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Research article

Prevalence of urinary incontinence in Andorra: impact on women's health.

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Abstract

Background: Urinary incontinence (UI) is a frequent public health problem with negative social consequences, particularly for women. Female susceptibility is the result of anatomical, social, economic and cultural factors. The main objectives of this study are to evaluate the prevalence of UI in the female population of Andorra over the age of 15 and, specifically, to determine the influence of socio-demographic factors. A secondary aim of the study is to measure the degree of concern associated with UI and whether the involved subjects have asked for medical assistance, or not.

Methods: Women aged 15 and over, answered a self-administered questionnaire while attending professional health units in Andorra during the period November 1998 to January 2000. A preliminary study was carried out to ensure that the questionnaire was both understandable and simple.

Results: 863 completed questionnaires were obtained during a one year period. The breakdown of the places where the questionnaires were obtained and filled out is as follows: 32.4% – medical specialists' offices; 31.5% – outpatient centres served exclusively by nurses; 24% – primary care doctors' offices; 12% from other sources. Of the women who answered the questionnaire, 37% manifested urine losses. Of those,45.3% presented regular urinary incontinence (RUI) and 55.7% presented sporadic urinary incontinence (SporadicUI). In those women aged between 45 and 64, UI was present in 56% of the subjects. UI was more frequent among parous than non-parous women. UI was perceived as a far more bothersome and disabling condition by working, middle-class women than in other socio-economic groups. Women in this particular group are more limited by UI, less likely to seek medical advice but more likely to follow a course of treatment. From a general point of view, however, less than 50% of women suffering from UI sought medical advice.

Conclusion: The prevalence of UI in the female population of Andorra stands at about 37%, a statistic which should encourage both health professionals and women to a far greater awareness of this condition.

Background

Urinary incontinence (UI) has been defined as the complaint of any involuntary leakage of urine[1]. In fact, this worldwide entity has negative influences on the quality of life as it may cause a socially unacceptable problem [2–5]. Since many women accept it as a "normal" condition, they are unaware that, in many instances, it can be successfully treated. Socio-cultural factors, especially in certain geographical areas, mean that affected women do not dare to ask for medical advice [2,6].

The prevalence of UI ranges from 10 to 60%, depending on the countries and populations studied [7–14]. Women are much more susceptible to UI than men. Anatomical and physiological differences [14–20], such as reproductive and hormonal changes associated with pregnancy and menopause, explain the differences prevailing between male and female. It is highly probable that socioeconomic and cultural factors play a crucial role in UI. However the extent of the influence of these factors on women's health remains relatively unknown.

The *Andorran Women's Research Group* (WRG) has undertaken a task not only to evaluate the prevalence of UI in our country, but also to ascertain to what extent the socioeconomic and cultural factors influence the outcome of UI in Andorran women.

Methods

Population and sample

The targeted population was the female population of Andorra aged over 15. The sample was obtained from women aged over 15 who voluntarily answered a self-administered questionnaire while attending health professionals' offices throughout Andorra between November 1998 and January 2000. The initial hypothesis was that through this population we could access a very large part of the female population of our country. We believe that the distinctive characteristics of the Andorran National Health Service allows us, to a very considerable extent, to extrapolate the results of our sample to the majority of the general female population. The questionnaire [Additional file: 1 and Additional file: 2] was widely distributed to every place were health advice might be sought: general practitioners and medical specialists' offices, and outpatient health centres exclusively served by nurses. People attending the latter facilities are not necessarily ill since most visits are to do with prevention programs, or even administrative issues. The Andorran National Health System is based on these health centres, on general practitioners who care for the majority of the population and on different surgical and medical specialists. All the health centres actively participated in this study. The majority (90%) of GPs also participated and the specialists we selected were those with the greatest number of patients (ophthalmologists, rheumatologists, urologist, gynaecologists, pneumologists, physiatrists, dermatologists). To avoid seasonal bias and repeat completion, all patients and their female companions were asked to fill out the questionnaire on a particular day of the month, throughout the year. Collection days were chosen at random.

