

Patient experiences and predictors in an acute geriatric ward: a cross-sectional study

Abstract

Objective: To investigate older peoples' experiences with acute hospital treatment and care, and variables that may influence these experiences.

Background: In the Nordic countries, research on older peoples' experiences with hospital care is sparse.

Methods: Participants were recruited from an acute geriatric ward in a hospital in Norway during a one-year periode (n=189). Patient experience was assessed using the Picker Patient Experience Questionnaire (PPE-15), self-rated health by Euro-QoL 5-dimension, 3-level version (EQ-5D-3L), and comorbidity by Charlson comorbidity index (CCI).

Results: Responders' median age was 79 years, 48.7% male. Most of the problems were related to continuity and transition, while fewest problems were related to respect for patient preferences. CCI score and the variables 'still working', 'in a relationship' and 'living alone' negatively influenced patient experience.

Conclusion: A high amount of problems were identified among patients hospitalized in an acute geriatric ward. Findings from this study may provide important information about issues that need focus to increase the care experiences of older people.

Keywords: acute geriatric ward, patient experiences, questionnaire, comorbidity, self-rated health

What does this paper contribute to the wider global clinical community?

- research outside the US regarding older peoples' experiences with acute hospital healthcare is scarce
- results from this study contrasts studies finding that older people generally express satisfaction with hospital stays and that they are reluctant to criticize any of the hospital processes
- older people experience several problems related to their healthcare encounter, especially related to continuity and discharge

INTRODUCTION

The share of the population aged 65 or over is projected to increase worldwide, from 17.4% in 2010 to 30.0% in 2060 (European Commission 2011). A person aged 65 years or more is often referred to as 'elderly' (Orimo *et al.* 2006, World Health Organisation 2010), and it is known that people in this age group are more prone to multimorbidity, which may increase the need for specialized health care services (Boyd & Fortin 2010). Furthermore, patients ≥ 65 years have generally longer hospitalizations (5.5 days) compared to younger patients (5.0 days for ages 45 to 64 years, and 3.7 days for ages 15 to 44 years) (DeFrances *et al.* 2007).

A variety of studies using different patient populations and sampling strategies have consistently identified deficiencies in quality of care provided to older persons, both regarding medical treatment and follow-up as well as in other quality indicators (Martin-Khan *et al.* 2013, Reuben *et al.* 2003, Wenger *et al.* 2001). For example, better quality of care for falls and urinary tract infections has been associated with measurable improvement in participant-reported outcomes in elderly, hospitalized patients (Min *et al.* 2011). Problems identified among patients over 65 years have been e.g., communication breakdown, inadequate information provided, absence of due care and long waiting times, as measured by hospital complaints presented by patients or their advocates (Anderson *et al.* 2000).

Recommendations have been made for the recognition of older persons as a unique group within the healthcare system, and for developing organizational mechanisms for capturing their unheard voices (Doron *et al.* 2011).

When striving to achieve high quality care, capturing patients' experiences is essential (Committee on Quality of Health Care in America; Institute of Medicine 2001, Doyle *et al.* 2013, Grøndahl *et al.* 2011, Rathert *et al.* 2012). Patient experience does not simply reflect clinical outcomes such as infection rates or adherence-driven outcomes (e.g. whether the patient takes a prescribed medication), but it offers another dimension to the evaluation of

health care services (Grøndahl *et al.* 2011). Information about patient experience is essential because it provides an opportunity to improve care (Committee on Quality of Health Care in America; Institute of Medicine 2001).

In the US, the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey has been used for the last decade to measure patients' perspectives of hospital care (Agency for Healthcare Research and Quality 2014). Results are utilized by sharing HCAHPS scores, and has led to for example more frequent rounding by the clinical teams and leadership, staff training, as well as initiatives to target special aspects of the HCAHPS survey (The Beryl Institute 2013). In the Nordic countries, regular assessment of patient experiences has been practiced for a long time, and in Norway annual patient experience surveys have been implemented in all hospitals since 2011 (Skudal *et al.* 2012, Wiig *et al.* 2013b). Nevertheless, previous research from Norway have shown that quality improvement initiatives based on patient experience has not been made a priority in many hospitals: only a few hospitals systematically coordinate the collection and interpretation of such data, or act on the results (Wiig *et al.* 2013a).

As a consequence, the aim of the study presented here was to investigate older persons' experiences with acute hospital treatment and care, and to investigate the influence of socio-demographic variables, length of stay, comorbidity and self-rated health on these experiences.

