



Fecal incontinence among nursing home residents: Is it still a problem?



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ABSTRACT

Background: Fecal incontinence (FI) is a significant health problem among the elderly, with a devastating effect on their quality of life. The aim of the present study was to describe the prevalence and severity of FI among nursing home residents, and to investigate factors associated with FI.

Methods: This was a cross-sectional study conducted in nursing homes in Ostrava, Czech Republic. Demographics and comorbidities were extracted from medical records of nursing homes. Data regarding incontinence were obtained via face-to-face interviews with residents or extracted from registered nurses' accounts (regarding residents with severe cognitive impairment).

Results: In total, 588 nursing home residents were enrolled into the study. FI was noted in 336 (57.1%) participating residents. The majority of FI residents (57.8%) reported FI episodes several times a week; daily FI episodes were found in 22.9% of the FI residents. The mean Cleveland Clinic Incontinence Score in FI residents was 17.2 ± 1.8 (mean \pm SD). Factors associated with FI (statistically significant) were poor general health status (≥ 4 comorbidities), urinary incontinence, cognitive-function impairment (dementia), decreased mobility, and length of nursing home residency. There was no association between FI and age, sex, body mass index, or living with/without a partner.

Conclusions: Our data indicate that FI is still a serious health problem—FI currently affects more than half of the nursing home residents in Ostrava, Czech Republic. The study outcomes (revealed high prevalence and seriousness of FI) emphasize the importance of close monitoring and appropriately managing FI in nursing home residents.

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1. Introduction

Fecal incontinence (FI) is one of the most overlooked and most poorly treated gastrointestinal disorders (Wald, 2005; Norton, Whitehead, & Bliss, 2010). It is a significant problem among the elderly, with a devastating effect on their quality of life, usually leading to social withdrawal or even nursing home admission, wherein FI presents a great professional challenge for all involved caregivers (Wald, 2005; Norton et al., 2010; Costilla, Foxx-Orenstein, Mayer, & Crowell, 2013; Bharucha & Wald, 2010).

According to the consensus definition of ICS (International Continence Society), anal incontinence is defined as “any involuntary loss of fecal material and/or flatus” and may be subdivided into: fecal incontinence (any involuntary loss of fecal

material) and flatus incontinence (any involuntary loss of gas) (Abrams et al., 2010).

FI is associated with discomfort, pain, embarrassment and loss of dignity. For nursing home staff it also implies an extra and unpleasant workload (Wald, 2005; Tariq, Morley, & Prather, 2003; Parés et al., 2011; Johanson & Lafferty, 1996). People with FI live in a restricted world, often describing it as being in prison (Crowell et al., 2007). Among nursing home residents, FI is a marker for poor overall health; it is associated with increased morbidity (more urinary tract infections and pressure ulcers) and increased mortality (Tariq et al., 2003; Chassagne et al., 1999; Nakanishi et al., 1999). FI has also serious economic consequences—the additional health expenditure in the long-term care setting is in excess of 9000\$ per patient per year of FI (Borrie & Davidson, 1992; Xu, Menees, Zochowski, & Fenner, 2012).

The impact of FI on general health and well-being significantly depends on the frequency and severity of FI episodes (Wald, 2005; Parés et al., 2011; Saga, Vinsnes, Morkved, Norton, & Seim, 2013).

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Rising frequency and increasing severity of FI episodes (amount of leakage, type of leakage, interference of leakage with daily activities etc.) is undoubtedly associated with more profound effect of FI on the quality of life, with increased morbidity and mortality and with increased additional health expenditure (Wald, 2005; Tariq et al., 2003; Chassagne et al., 1999; Nakanishi et al., 1999; Borrie & Davidson, 1992). Reporting frequency and severity of FI are of great importance because primary aim in FI care and treatment is to achieve reduction in FI frequency and severity (Norton et al., 2010; Costilla et al., 2013; Bharucha & Wald, 2010; Saga et al., 2013).

In the available literature, there are several factors which are supposed to be associated with FI. The most prominent risk factors for FI development are poor general health, physical disability, decreased cognitive function, elderly, urinary incontinence, and nursing home residency (Chassagne et al., 1999; Wald, 2007; Aslan, Beji, Erkan, Yalcin, & Gungor, 2009; Schnelle & Leung, 2004). Identifying the preventable or modifiable risk factors may enable prevention or proper treatment of FI (or it may reduce impact of FI on the quality of life at least).

While the prevalence of FI in community dwellers aged over 65 years is estimated to be up to 10% (Whitehead et al., 2009), the prevalence rates among nursing home residents range from 10% to more than 60% (Chassagne et al., 1999; Borrie & Davidson, 1992; Saga et al., 2013; Aslan et al., 2009; Johanson, Irizarry, & Doughty, 1997; Nelson, Furner, & Jesudason, 1998).