At the beginning of the study, the female population of Andorra aged over 15 was 26,648 at the beginning of the study. 863 women completed the questionnaire. Of those, 320 confirmed involuntary urine leakage. The estimated margin of error is +/- 3,35% with a confidence level of 95,5% for the total sample, and +/- 5,6%, with the same confidence level, for estimates of women with urinary incontinence.

Questionnaire

To ensure that the questionnaire was easily understandable, a few months before the onset of the study, a preliminary questionnaire was distributed to a small group of women (n = 68). After reviewing these preliminary results, some questions were revised resulting in an improved, final version. The following socio-demographic and medical history risk factor variables were analysed in order to evaluate the possible predisposing factors for UI: age, education level, working activity, economic status, body mass index, childbirth, child's weight at birth, chronic diseases, and medication. The following aspects of UI were also monitored: symptom severity, disability degree, illness perception, and treatment strategies. Andorra is a multilingual country, with a high immigration rate, so the questionnaire was provided in several languages: Catalan (local national language), Spanish, French, Portuguese, and English.

Statistical analysis included descriptive and multiple logistic regression models to determine risk factors related to UI and to the effects (degree of concern, limitations, medical visits and treatment). As a multiple model, the risks obtained for every factor are adjusted by the other factors.

Table 1: Prevalence and percentage distribution of the types of incontinence

Type of incontinence	Number	% total	% IU
Unwitting UI	79	9	
Sporadic UI	96	11	
SPORADIC UI (SUI)	**175**	**20**	**55,7**
REGULAR UI (RUI)	**145**	**17**	**45,3**
Total	**320**	**37,1**	**100**

To construct models related to IU we started with a multiple model which include all possible factors and excluded variable by variable all those not representing a risk. Variables affecting UI included age, social class, UI type.

Results

Urinary incontinence prevalence

Of the total of 863 women voluntarily answering the questionnaire, 320 (37%) manifested some kind of UI (Table 1). Unconcious urinary incontinence is defined as those women who answered NO to question number 5 (Have you ever experienced involuntary urine loss, at present or in the past, that was out of your control?), but who answered in the affirmative subsequent questions on UI's characteristics. Sporadic urinary incontinence (SporadicUI) and regular urinary incontinence (RUI) are categorized depending on the frequency of the UI episodes, RUI being at least once a week. Since unconcious urinary incontinence is nonetheless UI, we have included it. Moreover, if it is unconcious, we presume it must be uncommon, and therefore sporadic, and for the purposes of this study, it is included within Sporadic UI.

Figure 1 shows the prevalence of UI in different age groups. As expected, the prevalence increases with age, especially RUI. In women with UI we observed that the percentage reporting regular urine leakage increased with age, rising from 15% in the youngest group, 32% in women between 25 to 44 years old, 59% between 45 to 64 and to 71% among the women aged over 64. The sample shows no statistical differences to the age distribution of the Andorran population (Table 2).

If we distribute the women affected by UI according to their level of education, the percentage of women reporting some kind of UI slightly decreases with the level of education (Table 3) but without any statically significant differences. Interestingly, university graduates were the ones who report less UUI.

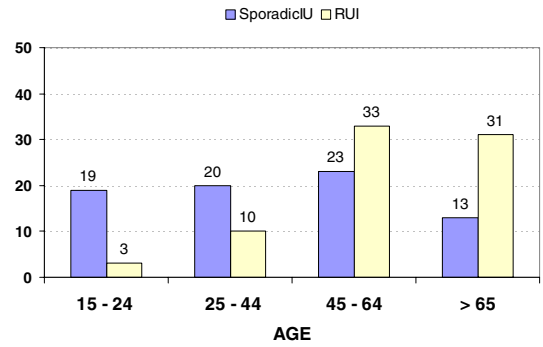

Figure 1
UI prevalence distributed in age groups and types

Risk factors related to UI

The risk of Sporadic UI is greater in parous than in non-parous women. The risk is 1.67 higher (C.I. 95% 0.96 – 2.92) with one child, 1.86 (C.I. 95% 1.07 – 3.22) with two children and 2.76 (C.I. 95% 1.46 – 5.20) with more than two children. Taking any drugs is associated with a higher risk of Sporadic UI 1.90 (C.I. 95% 1.30 – 2.77).