METHODS

The study had a quantitative, exploratory, descriptive design, using questionnaires to investigate older peoples' experiences with acute hospitalization.

Setting and participants

The study was conducted in an acute geriatric, internal medicine ward, where patients were admitted due to symptoms from the respiratory (e.g. pneumonia) and circulatory system, as well as infections and malnutrition/dehydration. The ward consists of 21 beds (+2 in corridor), and is situated in a tertiary referral centre in the southeastern part of Norway. The hospital catchment area consists of approximately 300 000 inhabitants. During the period from June 2014 – June 2015 we used a purposive, total population sampling method; all patients who had stayed at the ward for a minimum 24 hours, without cognitive impairment, and who were discharged alive, were invited to participate. A sample size was, consequently, not calculated.

A standardized inclusion procedure was followed: study nurses provided patients with oral and written information about the purpose of the study before the patients were asked to complete the study questionnaire and a consent form at home. The patients were instructed to return the completed questionnaires, along with the signed informed consent form, in a pre-stamped envelope. Non-responders were reminded once by a phone call approximately 2 weeks after discharge.

Data collection

Socio-demographic variables included gender, age, civil status (married, single, widow/widower, in a relationship), housing status (living alone or not), educational level (compulsory school, upper secondary school or university), and employment status (still working or not). Information concerning the length of stay was collected from the patients' medical records. Comorbidity was assessed using the *Charlson Comorbidity Index (CCI)* (Charlson ME *et al.* 1987). In the CCI, the risk of death associated with each of 19 predefined diseases is expressed as weights with values of 1, 2, 3, or 6. In addition 1 weight is added for

each decade after 50 years of age. Summing the weights gives the CCI score (CCIS) for each patient. The CCI is calculated based on codes in the International Classification of Diseases (ICD-10). Information about the patients' comorbid conditions as ICD-10 codes was collected from the National Patient Registry (NPR), which includes data on all patients treated in Norwegian government-funded hospitals.

The Picker Patient Experience Questionnaire (PPE-15) was used to measure patients' experiences and consists of 15 questions (items) that are distributed to seven domains: respect, coordination, information/communication/education, physical comfort, emotional support, involvement of relatives, and transitions and continuity (Jenkinson *et al.* 2002, Jenkinson *et al.* 2003). The questions have two ("yes" or "no") to four response options ("yes", "no", "I did not need to", or "yes, to some extent"). Neutral answers, such as "I did not need to", and the most positive answer were coded as a "non-problem" (score = 0). The remaining responses were coded as "problems" (score = 1). Thus, the PPE-15 has a minimum score of 0 (no problems) and a maximum score of 15 (high level of problems). The PPE-15 has not previously been translated into Norwegian, and forwards and backwards translation was consequently performed according to Brislin (Brislin 1970). To assess the content validity of the PPE-15, we used the validated *Nordic Patient Experience Questionnaire* (NORPEQ) (Oltedal *et al.* 2007), correlating the PPE-15 items to the NORPEQ questionnaire using Spearman's rho. The correlation between the NORPEQ and the PPE-15 items varied between -0.46 and 0.43. Face validity was tested by distributing the questionnaire to 10 patients prior to the study period, revealing no problematic issues related to the wording or scoring of the Norwegian PPE-15. To measure its test-retest reliability, a randomly drawn subgroup of patients was invited to fill out the PPE-15 a second time (n=68), approximately 3 weeks after the first completion. Test-retest was calculated using the intraclass correlation coefficient (ICC), which was 0.9.

The EuroQoL 5-dimension, 3-level version (EQ-5D-3L) (The EuroQol Group 1990) was used to assess patients' self-reported health. Responses are scored according to three levels: 0 (no problem), 1 (some problems) to 2 (severe problems). The EQ-5D-3L score was used as an overall EQ-5D-3L index score by assigning weights to each level of each dimension according to the Europe VAS value set (The EuroQol Group 1990).

Statistical analysis

Frequencies were used to present characteristics of the study sample. Continuous variables were summarized by their median, mean and standard deviation. We chose to report both mean and median to show the skewness in the data. Since data were skewed (not normally distributed), the Mann-Whitney U test was used to evaluate differences between responders and non-responders.

The proportion of the PPE-15 items scored as a 'problem' (dependent variable) was estimated by a logistic regression model that used socio-demographic variables, length of stay, the CCIS and the EQ-5D index score as covariates (independent variables). Insignificant variables were removed from the model one at a time until only significant effects remained. Missing items were not included in the analysis.

