

# Sociodemographic and clinical profile of female users of public Urogynecological Physical Therapy Services

Perfil sociodemográfico e clínico de usuárias de Serviço de Fisioterapia Uroginecológica da rede pública

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## Abstract

**Objective:** To identify the sociodemographic and clinical profile of women with urinary incontinence attended at a public urogynecological physical therapy service. **Methods:** In this retrospective cross-sectional descriptive study, the following information were gathered from the participants' hospital records and physical therapy evaluation forms: age, marital status, educational level, type of incontinence, risk factors, signs and symptoms, perineal function (Oxford scale) and quality of life (QoL). Descriptive statistics using frequency distributions and proportions were applied. **Results:** Data from 58 participants were considered. Most of them were between 40 and 59 years old (81%), were married (62%) and only had elementary education (79%). Mixed urinary incontinence was the most prevalent type (63%), followed by stress urinary incontinence (34%). Pregnancy (88%) and vaginal delivery (76%) were the most prevalent risk factors and the most prevalent symptom was urinary loss under stress (97%). Perineal function grade 2 was the most frequent type (41%) and the participants' quality of life distribution ranged between poor (10%), moderate (33%), good (28%) and excellent (24%). **Conclusions:** This study provides data that contribute towards ascertaining the profile of the women with urinary incontinence who are attended in public services that offer urogynecological physical therapy. Furthermore, it may assist in developing preventive and rehabilitative interventions in such services.

**Key words:** health profile; urinary incontinence; physical therapy.

## Resumo

**Objetivo:** Identificar o perfil de mulheres com incontinência urinária (IU) atendidas em um serviço público de Fisioterapia Uroginecológica, em relação a características sociodemográficas e clínicas. **Materiais e métodos:** Neste estudo descritivo transversal retrospectivo, por meio de prontuários e fichas de avaliação fisioterapêutica das participantes, os seguintes dados foram levantados: idade, estado civil, grau de instrução, tipo de incontinência, fatores de risco, sinais e sintomas, função perineal (escala de *Oxford*) e qualidade de vida (IQoL). Estatística descritiva, pela distribuição de frequência e proporção, foi aplicada. **Resultados:** Dados de 58 participantes foram considerados. A maioria tinha idade entre 40 e 59 anos (81%), era casada (62%) e possuía grau de instrução fundamental (79%). A IU mista foi prevalente em 63% da amostra e a incontinência urinária de esforço (IUE) em 34%. Gestações (88%) e partos vaginais (76%) se destacaram como fatores de risco e o sintoma mais prevalente foi perda de urina ao esforço (97%). O grau 2 de função perineal foi o mais freqüente (41%) e a distribuição da qualidade de vida das participantes variou entre baixa (10%), moderada (33%), boa (28%) e ótima (24%). **Conclusões:** Este estudo oferece dados que contribuem para o conhecimento do perfil das mulheres com IU atendidas em serviços públicos que prestam assistência fisioterapêutica uroginecológica e, além disso, poderá auxiliar no desenvolvimento de intervenções preventivas e reabilitadoras nestes serviços.

**Palavras-chave:** perfil de saúde; incontinência urinária; fisioterapia.

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## Introduction ::::

Urinary incontinence (UI) is a complaint about any involuntary loss of urine<sup>1</sup>. This disorder, which is responsible for physical, psychological, and social problems, affect 20% to 50% of the female population over the course of their lives. According to the International Continence Society, UI is described as a symptom, a sign, or by means of urodynamic observation, which is classified as either an effort of urinary incontinence (EUI), an urge of urinary incontinence, or mixed urinary incontinence<sup>1</sup>. The EUI, defined as a complaint about any involuntary urine loss after coughing, sneezing, or after physical effort, is the most prevailing in the population in general and affects 49% of incontinent women<sup>1,2</sup>. Urge incontinence, with a prevalence of 22% of the female UI cases, is described as the complaint about an involuntary urine loss accompanied or immediately preceded by urgency, that is, the sudden and pressing desire to urinate<sup>1,3</sup>. The association between the EUI and the urge incontinence, or named the mixed (MUI), affects from 29% to 44% of incontinent women<sup>2,4</sup>. In turn, the continuous loss of urine is called continuous UI and is the least frequent type of incontinence<sup>2</sup>. The association between UI and fecal incontinence is common, and a prevalence of 20% has been suggested<sup>5</sup>. Referent data for the Brazilian population, although still incipient, indicate that the prevalence of women with UI ranging from 30 to 43%<sup>6-9</sup>, out of which EUI was the most prevalent type<sup>8,10</sup>. The signs and symptoms most commonly identified among UI women are: urgency, pollakiuria, nocturia, nocturnal enuresis, urge incontinence, and loss of strength<sup>2,11</sup>. These signs and symptoms are used to guide the diagnosis and the therapy interventions in this population.

