

FAECAL INCONTINENCE AMONG ELDERLY PATIENTS IN NURSING HOMES: A SYSTEMATIC REVIEW OF PREVALENCE AND RISK FACTORS

Hypothesis / aims of study

The purpose of this study was to assess current knowledge of prevalence and risk factors concerning faecal incontinence (FI) among elderly people in nursing homes. The occurrence of FI is higher amongst these patients compared to other patient groups (1). We have thus conducted a systematic review of current studies of FI in nursing homes, focusing on prevalence and risk factors. This knowledge is fundamental to identify the problem of FI amongst nursing home patients, but also to implement best practices for nursing; prevention, treatment and care.

Study design, materials and methods

In the current study, a systematic review was conducted following widely recommended guidelines (2). The material was queried using MeSH searches in Medline, British Nursing Index, Ovid nursing index and Chinal. Additionally, searches in OpenSigle was conducted in order to identify "grey" or unpublished literature. The web-resources of ICS (International Continence Society) were examined, as well as lists of references in relevant articles. The keywords used included "fecal/faecal incontinence", "anal incontinence" and "bowel incontinence" combined with "nursing home", "elderly care", "long term care", "nursing facilities" and "residential home". These queries were limited to English and Scandinavian languages, and excluded groups below 65 years of age. Searches have been updated until February 2011. Reviewing titles and abstracts, two individuals made independent assessments as to which studies were to be included in the knowledge summary, according to the given inclusion and exclusion criteria. Subsequently, the risk of systematic errors in the included studies was assessed according to guidelines set out by the Norwegian Knowledge Centre for health services (NOKC). Based on these assessments, the studies were graded as being of high, medium or low quality. The data was highly heterogeneous, due to varying definitions of FI, differences in the operationalization of risk variables, as well as cultural differences regarding patient characteristics in nursing home populations of different countries. Consequently, the analysis was based on a qualitative synthesis of the data.

Results

Systematic searches followed by an assessment of relevance led to the inclusion of 15 studies and 16 articles. The qualitative assessment resulted in five high quality (Nelson et.al 1998, Nelson & Furner 2005, Harrington et.al 2006, Wang et.al 2009, Chassagne et.al 1999, Borrie & Davidson 1992), six medium quality (Kinnunen 1991, Capewell et.al 1986, Aslan et.al 2009, Burgio et.al 1988, Akpan et.al 2007, Chiang et.al 2000) and four low quality studies (Johansen 1997, Rodriguez et.al 2007, Brocklehurst et.al 1999, Tobin & Brocklehurst 1986). These studies used different definitions of FI. 14 studies reported prevalence. Prevalence varied between 10.3 % and 63.6 %, with a centre consisting of six studies between 40% and 55%. Four studies reported significant results regarding differences between the sexes, where three of these demonstrated a higher prevalence in the male population. Ten studies had identified risk factors (table 1); nine out of these studies were cross-sectional. All of the risk factor studies used different concepts, definitions and measurement methods concerning independent variables. Findings on risk factors were categorized into four categories: (1) reduced mobility, (2) reduced cognitive functions, (3) bowels/urinary tract and (4) other. Only three studies used validated measurement tools on independent variables (Barthels ADL index, Rankin scale, MMSE).

Table 1. Results according to risk factors of FI

Red. mobility	Red. cognitive functions	Bowels/urinary tract	Other
(9 studies)	(7 studies)	(6 studies)	(6 studies)

Loss of ADL (OR: 2.9; 6.7; 7.3; 14.7; 19.3)	Dementia (OR: 1.4; 1.5; 1.7)	Constipation (OR: 1.4; 1.3)	Stroke (OR: 1.2; 1.3; 7.0)
Loss individual ADLs: Difficulty	Cognitive impairment (87% of patients with FI)	Fecal impaction (OR: 1.5; 2.1)	Neurological disease (RR: 1.9)
- Dressing (OR: 1.5; 1.9)		Fecal loading (70% of patients with FI)	Comorbidity (47% of patients with FI)
- Hygiene (OR: 1.5; 2.5; 2.2)	Mental function (SR: 0.32)	Acute diarrhea (44% of patients with FI)	Diabetes (OR: 57.7)
- Eating (OR: 1.5; 4.1)	MMSE<15 (RR: 1.4)	Loose stool (20% of patients with FI)	Pressure ulcers (OR: 2.3; 2.6)
- Toilet use (OR: 3.9; 5.2)		Diarrhea (OR: 8.0)	Impaired vision (OR: 1.4; 1.5)
- Bed mobility/ Locomotion (OR: 2.1; 2.2; 1.1)		Watery stool (OR: 5.6)	Male (OR: 1.2; 1.3)
Functional incapacity (OR: 17.3; 147.3)		Tube feeding (OR: 5.4; 6.7; 7.6; 8.8)	Non-white race (OR: 1.3; 2.1)
Functional disability (47% of patients with FI)		Urinary incontinence (OR: 11.3; 12.6; 26.8)	
Loss of mobility (SR: 0.39)			
Poor mobility (RR. 1.7)			
Confined to wheelchair or bed (OR: 3)			
Truncal restraint (OR: 2.5; 3.0; 3.2)			

OR: Odds Ratio

RR: Relative Risk SR: Part Correlations Coefficient

Interpretation of results

The results of this study demonstrate varying prevalence, but confirm the assumption that there is a high prevalence of FI among nursing home patients. One explanation for the variation in prevalence is the lack of coherent definitions of FI, including different frequency designations. Another explanation relates to lacking definitions of the institutional units (the nursing homes), as well as weak descriptions of patient characteristics. Consequently, there are potentially large differences between patient groups in the included studies. Regarding risk factors, different variables and varying definitions of such complicate cross-comparisons of different studies. Despite these issues, the results indicate that conditions relating to reduced mobility, reduced cognitive functions, constipation / faecal impaction and diarrhoea are associated with an increased risk of FI.

Concluding message

The prevalence of FI is high among nursing home patients. Conditions related to reduced mobility, reduced cognitive functions, constipation / faecal impaction and diarrhoea increase the risk of FI. Further research based on coherent definitions of FI and validated measurement tools regarding FI and risk factors is necessary.

References

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None

Is this a clinical trial?

No

What were the subjects in the study?

NONE