All tests were two-sided, used a 95% confidence interval (CI) and used a significance level of 0.05. All analyses were performed using Statistical Package for the Social Sciences (SPSS) version 21 (Corp. 2012).

Ethics

The study was performed according to the principles stated in the Declaration of Helsinki and

approved by the Regional Committees for Medical and Health Research Ethics in Norway (ref. no 2013/1276/REK sør-øst D) and the Norwegian Social Science Data Services (NSD) (ref. no 38585). Informed consent was obtained from all of the study participants. The study conforms to the ICMJE requirements.

RESULTS

During the inclusion period, 775 (51.5%) out of the 1505 patients who were admitted to the acute geriatric ward received a questionnaire. A total of 189 patients (24.4%) returned the questionnaire. Table 1 presents an overview of the responders' socio-demographic characteristics, length of stay, Charlson comorbidity score and self-rated health (please insert table 1 here).

For non-responders, their mean age was 78.1 years (median= 83, SD 15.2), and 36.2% were male. Compared with responders, non-responders were older ($p < 0.001$) and fewer non-responders were male ($p < 0.001$).

Patients' experiences of problems

The number of respondents who reported each PPE-15 item as a problem and the item's corresponding domain are presented in Table 2 (please insert table 2 here).

The smallest proportions of problems were found related to whether doctors talked in front of them as if they were not there (17.9%) and related to being treated with respect and dignity (23.2%). In the item "involvement in care and treatment decisions", 50.8% reported problems, while 35.5% reported problems related to the opportunity for family or someone close to the patient to talk to a doctor. Moreover, 53% reported problems related to the possibility to discuss anxieties/fears about their condition/ treatment with a doctor. The largest proportion of problems was however observed in the continuity and transition domain of the

PPE-15, particularly the item related to information about dangerous signals to watch for at home (81.2%), and in information about medication side effects (72.2%).

Factors influencing the experiences of older patients'

As shown in table 3, four of the independent variables made a unique statistically significant contribution to the model (working-, civil-, and housing status as well as Charlson comorbidity score) (please insert table 3 here). Socio-demographic variables, such as gender, age or educational background did not have any impact on patient experiences. Neither did the patients' self-rated health and length of stay.

DISCUSSION

Results from this study adds to existing research outside the US regarding older peoples' experiences with acute hospital healthcare. In this study, more than 40 % of patients reported that they had experienced problems in 12 out of the 15 PPE items. These results contrasts studies finding that older people generally express satisfaction with hospital stays and that they are reluctant to criticize any of the hospital processes (Richardson *et al.* 2007).

Regarding continuity and transition, particularely related to information about medication side effects and danger signals to watch out for at home, more than 70 % of patients reported that they had experienced problems. In a prior study two thirds of hospitalized patients experienced lack of information about how to manage their care at home (Clark 2006), as well as lack of understanding about discharge medication (Makaryus & Friedman 2005). Communication and information has furthermore been identified as important factors impacting patient safety in handover situations (Siemsen *et al.* 2012). Furthermore, absence of family and patient education during hospital stay, which again may lead to a lack of discharge preparedness, have been found to predict readmission of older

patients (Marcantonio *et al.* 1999). Unplanned readmissions of recently discharged patients place a significant burden on already pressured hospitals (Scott 2010). At the same time, studies also indicate that there is a lack of standardization of discharge processes (Greenwald *et al.* 2007). To overcome identified barriers to successful discharge processes, it is important that health care professionals assess whether discharge information is accurate and understood by patients and potential caregivers at home (Hesselink *et al.* 2014).

In our study 17.9% reported that doctors talked in front of them as if they were not there, and 23.2% reported that they were not always treated with respect and dignity, while 50.8% wanted to be more involved in decisions regarding their treatment and care. This is in line with findings from a study of 34 000 hospitalized patients in Sweden (Wolf *et al.* 2012). Findings indicate a problem in achieving patient-centred care, which has been emphasized as basis for high-quality care aiming to ensure that patients' are at the center of care delivery (McCance *et al.* 2011). However, questions have been raised concerning whether patients really want to participate in decision-making processes (Barry & Edgman-Levitan 2012, McCance *et al.* 2011, Parlour *et al.* 2014, Richardson *et al.* 2007). E.g. Levinson *et al.* found that patients' interest of being active in their care plans decreased with age (Levinson *et al.* 2005). Furthermore, studies have found that older people do want to be involved in their care, but that their definition of involvement is more focused on e.g., receiving information and a caring relationship rather than on active participation in decision making (Bastiaens *et al.* 2007).

