Appropriateness of use of medicines in elderly inpatients: qualitative study

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Abstract

Objectives To explore the processes leading to inappropriate use of medicines for elderly patients admitted for acute care.
Design Qualitative study with semistructured interviews with doctors, nurses, and pharmacists; focus groups with inpatients; and observation on the ward by clinical pharmacists for one month.
Setting Five acute wards for care of the elderly in Belgium.
Participants 5 doctors, 4 nurses, and 3 pharmacists from five acute wards for the interviews; all professionals and patients on two acute wards for the observation and 17 patients (from the same two wards) for the focus groups.
Results Several factors contributed to inappropriate prescribing, counselling, and transfer of information on medicines to primary care. Firstly, review of treatment was driven by acute considerations, the transfer of information on medicines from primary to secondary care was limited, and prescribing was often not tailored to elderly patients. Secondly, some doctors had a passive attitude towards learning: they thought it would take too long to find the information they needed about medicines and lacked self directed learning. Finally, a paternalistic doctor-patient relationship and difficulties in sharing decisions about treatment between prescribers led to inappropriate use of medicines. Several factors, such as the input of geriatricians and good communication between members of the multidisciplinary geriatric team, led to better use of medicines.
Conclusions In this setting, improvements targeted at the abilities of individuals, better doctor-patient and doctor-doctor relationships, and systems for transferring information between care settings will increase the appropriate use of medicines in elderly people.

Introduction

Research has identified problems in the effective use of medicines in elderly people: adverse drug reactions are implicated in 5-17% of hospital admissions, elderly people are less likely to receive treatments indicated by guidelines, and discrepancies with medicines prescribed in the hospital occur after discharge.[1] National service frameworks in the United Kingdom and elsewhere have encouraged the development of programmes of "care of the elderly," and multidisciplinary teams deliver medical, psychosocial, and rehabilitative care. There are, however, limited qualitative or quantitative data on the appropriateness of use of medicines in elderly people admitted to acute care for the elderly wards.[2 3]

We explored the appropriateness of use of medicines for patients admitted to wards for care of the elderly from the perspectives of healthcare professionals and patients. We considered prescribing, counselling, and information given to the general practitioner at discharge.

Methods

Study design

We used individual semistructured interviews to explore the perspectives of relevant healthcare professionals. Observations on the ward complemented these findings. We used focus groups to examine the views of elderly inpatients.

Sampling strategy

The study was conducted on five acute wards for care of the elderly in five Belgian hospitals, purposively selected to include teaching and non-teaching, rural and urban settings. A multidisciplinary team of doctors, nurses, physiotherapists, social workers, and occupational therapists cared for patients. We purposively sampled doctors, nurses, and pharmacists to reflect various positions and experience (table). Three doctors were geriatricians, the others were house officers.

Patients were recruited from two wards, one in an urban setting and the other rural. We purposively selected individuals able to share personal experience relating to changes in treatment and counselling. Two focus groups were conducted on each ward. Observations occurred on the wards where focus groups took place over a one month period (see bmj.com for further details).

Instruments and data collection

Interviews—AS conducted interviews using a piloted guide. Questions were open ended and covered perceived appropriateness of prescribing, counselling, and sharing of information relating to medicines, together with factors contributing to inappropriateness (see bmj.com).

Focus groups—An experienced independent researcher moderated each group. Key questions pertained to knowledge of treatment, satisfaction with changes in treatment, and information received (see bmj.com).

Observation—Two clinical pharmacists observed all the main activities on the wards. When they identified inappropriate use (according to their clinical judgment) they informally discussed this with prescribers.

Details of the research process, interview schedules, and observation grid are on bmj.com

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Summary of participants' characteristics

Characteristics	Doctors (n=5)	Nurses (n=4)	Pharmacists (n=3)	Patients (n=17*)
No of women	3	2	3	10
Age range (years)	25-41	31-44	25-28	73-92
Teaching:non-teaching setting	3:2	2:2	3:0	17:0
Experience in care of elderly (years)	1-10	1-30	NA	—
Mean No of medicines on admission (range)	—	—	—	7 (3-12)
Mean No of changes in treatment (range)	—	—	—	7 (3-12)

NA: not applicable because pharmacists in Belgium are not directly involved in care of patients on wards. These pharmacists were not involved in other parts of study.
*Four focus groups comprised three patients each. Five patients were interviewed individually.

Healthcare professionals were informed of their role, but did not know the extent of their observations (see bmj.com).

Data processing and analysis

All interviews were taped, transcribed, and computerised. We used the principles of grounded theory for analysis with an inductive approach combining biomedical and sociological perspectives (see bmj.com).

Results

Most interviewees (especially those from teaching settings) admitted that prescribing was sometimes inappropriate and that counselling of patients was insufficient. Observations and data from focus groups corroborated these findings. One geriatrician and all pharmacists thought information shared with the general practitioner on discharge was insufficient. Observers confirmed that it was often limited to a list of medications.