The risk of self-reported RUI is also greater in parous than in non-parous women. The risk is 1.47 higher (C.I. 95% 0.64 – 3.34) with one child, twofold for women who have two children (OR = 2.71 C.I. 95% 1.25 – 5.87) and threefold for three and more children (OR = 3.18 C.I. 95% 1.35 – 7.47). Taking any drugs (OR = 1,73 C.I. 95% 1.08 – 2.77) or having any health problem (OR = 1,96 C.I. 95% 1.22 – 3.13) is also associated with a higher risk of RUI.

RUI and social status

For women who clearly manifested RUI, we tried to determine the existing relation between social status and the following factors: the degree of concern (Fig. 2), the limitations it causes (Fig. 3), medical visits due to this problem (Fig. 4), and the treatment followed for UI (Fig. 5).

Table 2: Age-related sample and population distribution

	Sample distribution (%)	Population distribution (%)
15–24	10,2	14,2
25–44	50,1	45,6
45–64	24,4	25,1
>64	10,2	15,1
Missing	5,1	0

There are not significant statistical differences.

Table 3: UI in relation to the level of education

	UPS	*PS*	*S/PS*	*UG*
CONTINENT	52.6 %	60.5 %	66.8 %	66.9 %
UI	47.4 %	39.5 %	33.2 %	333.1 %

UPS – Unfinished primary school. PS – Primary school. S/PS – Secondary /Professional school. UG – University graduate

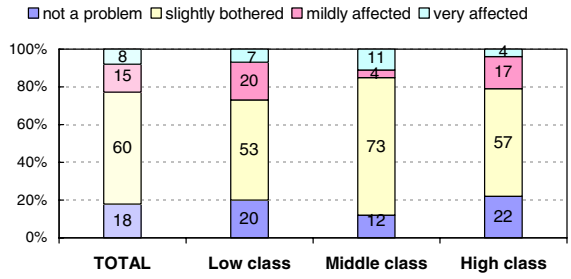

Figure 2
Degree of concern in relation to social status

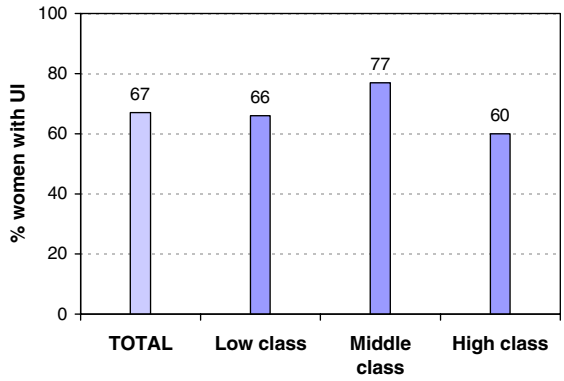

Figure 3
Women with limitations due to RUI distributed by social status

Women in the middle class group appear more functionally limited and more concerned by UI. Curiously, this group is less inclined to seek medical advice on UI, but does follow the recommended treatment more consistently.

IU effects risk factors

After an adjustment for age and social class, if we compare women with Sporadic UI, with women with RUI, the latter are more concerned by UI (risk 6.5: CI 95% 2.07 – 20.41), are more limited (risk 5.8: CI 95% 3.08 – 10.90), have a greater tendency to ask for medical advice (risk 3.78:CI 95% 1.96 – 7.28), and are more inclined to follow treatment consistently (risk 6.68: CI 95% 2.60 – 17.16).

After an adjustment for age and UI level, middle class women are more limited by UI (risk 2.9: CI 1.34 – 6.31) than upper class women.

Finally, after an adjustment for UI level and social class, women aged 15 to 29 are more limited by UI (risk 5.26: CI 95% 1.51 – 18.12) than women aged 60 years and over. Women aged 45 to 59 are more inclined to follow

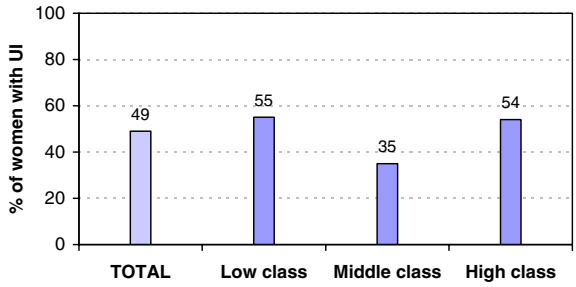

Figure 4
Women that consulted a health professional about RUI distributed by social status

