

PREVALENCE OF FAECAL INCONTINENCE AMONG ELDERLY PATIENTS IN NORWEGIAN NURSING HOMES: THE IMPACT OF AGE AND LONG-TERM CARE RESIDENCY

Hypothesis / aims of study

Prevalence of faecal incontinence (FI) in community-dwelling elderly over 60 years varies between 5.1-6.2% and age has an important influence on the rate of FI (1). However, the prevalence of FI in nursing homes has increased dramatically and ranges from 17%-95% (2). These patients are amongst the frailest in the elderly population and are characterized by multiple morbidity and severe lack of ADL functions. Thus, it is important to establish knowledge concerning FI in this growing and increasingly heterogeneous group of patients. In Norway most patients in nursing homes are long-term care patients, but the number of short-term care patients is growing. In this study we want to examine whether there are differences in the prevalence of FI between short-term and long-term care patients, and whether there are differences between sexes and age groups in the nursing home population.

Study design, materials and methods

The present cross-sectional study was performed in nursing homes in Trondheim municipality, Norway during June 2010. Patients who at the time of data collection were admitted to a nursing home institution were included if they had been a patient for more than three weeks or had prior stays of more than four weeks during the last six months. Patients who were 65 years or younger, as well as stoma patients, were excluded from the study.

All 28 nursing homes in the municipality were invited to participate, in which one nursing home and a unit at a second nursing home declined. A questionnaire designed to obtain information about symptoms of faecal incontinence, sex, age, length of residency/stay and type of care was implemented. Registered nurses in each ward assessed the patients according to the inclusion criteria and filled in the questionnaire for each of the included patients. The questionnaire had been pilot tested before use.

The response rate was 90.3%. The nursing home that chose not to participate in the study (n=80) was highly representative compared with the included cases, both in the distribution of long-term care/ short-term care, but also in patient characteristics. The ward that declined at a second nursing home had 30 patients and many of them, more than within the included cases, were short-term care patients. Consequently, this creates a small lopsided drop out. The total number of cases after exclusions was 977, whereas the total number of nursing home patients in the municipality was 1326 (pr. 20. August 2009). Due to missing data the number of patients varied between the different analyses.

Statistical analyses performed were descriptive statistics, chi-square test and logistic regression, using the Predictive Analytics SoftWare, PASW 18.

Results

Mean age of the included patients was 85.6 years and 73.2% was women and 26.8% was men. 92.2% of the population was long-term care patients and the remaining 7.8% was in different short-term care stays. Short-term care included rehabilitation and respite stays. Median duration of long-term care was 664 days and for short-term care 34 days. The overall prevalence of faecal incontinence in the nursing homes in this study was 50.2%.

Chi-square test demonstrated no significant differences in prevalence of FI between age groups or between the sexes (50.7% in women and 48.8 % in men). Table 1 shows a significant difference in the prevalence of FI between short-term- and long-term care patients ($p < 0.001$, Chi square test). In the long-term care group prevalence of FI increased with increasing length of residency (Table 2). The odds of having FI is nearly two times greater if you have been in the institution for more than one year compared to the group that has been there for less than one year. The odds are increasing for each year the patient has resided in the institution until five years.

Table 1. Prevalence of FI according to type of care

Type of care	FI
Long term care N=865	52.3%
Short term care N=72	22.2%
Total N=937	49.9%

Interpretation of results

Approximately half of the patients in this study had FI and this corresponds with other studies (2). The prevalence of FI did not differ significantly according to sex or age. This suggests that when patients have reached the stage where they are submitted to a nursing home, age is no longer a key factor for developing faecal incontinence.

The prevalence of FI among short-term care patients was 22.2%, compared to 52.3% for patients in long-term care. One explanation of this difference may be that patients in short-term care have a higher level of function than patients in long-term care. Normally they live at home, but for various reasons they temporarily need more care than their relatives or the home nursing care services are able to give them. Consequently, they are admitted for short-term care in a nursing home. For many

of these patients, however, the short-term care stay might be precursory to a long-term care residency in nursing home. It is therefore important to observe and assess these patients thoroughly regarding faecal incontinence; both to prevent and to help patients manage their bowel problems themselves.

In the long-term care group prevalence of FI increased with increasing length of residency. It is a possibility that patients lose their continence as a consequence of the nursing home residency. A study of incidence of FI in nursing home patients showed a cumulative incidence of 20 % within the first 10 months (3). Moving from a familiar home-environment and to a nursing home can be a life-changing event; new physical environment, new routines, unfamiliar nursing home staff and a new life-situation may cause a stressful situation for a patient who is already frail. This may over time lead to confusion, passiveness, lack of manageability and control over bodily functions. The question is then how the nursing home staff is managing FI: Are there effective assessment tools available, knowledge of causes and management of FI, or is FI being treated passively as a manifestation of health decline at the end of life?

Table 2. ORs (95% CI) for FI associated with length of residency in long-term care

Length of stay	FI	Age-adjusted OR (95% CI)
0 - 1 years N=269	36.8 %	1.00 (reference)
1 - 2 years N=189	50.8%	1.78 (1.22-2.60)
2 - 3 years N=120	54.2%	2.03 (1.31-3.16)
3 - 4 years N=91	61.5%	2.75 (1.68-4.51)
4 - 5 years N=51	76.5%	5.67 (2.83-11.4)
> 5 years N=108	65.7%	3.38 (2.11-5.42)
Total 828	51.4%	

Concluding message

This study demonstrates significant differences in prevalence of FI between patients in short-term care and long-term care in nursing homes. Age does not play an important role in developing FI in this group; more important is the length of residency in nursing home. Consequently, we need to identify risk factors concerning FI among short- and long-term care patients and we need more knowledge about the deterioration of patients causing FI according to length of residency; new knowledge both to prevent and to treat this prevalent and bothersome condition.

References

1. Pretlove, S. J., Radley, S., Tootz-Hobson, P.M., Thompson, P.J., Coommarasamy, A. & Kahn, K.S. (2006): Prevalence of anal incontinence according to age and gender: a systematic review and meta-regression analysis. *International Urogynecological Journal*, 17: 407-417
2. Fonda, D., DuBeau, C.E., Harari, D., Ouslander, J.G., Palmer, M. & Roe, B. (2005): Incontinence in the frail elderly. In: Abrams P., Cardozo, L., Khoury S. & Wein, A. (eds.): *Incontinence* (pp 1163-1239). Plymouth: Health Books
3. Chassagne, P., Landrin, I., Neveu, C., Czernichow, P., Bouaniche, M., Doucet, J., Denis, P. & Bercoff, E. (1999): Faecal incontinence in the institutionalized elderly: incidence, risk factors, and prognosis. *American Journal of Medicine*, 106:185-90

Specify source of funding or grant	The Norwegian Nurses Organisation
Is this a clinical trial?	No
What were the subjects in the study?	HUMAN
Was this study approved by an ethics committee?	Yes
Specify Name of Ethics Committee	The Regional Committee for Medical Research Ethics, Oslo, Norway
Was the Declaration of Helsinki followed?	Yes
Was informed consent obtained from the patients?	No