Three main categories underlying inappropriate use of medicines emerged (box). The third category contributed to most instances of inappropriate counselling and ineffective transfer of information.

Reliance on general acute care and short term treatment

Most participants thought they devoted considerable time to acute problems and that prescribing for chronic diseases was overlooked. Observations confirmed this. Reasons included insufficient incentives to review chronic problems in an acute care setting.

Categories underlying inappropriate use of medicines

Reliance on general acute care and short term treatment

- Review of treatment driven by acute considerations; other considerations overlooked
- Limited transfer of information on medicines from primary to secondary care
- "One size fits all": prescribing behaviour not tailored to the older patient

Passive attitude towards learning

- Anticipated inefficiency in searching for medicines information
- Reliance on being taught (teacher centred) rather than self directed learning

Paternalistic decision making

- Patients thought to be conservative
- Patients declared as unable to comprehend
- Ageism
- Difficulty in sharing decisions about treatment with other prescribers

I think that doctors pay a lot of attention to the acute problem, but they don't give enough consideration to other medicines that patients are on. For example, a patient had been admitted for syncope secondary to atrial fibrillation. They started to give digoxin to control the fibrillation. But at the same time, pain care, for example, was inadequate: the patient was on paracetamol and amitriptyline at home, and these were not re-prescribed in the hospital (observer 2).

In addition, medicines were sometimes not appropriately reviewed because there was no written information on indication and follow-up or because this information was not readily available.

Finally, several interviewees said that prescribing was often not tailored to elderly patients—for example, the dose was not adjusted to renal status, medicines for which risks outweighed benefits were used, or the formulation was inappropriate. This mainly happened with junior doctors and external consultants.

When house officers come on our ward, they haven't necessarily been trained in geriatrics. So they arrive here, and then they start with 10 mg of morphine every four hours. That's too much (doctor 2, geriatrician).

Passive attitude towards achieving learning outcomes

In some cases doctors acknowledged that questions on medication (especially relating to interactions and side effects), when not answered by a colleague, remained unanswered because of anticipated inefficiency in accessing information on medicines. Observers also reported this.

[House officer talking about drug interactions with warfarin, leading to increased international normalised ratio] I still don't really know them well. And to always go and look in the compendium is a bit difficult in terms of time. I think that's the main reason why we don't check (doctor 3, house officer).

In addition, several doctors thought that the learning process of house officers was passive and teacher centred rather than active and self directed. Doctors gave two explanations for this: low perceived interest and motivation on medication matters during undergraduate studies, and lack of time for active learning during training. As a consequence, junior doctors relied heavily on superiors' comments. There was a risk of passive application of "recipes."

When we were studying, it was not really compulsory for us to take a serious interest in the literature. And I used to always say to myself "when I'm a house officer, I will read it up." Well in everyday practice we rely very much on our superiors' comments. I hardly ever go and look up what to do myself, what is the right thing to do . . . Also because that takes longer to do (doctor 1, house officer).

Paternalistic decision making

Most participants agreed with the identified factors relative to paternalism, but several doctors said that the first three did not always occur (see box). Most doctors and nurses thought that changes in treatment were often difficult to implement because patients were attached to their usual medicines.

Conservatism also applied to counselling. One nurse described the unwillingness to inform patients of side effects.

I've noticed before, too, that they [patients] weren't told about known side effects because it was thought that they would be afraid of taking the medicine or that they would start feeling those side effects (nurse 4).

Several interviewees thought that the problem underlying conservatism was insufficient decision sharing.

I think that too often, they don't ask what the patient thinks. For example, when a patient comes into hospital, they replace his laxative, X, by another laxative, Y. It mightn't seem that important, but for the elderly person it is. Even just from a psychological point of view, I would say (nurse 3).

Shortage of time and an assumption of inability to comprehend were other reasons for insufficient counselling.

Some of the patients wouldn't take it in, because, well, two thirds of our patients have cognitive impairment, after all (doctor 4, geriatrician).

The attitude of most patients regarding treatment decisions reinforced a paternalistic model.

The doctors tell me, "We'll stop this one and give you something else that will work better." Well, for me that's fine. I have boundless confidence in them (patient).

However, about half of patients expressed dissatisfaction.

I'm completely lost . . . My medicines were replaced by different ones, but I don't know who decided that . . . and I don't know what they are. . . . (patient).

One doctor cited ageism to explain underuse of medicines.

I think that some illnesses don't get enough treatment . . . probably in part due to what is called ageism. You say to yourself, What good will it do? Why add more medication? Is it worth optimising treatment? (doctor 5, geriatrician).

Finally, difficulties were identified in sharing treatment decisions between prescribers. This was for two reasons. Firstly, doctors were reluctant to interfere with treatment delivered by a colleague. Secondly, two doctors acknowledged that information transferred to general practitioners could be limited by fear of offending them with comments on inappropriate prescribing.

Just yesterday I saw a patient whose general practitioner had prescribed metoclopramide, although she has very severe Parkinson's disease. Well I can't really write in the letter that . . . We're always afraid of offending (doctor 2, geriatrician).