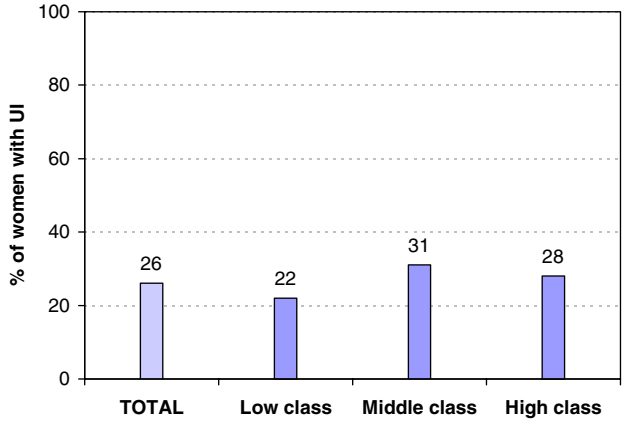

Figure 5
Women following a treatment for RUI distributed by social status

treatment (risk 10.82: CI 1.28 – 91.30) than women aged 15 to 29.

Discussion

Very often, the records or analysis of the studies of a community's health problems do not consider differences in the gender, socio-economical and cultural status, or the ethnic origins of the subjects of the study.

Little is therefore known about the effect of those factors on women's health, the use that women make of the health services, or the reasons why they do or do not consult on a health problem that greatly affects their quality of life.

This study is a report on the prevalence of UI in the female population of Andorra, as well as the socio-economical characteristics of the affected women and their approach when consulting the health services on this problem. The results raise a series of questions needing further examination.

Despite the bias of a study based purely on the female population attending any of the health services during the surveyed period, the sample can be considered representative of the country's female population since the data are comprehensive in terms of the current census.

Our sample is representative of the women attending health services during one year, and not of the whole Andorran population. This methodological option, chosen for economical and operative reasons, may cause a bias. However, the prevalence observed is similar to the data found in other published studies [3,7–12]. Similarly, prevalence distribution also shows an increase of UI with age [13,21]. It is important though to underline that only RUI increases, whereas the proportion of women manifesting Sporadic UI decreases with age. The data do not give information as to whether women suffering episodes of SporadicUI when younger show a greater predisposition to RUI in the later stages of life. In this survey, the subject herself contributes her own perception of UI. Consequently, one may ask if younger women involved in a full working, social, and family life are apt to perceive Sporadic UI as a minor, unconsciously masked, problem.

Women with a higher level of education manifest a higher UI prevalence. Possibly, a higher level of education leads to a higher degree of awareness of the presence of UI, while at lower levels of education UI may be perceived as an unavoidable problem.

The extent of female concern about UI when related to social status also produced a remarkable outcome. Women in the three social levels reported being "somewhat bothered" by UI, whereas this is often a highly limiting and uncomfortable problem.

Middle-class women show a higher UI prevalence but consult health services less frequently about this problem. However, when they do ask for assistance, women in this category follow UI treatment more consistently than the rest of the sample.

Another widely known factor is that UI is usually a hidden problem, either because the patient considers the problem as normal or is embarrassed to point it out to the health professional, from whom she frequently gets only a technical-medical answer [6,22]-. Moreover, approaching this

problem without a multidisciplinary perspective is associated with a higher relapse rate, something that contributes to the perception that it is a problem without solution, which is manifestly untrue [23–25].

These factors could explain the paradoxical behaviour of women affected by such an impairing condition [3–5,12,26]. Even when assuming the presence of UI, less than 50% ask for medical advice in search of a solution or an improvement to this problem.

Conclusion

The results of this study can be considered reliable, as well as a starting point to identify UI features in women of our country. Furthermore, the study itself could have a sensitizing effect on the participants (professionals and patients) and result in a better knowledge of the illness and its solutions. Some reports show consensus and indicate a need for an increased degree of awareness, both in the female population and among health professionals, as to the actual relevance of UI.

Competing interests

None declared.

Additional material

Additional file 1

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Additional file 2

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