Due to its negative impact on the quality of life (QoL)<sup>11</sup>, high personal and governmental costs, and prevalence, UI has received a great deal of attention over the past few years, both concerning the creation of specific services to treat this population and to develop scientific research that may guide the effective treatment of such a disorder<sup>2</sup>.

Several factors may contribute to a rise in the prevalence of UI. In this context, the coming of age, responsible for the natural aging of the muscle fibers, may lead to hypotrophy or to the replacement of these by adipocits or conjunctive tissue cells, causing the muscles of the pelvic floor to be less effective in the continence process<sup>12,13</sup>. In addition, the decrease of estrogen during the post-menopause period harms the capturing of the urethral mucus, because of epithelial atrophy and the reduction of local vascularization<sup>14,15</sup>. Obesity, which is present in women going through pregnancy, or with an elevated body mass index (BMI), has also been identified as a risk factor for UI. The surcharge of the pelvic

floor may trigger an anatomic alteration and/or change its function of supporting the pelvic organs, as well as its function of controlling urination<sup>16</sup>. Another important risk factor is the family anamnesis, in view of the genetic characteristics that may alter the proportions between type I and II muscle fibers, and/or of the conjunctive tissue<sup>17,18</sup>. Vaginal deliveries also increase the risks towards UI due to the greater probability of lesions of the muscular and nerve fibers, as well as of the pelvic floor. Other risk factors often associated with UI are its presence during pregnancy or during postpartum<sup>19,20</sup>, probably due to the neuropathy resulting from the stretching and the pressure on the pudend nerve, which can start during pregnancy, worsen after the delivery, and slowly progress as the patient grows older<sup>21</sup>. According to Dolan et al.<sup>22</sup>, the presence of UI during pregnancy doubles the risk of UI, a condition which will later cause a negative impact on the QoL of these women<sup>22</sup>.

QoL has been an important issue in the health field. Studies have demonstrated that UI has a negative impact on the QoL of men and women alike<sup>23-25</sup>. Besides its importance for the individual, QoL has also been relevant to evaluate patients' degree of satisfaction concerning the results of the treatment. There already exist specific instruments to quantify QoL, including instruments specific to women with UI, already translated into Portuguese<sup>23,24</sup>. These take into account important aspects of the individual's daily life, such as their social relations both on a personal level and at work, the practice of physical activities, as well as occupational and leisure ones<sup>23,24</sup>. Social isolation and depression are common among UI women<sup>25</sup>. Nevertheless, it is important to highlight that UI patients with similar signs and symptoms may have different standards of QoL, which may relate to the different strategies adopted by each of them to face this problem. For instance, some women regard UI as a natural consequence of the process of aging, and start using sanitary napkins to minimize the impact of this disorder on their daily lives, whereas others seek medical treatment.

Historically, UI has been treated by means of surgery and medication, in spite of Arnold Kegel's suggestion of a series of exercises for the perineal muscles aimed at minimizing its symptoms in as early as 1948. The former approach has been going through changes, because the surgical treatment, in addition to being an invasive procedure, may bring about other complications, not to mention the lengthy post-operative period. Besides, there is no guarantee of the total success of the surgery, as recurrences may occur<sup>26,27</sup>. On the other hand, the effects of the therapy with medicine depend on their continuous use and may cause undesired side effects<sup>5</sup>. In 2005, the physical therapy treatment was supported by the International Continence Society as a first-rate option for UI, due to its low cost and risk, and its proven efficiency<sup>28-30</sup>.

Despite the support of physical therapy as the first option to treat UI<sup>30</sup>, there are relatively few public physical therapy services available to incontinent women in Brazil. Besides that, it is important to highlight that the authors of this study did not find any studies that describe the profile of female UI patients who sought physical therapy assistance. So, the aim of this study was to characterize the clinical, as well as the socio-demographic profiles of women suffering from UI who were treated in the Urogynecologic Physical Therapy public service, as well as to characterize the impact of UI on their QoL. The information obtained may be useful to adjust the dynamics of these services in regard to their suitability, and to disseminate this information, thus fostering the debate and favoring the creation of new services. Additionally, it will provide with a more accurate profile of the UI female patients treated by the Urogynecologic Physical Therapy service in Brazil.