We found that age, gender, educational background, self-rated health and length of stay had no significant effect on the number of problems in items of the PPE-15. Prior studies have been contradictory regarding factors that influence patients' experiences. For example, educational background has been shown to influence patients' experiences with community health services (Johnson *et al.* 2010), gender and extent of urgency have been associated with

poorer experiences in hospital (Danielsen *et al.* 2007), while patient experiences were significantly correlated with age and health status in casualties (Danielsen *et al.* 2010). It has furthermore been claimed that patient experiences increase positively with age, and that older age is the most consistent predictor for patient satisfaction (Crow *et al.* 2002, Danielsen *et al.* 2007), which indeed is in contrast to the findings in our study. Multiple linear regression analyses with older patients' HCAHPS dimensions (Communication With Nurses, Communication With Doctors, Responsiveness of Hospital Staff, Communication About Medicines, Cleanliness of the Hospital Environment, and Quietness of Hospital Environment) and gender were conducted while controlling for self-rated health status, age, race, and education. Older female patients reported substantially more positive global evaluations than their male counterparts (Chumbler *et al.* 2016).

Comorbidity had a weak, but statistically significant, influence on PPE-15 problems. Comorbidity is one out of three factors that are commonly used to indicate vulnerability (Fried *et al.* 2004). Vulnerable patients have reported significantly less positive care experiences than non-vulnerable patients (Wolf *et al.* 2012), which is supported by our findings. Even if retirement is no longer limited to older people due to the many factors influencing retirement age, such as earnings or social security, retired persons also become more vulnerable to illnesses, financial losses and a sense of lack of control over their lives (Weiss 2005). In our study, responders still working were more likely to report problems, hence we could not find any link between vulnerability, retirement and patient experience. To be mistreated, to struggle for one's healthcare needs and autonomy, to feel powerless and to feel fragmented and objectified has been shown to increase suffering during care-giving and result in negative patient experiences (Berglund *et al.* 2012). Even if we were not able to identify any recent studies that have found that patients still working are more likely to report problems than

retired patients, it could be hypothesized that hospitalizations have a more negative impact on the feeling of autonomy and power in patients still working.

Marital status and living arrangements have implications for an individual's health and mortality: research has shown that unmarried individuals generally report poorer health and have a higher mortality risk than married individuals (Robards *et al.* 2012). In contrast, our study found that responders in a relationship were more likely to report problems. It is difficult to judge what might be a plausible explanation to this finding, particularly since responders living alone were also more likely to report problems. It might be hypothesized, even though it is beyond the design of this study to draw any firm conclusions, that the experiences of patients being in a relationship could be influenced by their next-of-kin, or even that the questionnaire was completed by their relatives. The negative influence of living alone on patient experiences is however in-line with prior studies (Beckett *et al.* 2015), and these patients may potentially experience more extensive challenges at home when their health deteriorates.

Limitations

This study has several limitations. First, we did not manage to obtain a strictly consecutive sample. The study nurses were often too busy, and seemed to forget to include patients. The loss of respondents, however, was random. Second, the low response rate may limit the representativeness of the sample. In addition, we cannot exclude that those included were patients with less severe illness. Moreover, since data reported here is based on the findings from a single center, generalizability should be made with caution. Third, the fact that patients self-reported their experiences at home after discharge may have an increased the risk of recall bias. Yet, if answered while still in hospital patients might have felt obliged to answer

more positive, and personnel might even have helped them with the completion. Finally, the mean CCIS was 1.3 (SD=1.6). This could indicate that patients with higher comorbidity scores were not included. In retrospect, other CCI scores could have been received if the ICD-code-collecting period had been extended. Choosing a larger time interval (e.g., the three last years) could have led to more patients with more comorbidities.

CONCLUSION

Older people experience several problems related to their healthcare encounter, especially related to continuity and discharge. This highlights the need for protected time for healthcare personnel in the discharge process to ensure that patients and/or their relatives receive the information they need prior to discharge. The findings of this study may consequently be used in systematic quality improvement work among these patients. Targeting patients with comorbidities, as well as thematic areas as patient-healthcare professional communication and discharge processes, may be beneficial to improve the experiences of older patients.

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