A literature search, focused on studies of FI prevalence in nursing homes, highlighted two major concerns. First, many FI studies in nursing homes were performed during the 1980s and 90s, with few studies dating from the past decade (Saga et al., 2013; Wang, Kane, Eberly, Virnig, & Chang, 2009; Rodriguez, Sackley, & Badger, 2007; Jerez-Roig, Souza, Amaral, & Lima, 2015; Bliss et al., 2013; Saga, Vinsnes, Morkved, Norton, & Seim, 2015). Second, the majority of these studies took place in the United States or Canada; studies in Europe were very rare, and, to our knowledge, no study was performed in central Europe.

In the view of all of the above mentioned issues (importance of the FI issue; significant morbidity and mortality associated with FI; the cost of health care; few recent FI studies; no studies in central Europe), we researched the current situation regarding FI in nursing homes in central Europe. The aim of the present study was to evaluate the prevalence and severity of FI among nursing home residents in the Czech Republic, and to investigate factors associated with FI.

2. Methods

2.1. Design and setting

This was a cross-sectional study conducted in nursing homes in a metropolitan area of Ostrava (urban population, approximately 300,000) between June 2014 and December 2014. In total, there are 11 nursing homes in Ostrava, with an overall capacity of 1560 beds. The study was performed in four nursing homes with a total capacity of 740 residents (47.4% of the overall capacity of Ostrava nursing homes).

The study was approved by the Research Ethics Committee of the Faculty of Medicine, University of Ostrava, and was performed in accordance with the ethical standards of the Declaration of Helsinki (1964) and its subsequent amendments. Participating nursing home managers also approved of the study. After obtaining ethical permission from the institutions, written informed consent was obtained from nursing home residents or their next of kin, and anonymity was ensured.

The study inclusion criterion was nursing home residency for at least one month. Residents with a stoma were excluded from the study.

2.2. Data collection

Basic demographic data and characteristics of all participating residents (age, sex, living with/without a partner, body mass index (BMI), length of nursing home residency, and comorbidity) were extracted from medical records in nursing home databases. In our study, general health status was assessed through the number of residents' comorbidities. A comorbidity score was calculated as the resident's number of chronic conditions out of the following 10 chronic conditions: cerebrovascular disease, ischemic heart disease, congestive heart failure, chronic obstructive pulmonary disease, diabetes mellitus, Parkinson's disease, malignant neoplasm, pathological bone (or hip) fracture, peripheral vascular disease, and arthritis. Comorbidity scores ranged from 0 to 10.

Face-to-face interviews were employed to assess the mental state and mobility/disability of all participating residents, and to obtain data regarding FI. Individual interviews were conducted by one of three trained interviewers (nursing students of the Faculty of Medicine in Ostrava) using written interview forms. In order to standardize data collection, the interviewers underwent training on interviewing techniques. To ensure confidentiality and avoid resident embarrassment, interviews were taken in residents' private rooms. Each interview consisted of three parts: (a) mental state assessment; (b) mobility/disability evaluation; and (c) questions focused on residents' fecal incontinence.

The mental state of all participating residents was assessed using the Mini-Mental State Exam (MMSE). It is a validated cognitive screening instrument that tests orientation, memory, attention, language and communication (Folstein & McHugh, 1975). Residents were classified according to the obtained MMSE scores as follows: (a) severe cognitive impairment (0–10 points); (b) moderate cognitive impairment (11–20 points); (c) mild cognitive impairment (21–23 points); (d) normal cognitive function (24–30 points) (Folstein & McHugh, 1975; Paquay et al., 2007; Molloy, Alemayehu, & Roberts, 1991).

The modified Rankin scale, which is currently the most commonly used functional measure in stroke trials, was used to assess physical disability among participating residents (Harrison, McArthur, & Quinn, 2013; Quinn, Dawson, Walters, & Lees, 2009). Modified Rankin scale is a validated ordinal hierarchical scale, which is acceptable to patients and assessor, taking around 5 min to complete. It is a 6-point scale describing "global disability" with a focus on mobility (grade 0 – no mobility dysfunction up to grade 5 – severe disability, bedridden, requiring constant nursing care and attention) (Harrison et al., 2013). Modified Rankin scale was used for the physical disability assessment because it is easy to perform (Harrison et al., 2013) and our interviewers had been familiar with this scale employment from the past. The scale was used for global disability assessment in a similar recent study investigating FI among nursing home residents in Turkey (Aslan et al., 2009).

Questions exploring residents' FI were focused on FI identification and assessment of its severity. FI severity was classified according to the Cleveland Clinic Incontinence Score (or Wexner score), which presents the most commonly used scoring system for FI severity worldwide (Jorge & Wexner, 1993). Frequency of 5 factors regarding FI (solid stool FI, liquid stool FI, gas incontinence, wearing pads, lifestyle alteration) is scored. Resulting score ranges between 0 to 20 points (0 points—perfect continence; 20 points—complete FI) (Jorge & Wexner, 1993; Tjandra et al., 2007; Ihnát, Vávra et al., 2014). Recent study focused on the evaluation of the psychometric properties of Wexner score in FI patients (in terms of validity, reliability and

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