## Methods : : : .

This research project is a retrospective transversal descriptive study which characterizes, both socio-demographically and clinically, the women who were treated in the Urogynecologic Physical Therapy Service of the Hospital das Clínicas – Universidade Federal de Minas Gerais (HC/UFMG), directed and supervised by urologists, urogynecologists, and gynecologists of the same service, from April 2006 to May 2007. The HC/UFMG complex prioritizes their public health service (Sistema Único de Saúde – SUS). The Urogynecologic Physical Therapy Service was created and approved by the DEPE/HC-UFMG under the protocol n. 04/2006, and the participants of the present study signed a term of free consent for participation form.

The aforementioned service was carried out over an eight weekly hour basis in 2006, and over a 16-weekly hour basis in 2007. The patients were treated by students of the UFMG physical therapy undergraduate program, and were duly trained and supervised by a physical therapist in gynecology and obstetrics in the undergraduate program in physical therapy /UFMG and by a volunteer physical therapist from HC/UFMG with experience in physical therapy and women's health.

Socio-demographic data (age, level of education, marital status), as well as clinical data and information about the impact of UI on the QoL of the women attended were collected from the diaries and from the physical therapy evaluation forms. The following clinical data were included: types of UI (clinically defined according to the UI classification of the International Continence Society<sup>1</sup>), UI signs and symptoms (pollakiuria, nocturia, nocturnal enuresis), urgency, urge incontinence, loss of strength, risk factors favoring UI (family history, number of pregnancies, type of delivery, urinary incontinence

during pregnancy, postpartum urinary incontinence), perineal function, which were operationalized by means of the Oxford scale<sup>14</sup>. This ordinal scale graduated the vagina's occlusion pressure and suspension by means of observation and bi-digital palpation of the vaginal canal. The values ranged from 0, for the absence of muscle contraction, to 5, indicating a strong and sustained pressure with vaginal suspension. The impact of UI in the QoL of the participants was operationalized by the *Quality of Life in Persons with Urinary Incontinence – IQoL*<sup>23</sup>. This instrument, translated into Portuguese (from Portugal) is well suited for the Brazilian reality. The IQoL was used in the Physical Therapy Service because the urogynecologists of the team had been using it. The scores of the IQoL range from 0 to 100%, with the lower scores reflecting a lower QoL. For the present study, the IQoL scores were categorized as low (scores 0 - 25%), moderate (25.1% - 50%), good (50.1% - 75%) and great (75.1% - 100%), in order to make it possible to describe the frequency distribution of these scores among the participants.

Descriptive statistics, by means of frequency distributions and proportions were applied in order to characterize the participants in relation to their socio-demographic and clinical variables. The data, collected by two independent researchers, were stored and analyzed by means of the *Excel (Windows XP)* software.

## Results : : : .

Since the Urogynecologic Physical Therapy Service is located in a public hospital, which prioritizes SUS (Public Health Service) users, during this period, 63 women complaining of urinary incontinence were evaluated and treated. Since five diaries and evaluation forms were incomplete, they were omitted; hence, the data analyzed referred to 58 patients.

In regards to the socio-demographic characteristics, 7% of the participants were between 20-39 yrs old, 81% between 40-59, and 12% were 60 or older. Sixty-two per cent were married, 19% single, seven% widows, and 12% divorced. Most of the participants (79%) had fully or partially attended primary school.

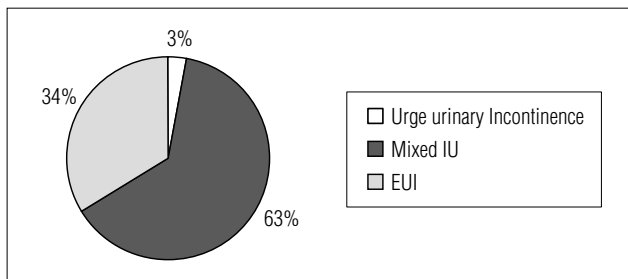
By taking the clinic characteristics into account, the distribution of UI cases treated by the service revealed that most of them were mixed (63%), followed by EUI cases (34%) (Figure 1). The urodynamic analysis was not conducted with all patients, so this is a clinic diagnosis. The incontinence of the patients treated ranged from 1 to 23 years (mean= 4.14 years; SD= 4.14 years; median= 3 years). Most of the women had not undergone any previous therapy interventions for UI (72%); 21% had undergone some type of surgical intervention (perineoplasty and/or specific techniques for UI treatment, such as Burch and Sling's operation); 5% had

previously taken medicine, and 2% the combination of surgery and medicines. The prevalence of fecal incontinence associated with UI was 16%.

