



Mobility is the key! Trends and associations of common care problems in German long-term care facilities from 2008 to 2012



Nils A. Lahmann^{a,*}, Antje Tannen^a, Simone Kuntz^a, Kathrin Raeder^a,
Gabriela Schmitz^a, Theo Dassen^a, Jan Kottner^b

^a Department of Nursing Science, Charité – Universitätsmedizin Berlin, Germany

^b Clinical Research Center for Hair and Skin Science, Department of Dermatology and Allergy, Charité – Universitätsmedizin Berlin, Germany

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ABSTRACT

Background: Although enormous efforts have been made in auditing the quality of care, there are only few epidemiological studies available about the actual occurrence of immobility, malnutrition, urinary incontinence, cognitive impairment, falls and pressure ulcers in long-term care facilities.

Objective: The objective of this study was to provide prevalence estimates of common nursing care problems in long-term care facilities and to investigate any associations between them.

Design: Secondary data analysis of five consecutive annual cross-sectional multicenter studies from 2008 to 2012.

Setting: 262 different long-term care facilities throughout Germany.

Participants: 14,798 residents older than 18 years who gave informed consent.

Methods: Health conditions were rated based on direct resident examinations according to the current international definitions. Demographic characteristics were compared with available national population statistics. Apart from descriptive statistics, Chi² tests were carried out for bivariate and log-regression models were performed for multivariate associations.

Results: Prevalence rates were stable over the years with the highest prevalence of 73.5% (95% CI 72.8–74.2) being found for urinary incontinence, for cognitive impairment it was 54.1% (95% CI 53.3–54.9) and for immobility it was 36.5% (95% CI 35.7–37.3). The lowest prevalence rates were established for the risk of malnutrition with 13.0 (95% CI 12.4–13.5), for pressure ulcers with 4.8% (95% CI 4.5–5.1) and for falls (4.4% 95% CI 4.1–4.8). In the multivariate model, immobility was most strongly associated with all of the other conditions. No statistically significant associations were found between pressure ulcers and falls, pressure ulcers and urinary incontinence, pressure ulcers and cognitive impairment and between malnutrition and urinary incontinence.

Conclusion: Decision-makers and clinical practitioners may primarily focus on the maintenance and enhancement of mobility, because this seems to be the key predictor for many other health conditions in the context of care dependency in the nursing home setting.

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* Corresponding author at: Institut für Medizin-/Pflegepädagogik und Pflegewissenschaft, Department of Nursing Science, Charité – Universitätsmedizin Berlin, Augustenburgerplatz 1, D-13359 Berlin, Germany. Tel.: +49 30 450 529 066; fax: +49 30 450 529 900.

E-mail address: nils.lahmann@charite.de (N.A. Lahmann).

What is already known about the topic?

- Immobility, malnutrition, urinary incontinence, cognitive impairment, falls and pressure ulcers are important (major) care problems in nursing home residents.
- Many care problems or clinical conditions are interrelated.

What this paper adds

- Robust and recent data about the prevalence trends of six essential/considerable/major care problems based on a large sample in Germany.
- Based on the large sample size there are relatively precise estimates of the interrelation odds-ratios of all examined care problems.
- Only immobility showed statistically significant associations with all other care problems, which emphasizes its importance in nursing care.

1. Introduction

In the future decades, Western societies are facing an enormous challenge due to demographic changes (Gandjour et al., 2008). With an increase of an older population, it is expected to have an increase in geriatric care problems. The most common ones, in literature often referred to as the “geriatric syndromes”, are considered to be pressure ulcers, incontinence, falls, functional decline, cognitive impairment and impaired mobility (Inouye et al., 2007). In the prevention and treatment of these geriatric syndromes, respectively care problems, nursing care is considered to be a key player (Elliott et al., 2008; Kirkpatrick et al., 2014; Saxer et al., 2009).

According to Offermans et al. (2009), prevalence rates of urinary incontinence in nursing home residents ranges from 43% to 77%. Although difficult to calculate its economic burden is considered to be substantial (Milson et al., 2014). Although prevalence rates regarding falls and pressure ulcers are much less than urinary incontinence its financial burden on society is also considered high (Dealey et al., 2012).

Since achieving and maintaining a high quality of care is a challenge many health care organizations have to deal with (Smith et al., 2013), the development, distribution and implementation of clinical guidelines have been promoted on national and international level (Miilunpalo et al., 2001; Resnick et al., 2004). In the year 2000, a quality initiative was started to improve nursing care practices in long-term care facilities and home care in Germany. National guidelines (“*Expertenstandards*”) have been developed and implemented to address the most common nursing care problems like the prevention of pressure ulcers (Bienstein et al., 2000), prevention of falls (Schiemann and Deutsches Netzwerk für Qualitätsentwicklung in der Pflege, 2006), promotion of urinary continence (Schiemann and Deutsches Netzwerk für Qualitätsentwicklung in der Pflege, 2007), nutrition management (Schiemann and Deutsches Netzwerk für Qualitätsentwicklung in der Pflege, 2009) and others. Long-term care

facilities and home care agencies are forced by national legislation to comply with these guidelines.

Although enormous efforts have been made in auditing the quality of care, there are only few epidemiological studies available about the actual occurrence of the care problems in these settings in Germany. Reliable and robust figures are essential for evaluating the quality of care initiatives (Fusco et al., 2012; Yoon and Lee, 2010). Available figures, i.e. about the prevalence of pressure ulcers, are either expert estimates (Leffmann et al., 2002) or studies that are jeopardized by either information or selection bias (AQUA-Institut für angewandte Qualitätsförderung und -forschung im Gesundheitswesen, 2012; Kroger et al., 2009) influencing their internal and external validity. Furthermore, determining the strength and direction of interrelations and associations between different care problems can be considered of high relevance to nursing practitioners. Identifying most important conditions might help to prioritize preventive interventions in order to enhance overall health and functional status.

The objective of this study was to provide trends of the prevalence of immobility, malnutrition, urinary incontinence, cognitive impairment, falls and pressure ulcers and to quantify the degree of association with each other in German long-term care facilities.

2. Methods

2.1. Study design

We conducted a secondary analysis of data from five consecutive annual cross-sectional multicenter studies in German long-term care facilities. These original single studies were conducted from 2008 to 2012. The annual prevalence studies, mainly focusing on pressure ulcers, were established in 2001. Until 2007, the study findings that have been published were primarily focusing on pressure ulcers. Study results showed high internal and external validity (Kottner et al., 2008; Lahmann et al., 2010).

2.2. Data collection

The prevalence study procedures and data collection have been described previously (Heinze et al., 2007; Lahmann et al., 2006; Mertens et al., 2007). In brief, institutions were invited to participate and based on standardized procedures trained nurses conducted nursing assessments and completed written data collection forms. Because data collection was organized and conducted by the institutions themselves, there could be a risk of bias due to underreporting, especially where a high prevalence of care problems is generally considered as a poor quality of care. In order to address this risk, result presentations and feedback were submitted anonymously, because this is a known procedure to minimize reporting errors (Goldstein and Spiegelhalter, 1996; Hutchinson et al., 2010).

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