,744 (82.6%) cases, that the resident was receiving treatment in 1,894 (89.7%), that the treatment helped in 1,251 (59.3%), that the resident experienced pain during physical activity in
1,322 (62.6%) and that the resident experienced pain during rest in 812 (38.5%) of the cases. The VAS assessment of the residents’ pain was completed in 1,969 cases and the mean result ± SD was 4.8 ± 1.9. The prevalence of pain did not differ significantly between cognitively intact and cognitively impaired residents (data not shown).

In 634 cases (17.0%) the assessor did not know whether or not the resident was in pain (483 persons, 13.0%), or had not answered the question for some other reason (151 persons, 4.1%). Those residents did not differ regarding the proportion of either women or cognitively impaired, but they received analgesics less often, were younger and had a lower orientation and ADL score (data not shown).

Of the population of 3,724 residents, 1,999 (53.7%) were receiving at least one analgesic drug as regular medication. Acetaminophen was received by 1,853 (49.8%) of the residents, an opioid drug by 815 (21.9%) and an NSAID by 682 (32.3%) received opioid analgesics and 178 (8.4%) received an NSAID. Hence 590 (27.9%) of the residents judged to be suffering from pain did not receive any analgesic drug as regular medication. Out of these, 220 (another 10.4%) had PRN analgesics, mainly Acetaminophen. Thus 17.5% of those reported to have pain had neither regular nor PRN analgesics.

The staff had noted that 89.7% of the residents received treatment for their pain. This is an overestimation compared with the actual prevalence of analgesic treatment. If the resident received regular pain medication, the answer to the question of whether the resident received treatment for their pain was in the affirmative in 95.1%; if the resident received only PRN medication, 80.9% of the answers were in the affirmative; and if they received neither regular nor PRN medication, the answers were still in the affirmative in 72.7%. The numbers are presented in Table 2.

The tendency among the staff to overestimate the residents’ treatment differed among the various types of dwellings (nursing homes 56.7%, group dwelling 66.1% and residential care 78.3%). The difference between the two first and the last mentioned is significant, P<0.001 and P = 0.049 respectively.

A few other groups of drugs can sometimes be prescribed on a pain indication. Those who were in pain but received no regular analgesic medication did not differ from those who were treated with analgesics, regarding the prevalence of treatment with nitro-glycerine, cortisone or tricyclic antidepressants (data not shown), but they received antiepileptic drugs less often (4.1% compared with 6.8%, P = 0.019).

### Discussion

The prevalence of pain reported in our study is in line with that which others have reported [1–3]. Undertreatment, i.e. pain is present but no analgesics are given, seems to be a significant problem, because 28% of those judged to be suffering from pain were not prescribed any analgesic drug as regular medication.

The PRN analgesic medication was mainly Acetaminophen. In geriatric care, prescribed PRN analgesics are actually given fairly seldom [14], and it might therefore be better to treat especially the cognitively impaired with regular medication, to ensure that they receive their pain relief.

One possible cause of undertreatment may be that the caring staff has little knowledge of whether or not the residents with pain are being treated with analgesics. It is worrying that the assessors, who are expected to know the resident best, have overestimated the number of residents treated for their pain to such a large extent. If the staff believes that the residents already receive treatment, they might resign responsibility and not discuss the resident’s pain problem with the nurses in the setting. This highlights the need for better communication between physicians, nurses and nursing assistants.

Many authors have emphasised the need for better pain evaluation tools [9, 15, 16]. We think that those who work closely with old people who are cognitively impaired already have rather a good understanding of their pain. This view is also supported by some research [17]. It may therefore be of equal importance to encourage communication among the various professionals, to spread the already existing knowledge. In an editorial commentary on a recently published article, the author draws a similar conclusion; that the promotion of interdisciplinary cross-talk among nursing-home staff may be a low-cost but valuable approach to better care [18]. We found that there was less overestimation of pain

### Table 1. Characteristics of residents

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
<td>3,724</td>
</tr>
<tr>
<td>Women</td>
<td>2,515 (67.5)</td>
</tr>
<tr>
<td>Mean age ± SD</td>
<td>83.3 ± 7.0</td>
</tr>
<tr>
<td>Orientation score (0–27) ± SD</td>
<td>17.0 ± 9.1</td>
</tr>
<tr>
<td>Cognitive impairment ± SD</td>
<td>2,047 (55.0)</td>
</tr>
<tr>
<td>ADL score (4–24) ± SD</td>
<td>15.8 ± 6.4</td>
</tr>
<tr>
<td>Resident in group dwelling ± SD</td>
<td>668 (17.9)</td>
</tr>
<tr>
<td>Resident in nursing home ± SD</td>
<td>881 (23.7)</td>
</tr>
<tr>
<td>Resident in rehabilitation/short-stay unit ± SD</td>
<td>45 (1.2)</td>
</tr>
<tr>
<td>Resident in residential care facilities ± SD</td>
<td>1,994 (53.5)</td>
</tr>
<tr>
<td>Patient at somatic-geriatric clinic ± SD</td>
<td>94 (2.5)</td>
</tr>
<tr>
<td>Patient at psycho-geriatric clinic ± SD</td>
<td>42 (1.1)</td>
</tr>
</tbody>
</table>

ADL, activities of daily living; SD, standard deviation.

