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URINARY AND FECAL INCONTINENCE IN HOSPITALIZED PATIENTS: PREVALENCE AND ASSOCIATED FACTORS.

<u>Hypothesis / aims of study</u>
To identify and to analyze the prevalence of urinary (UI) and fecal incontinence (FI) and sociodemographic and clinical variables associated with their occurance in hospitalized patients.

<u>Study design, materials and methods</u>
This is an observational, cross-sectional, analytical and descriptive epidemiological study, where the study sample consisted of 345 adult and elderly patients hospitalized at a University Hospital. The data were collected through interviews, physical examination and medical records, using the following instruments: Sociodemographic and Clinical Data, Characteristics of Urinary Losses, International Consultation on Incontinence Questionnaire - ICIQ-SF, The Bowel Function in the Community and the The Jorge-Wexner Incontinence Index. The prevalence of UI and FI was obtained in a single day in four consecutive months (point-prevalence), in the same day of each month, in order to meet the calculated sample size for the associated factors´ analysis. The sample size calculation was based on the overall prevalence of 26%, related to the most frequent condition in the population, UI, according to a recent literature review(1). A sample size of 290 was required for the present study. This study adopted the current presence of UI and FI - current presence of involuntary losses of urine and involuntary losses of feces, respectively – for prevalence analysis. Data were analyzed using chi-square and Fisher tests for categorical variables, t-student and Mann-Whitney tests for numerical variables, and logistic regression for the identification of associated factors. P<0.05 was used for statistical significance, except for regression analysis variables insertion (p<0.1); 95% Confidence Interval was also analyzed.

<u>Results</u>
Women (194 / 56.3%) and Caucasians (165 / 47.8%) predominated in the sample; mean age of 48.9 years (SD = 21.2); low level of education (mean of 8.3 /; SD=4.5 years of study) and 106 (30.7%) retired; 151 (43.8%) had two or more comorbidities; Arterial hypertension (134 / 38.8%) and Diabetes mellitus (80 / 23.2%) were the most common; 76 (22%) had insomnia and 50 (14.5%) were obese; 58 (16.8%) were smokers; 272 (78.8%) patients were taking medications, with anti-hypertensives (126 / 36.5%), antibiotics (115 / 33.3%) and anticoagulants (95 / 27.5%) as the most frequent; 76 (22%) patients had some functional limitation and 39 (11.3%) were bedridden.
The following prevalence was obtained: 22.9% for UI (28% for women and 16.1% for men) and 7.9% for FI (9.4% for women and 6% for men). We have also investigated Double Incontinence (DI) resulting in 4.7% (7.3% for women and 1.4% for men).

Table 1 - Variables associated with urinary incontinence.

Variables	B	S.E.	Wald	Df	Sig.	Exp(B)	CI 95% for EXP(B)	
							Lower	Upper
Gender (female)	1,360	0,367	13,767	1	0,000	3,896	1,899	7,991
Age	0,035	0,009	16,932	1	0,000	1,036	1,019	1,054
Asthma	1,298	0,527	6,053	1	0,014	3,660	1,302	10,290
Laxative use	1,182	0,562	4,429	1	0,035	3,262	1,085	9,811
Diapers´ use at the moment	1,012	0,470	4,645	1	0,031	2,752	1,096	6,908
Diapers´ use at home	2,331	0,879	7,040	1	0,008	10,293	1,839	57,606
Previous diapers´ use during hospitalization	1,909	1,332	2,055	1	0,152	6,749	0,496	91,834

It was not possible to apply the logistic regression model to test the independent variables associated with the presence of FI and DI due to their low prevalence in the studied sample. But a number of variables showed statistically significant differences between the groups with and without FI: demographic (skin color, schooling, employment status and income) and clinical variables (Diabetes mellitus, Multiple sclerosis, Irritable bowel syndrome / Inflammatory bowel disease, Chronic obstructive pulmonary disease, functional dysfunction, dysuria, Recurrent urinary tract infections, diarrhea, anorectal surgery, diaper´s use, and diuretic´s use). The same for DI: age (p=0.006), gender (p=0.010), skin color (p=0.037), educational level (p=0.023), functional limitation (p=0.023), Alzheimer's disease (p=0.028), Depression (p=0.021), Irritable bowel syndrome (IBS)/Intestinal inflammatory disease (p=0.001), rectal prolapse (p=0.025), dysuria (p= 0.001), Recurrent urinary tract infections (p=0.038), diarrhea (p=0.002), diaper´s use (p=0.007). For women, the variables that showed statistically significant differences between the groups with and without DI were: Menopause (p=0.001), Uterine prolapse (p=0.044), number of pregnancies (p=0.005), vaginal delivery (for vaginal and forceps) (p=0.001), vaginal delivery (vaginal without forceps) (p=0.003) and forceps delivery (p=0.025). Statistically significant differences between groups were not found specifically for men.

Interpretation of results

The prevalence of UI among inpatients was quite below compared to other study performed with hospitalized patients (2) and similar to that reported by studies conducted in the general population (1). And the overall FI prevalence obtained here has been similar to those found in a recent literature review about hospitalized patients (3) as well as in studies conducted in the general population.

According to the logistic regression model for UI (Table1), women are 3.9 times more likely to have UI; every year, the chance of having UI increases by 3.6%; having Asthma increases by 3.7 times the chances of having UI; being in use of laxatives increases these chances by 3.3 times. The use of diapers increased the chances of UI occurring 2.7 times when the patient used it at the time of the evaluation and 10.3 times when they were used at home; and having used diapers at some point during hospitalization increased those chances by 6.7 times.

Some independent variables were statistically significant differences between the groups for both incontinences: schooling, Diabetes mellitus, Chronic obstructive pulmonary disease, functional dysfunction, Recurrent urinary tract infections, anorectal surgery, diaper`s use and diuretics´ use.

Concluding message

The prevalence obtained in the present study, as well as the associated factors, are in agreement with the scarce National and International literature for hospitalized adults and older people. Longitudinal studies are necessary to confirm the relationships found between the studied variables, contributing to a more accurate diagnosis of the causality of these conditions and, therefore, the establishment of more effective measures of prevention and treatment of incontinence in the hospital setting.

References

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Disclosures