Processes leading to appropriate medicines use

A perceived excessive numbers of medicines taken by patients was a first stimulus for treatment change.

We often say among ourselves, "More than five, that's too many." When we exceed five medicines then one has to think, Is that really justified? (doctor 4, geriatrician).

Problems related to drugs (mainly side effects or problems with compliance) identified by other members of the multidisciplinary team and subsequent communication to the prescriber also helped to optimise treatment.

When nurses find our tablets too big, for example . . . they ask me to find something else because it will never go down (doctor 3, house officer).

One doctor, one nurse, and one observer reported that a move from a curative to a palliative approach was an opportunity to reflect on the objectives of therapy and change treatment. Finally, the input of geriatricians was perceived as valuable to counteract the "one size fits all" approach.

Discussion

Reliance on general acute care and short term treatment, passive attitudes towards learning, and paternalism can all lead to inappropriate use of medicines in elderly people. We analysed data from perspectives of professionals and patients (theory and data triangulation), using a combination of methods (methodological triangulation).[4]

Reliance on general acute care and short term treatment

Considerations relating to the treatment of chronic conditions are sometimes overlooked, one reason being the nature of an acute care setting. This is the first report of occurrence on wards for care of the elderly. Another reason was the limited transfer of information on treatment between primary and secondary care. This highlights the importance of improving continuity of care and contrasts with the reported benefit of oral communication in the multidisciplinary team for care of the elderly. Another issue was the lack of adequate training of doctors in prescribing for geriatric patients.[5]

Passive attitude towards achieving learning outcomes

Previous work found that "lack of knowledge" and "lack of time" contribute to suboptimal prescribing.[6 7] We have identified explanatory factors behind these terms: doctors anticipated inefficiency in accessing information about medicines and junior doctors had a passive attitudes towards learning. This is worrying because most prescribing errors are made by junior medical staff.[8]

Paternalistic decision making

Provision of information should be tailored to individual needs.[9] This reinforces the importance of patient empowerment. Ageism and "acute care" reasons led to events of undertreatment. Other common explanatory themes are conceptualisation of illness and ageing, socioeconomic factors, allocation of resources, and provision of information.[10]

Finally, the findings show that decision making is further complicated because it involves more than one prescriber. The reluctance to interfere with treatment prescribed by a colleague was, interestingly, not reported in previous qualitative studies but it has been raised in a quantitative study.[11]

Weaknesses

Generalisability is an issue because our study involved a limited number of respondents in a limited number of hospitals. Some explanatory factors have been identified in previous qualitative studies (cumulative validation). We cannot exclude the occurrence of a researcher-respondent interaction (Hawthorne effect) during interviews and observations. This was minimised, however, by presenting research objectives in a constructive way and by using a disguised observation technique.

Conclusions and implications

We identified several factors contributing to inappropriate medicines use. Some have already been described (reliance on general acute care, paternalistic doctor-patient relationship), while others are new

What is already known on this topic

Quantitative studies have identified problems in the use of medicines for elderly patients, including inappropriate prescribing, counselling of patients, and transfer of information between primary and secondary care

There are limited qualitative data on the processes underlying inappropriate use of medicines in older inpatients

What this study adds

Reliance on general acute care and short term treatment, passive attitudes towards achieving learning outcomes, and paternalistic decision making contribute to inappropriate use of medicines in elderly patients

The input of geriatricians and communication between members of a multidisciplinary geriatric team contributed to a better use of medicines

(factors relating to the learning attitude and to relationships between prescribers). Strategies for improvement should include developing incentives for chronic considerations and for active learning in geriatrics by junior doctors[12 13]; developing systems for reliable transfer of information; increasing involvement of patients; and encouraging communication between prescribers.

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Self reported health and mortality: ecological analysis based on electoral wards across the United Kingdom

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The question in the UK 1991 census that asked respondents whether they had a limiting long term illness proved useful for allocating health service funding.[1] In the 2001 census a question on general health in the previous year was added to improve further the understanding of health needs and refine resource allocation. However, these indicators differ from objective measures of health in that they are also dependent on the perception of, and propensity to report, health problems. We explore the relation between the self reported responses to the two census questions cited above and mortality across the UK regions.

Methods and results

We derived three indicators of health for each of 10 604 UK electoral wards. Pooled all cause mortality rates for 2000-2 were generated for the English, Scottish, and Welsh wards. For Northern Ireland, where wards are smaller, we pooled data for 1998-2002. We derived two morbidity indicators from the self report health questions in the 2001 census: the proportion of ward respondents reporting limiting long term illness and the proportion reporting that their general health in the preceding year was "not good." All rates were directly standardised for age and sex to the European standard population aged 0-74 years.

The correlation between limiting long term illness and poor general health at ward level was 0.97, so we present results for general health only. Findings relate equally, however, to limiting long term illness. The relation between self reported health and mortality at this aggregate level was tested by linear regression using robust standard error estimation in STATA to adjust for clustering of wards within local authorities. This showed a significant interaction effect between region

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