### Table 2. The staff’s answer to the question about pain treatment compared with actual regular and PRN analgesic treatment

<table>
<thead>
<tr>
<th>Question</th>
<th>Regular analgesic medication</th>
<th>Only PRN analgesic medication</th>
<th>No analgesic medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Yes’</td>
<td>1,447 (95.1)</td>
<td>178 (80.9)</td>
<td>269 (72.7)</td>
</tr>
<tr>
<td>‘No’</td>
<td>19 (1.2)</td>
<td>27 (12.3)</td>
<td>66 (17.8)</td>
</tr>
<tr>
<td>‘Don’t know’</td>
<td>15 (1.0)</td>
<td>4 (1.8)</td>
<td>9 (2.4)</td>
</tr>
<tr>
<td>No answer</td>
<td>40 (2.6)</td>
<td>11 (5.0)</td>
<td>26 (7.0)</td>
</tr>
</tbody>
</table>

PRN, pro re nata (‘as needed’).

*This question was only answered if the patient was judged to suffer from pain, n = 2,111.
treatment in the nursing homes than in residential care settings, which supports this view, because there are closer contacts among the professional categories in the former than in the latter. Education for care staff about pain assessment methods as well as about pain treatment may also improve the situation.

It is of course possible that some people may receive other types of pharmacological or non-pharmacological pain treatment, but the prevalence of these drugs was no higher in untreated residents suffering pain. That non-pharmacological pain treatment, e.g. acupuncture or physiotherapy, should account for the difference seems unlikely because such treatment methods are rarely resorted to in Swedish old people [19].

The questions regarding pain in our form have not been formally validated. It is a methodological problem that it was not the people themselves who judged their pain, but the member of staff who knew the resident best. Others however have validated pain assessment instruments that closely resemble ours, and found that they can be used for epidemiological purposes, even if staff ratings have a tendency to underestimate the prevalence of pain [20–22]. This limitation is important nevertheless, and the results therefore need to be controlled in studies including a self-assessment of pain.

The group of people with missing values for the question ‘Does the resident suffer from pain?’ (17.0%) did not differ as regards sex or cognitive impairment composition from the others, but did differ regarding age, ADL-dependency and all groups of analgesics. The number of missing values, however, is judged to be not so large that it could compromise the main findings. The number of people recorded as having no medication at all was 5.6% (7.4% for the cognitively intact and 4.5% for the cognitively impaired). A further source of error is that some of the cognitively intact in residential care units take care of their own medication themselves and the staff does not have access to any prescription record. The medication list in the assessment form was left blank for these people and it was coded as if they did not receive any medication at all. Unfortunately, they could not be separated from those who did not in fact have any medication. This weakens the results somewhat, but we estimate that even this limitation does not have sufficient weight to void our conclusion.

A large proportion of the old people in geriatric care settings suffer from pain, and undertreatment of pain appears to be a significant problem. Even when the resident was not receiving pharmacological treatment for their pain, the staff member, who was expected to know the resident best, still believed in a majority of cases that the resident was receiving treatment. This highlights the need for better communication between the various professional categories involved in geriatric care.

Key points

- The care staff reported that almost six out of ten old people in geriatric care suffered from pain.
- Out of these, more than one out of four was not receiving any analgesic drug as regular medication.
- The staff member, who was expected to know the resident best, falsely believed in a majority of these cases that the resident was receiving treatment.
- Better communication between the various professional categories involved in geriatric care is probably one important prerequisite for improvement of pain treatment.

Acknowledgements

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References

Informal care at times of change in health and mobility: a qualitative study

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Abstract

Introduction: relationships between people with health problems and their partners, families and friends are usually described as ‘informal care’. Using a qualitative examination of older people’s descriptions of their relationships with partners or other significant friends or relatives at times of change in health and mobility (walking), we questioned whether ‘informal care’ is an appropriate label.

Methods: seven men and eight women aged between 58 and 85 years (mean 72.4 years) were recruited on grounds of having difficulty walking. Participants were interviewed on four occasions each. Nine of the interviewees lived with partners, four of whom were also interviewed. Whether living alone or with a partner, all participants discussed key social relationships. Analysis was performed using standard methods of qualitative inquiry, including thematic and narrative case study approaches.

Findings: the participants had several ways of coping with health changes and the onset or escalation of immobility. These included working together to ensure recovery, working together to maintain independence and experiencing and recognising considerable difficulty coping with change. Adaptation within relationships reflected the experience of abrupt or gradual change as well as expectations for the future. Participants did not describe their relationships in terms of ‘carer’ and ‘cared for’.

Conclusion: means of coping with changing circumstances in mobility and health are inextricable from the work that goes on within partner, familial or friendship relationships. As older people seldom describe their relationships with significant others as ‘care’, it may be more appropriate to discuss informal care provision with patients by using the language of relationships.

Keywords: caring, caregivers, disability, elderly, older people, qualitative research