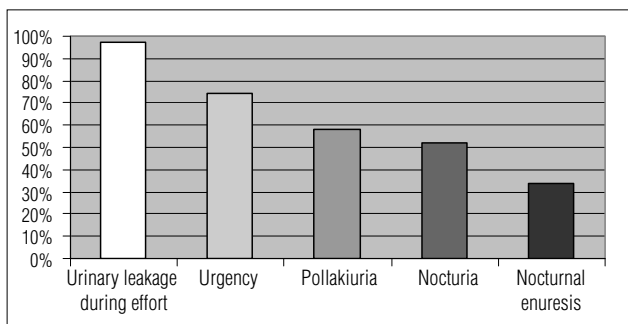
As for the UI signs and symptoms, the loss of strength was observed in 97% of the participants, and the main situations that caused urinary loss were coughing, sneezing, laughing, and carrying heavy items. Forty-six per cent of the participants just had a urinary surge, 28% and 14% total urinary loss, i.e., they had a great amount of urine loss associated with a feeling of complete emptying of the bladder. Seventy-four per cent of the participants reported urgency, 58% pollakiuria, 52% nocturia, and 34% nocturnal enuresis (Figure 2). In order to minimize the discomfort resulting from these symptoms, 64% of the participants reported the use of some sort of protection, out of which 29% referred to the use of sanitary napkins, 12% of towels, and 3% of toilet paper, and the remainder (17%), mentioned the varied use of these aides.

In regards to the risk factors for UI, 48% of the participants reported a negative family history, 47% a positive history, and 5% were not able to report. Considering the risk factors for UI is related to pregnancy and delivery, 21% showed UI during pregnancy, 21% during postpartum UI, and 14% showed a combination of these features (Figure 3). Among the participants who reported postpartum UI, 92% had had vaginal deliveries.

Eighty-eight per cent of the participants reported the occurrence of pregnancies, out of which 42% became pregnant from one to three times, and 36% from four to six times. In



**Figure 1.** Frequency-percentage distributions of the types of urinary incontinence.



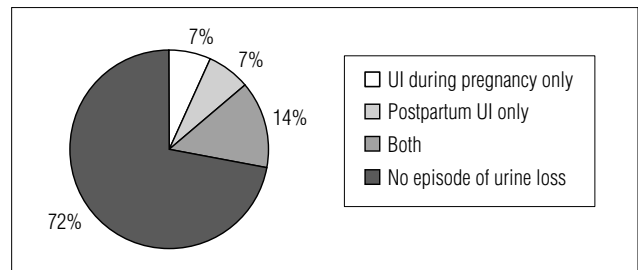
**Figure 2.** Frequency-percentage distributions of the signs and symptoms of urinary incontinence.

relation to the type of delivery, 54% of the participants only had vaginal deliveries, 12% only had cesareans, and 22% had undergone both methods.

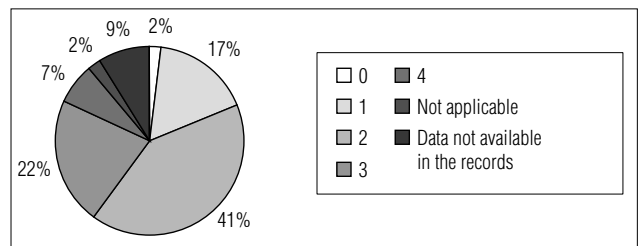
The frequency distribution of the perineal function revealed that most of the participants showed level 2 endovaginal pressure, followed by levels three and one (Figure 4). Finally, concerning their QoL, 52% of the participants showed scores over 50%, with 43% under 50%, and 5% did not complete the IQoL (Figure 5).

## Discussion

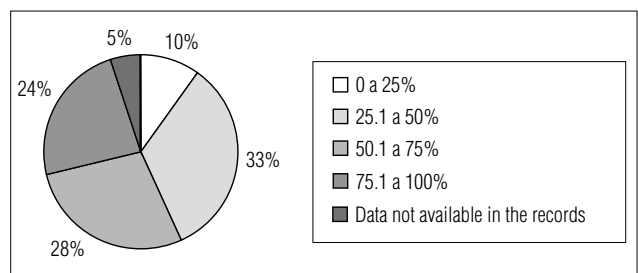
The results of the present study revealed that most women with UI treated in the Urogynecological Physical Therapy Service were 40-59 years old. These results were similar to those described by Mendonça et al.<sup>10</sup>, who investigated 410 Brazilian women who attended specialized services, and were found to have a greater prevalence of EUI cases among those aged between 41 to 50. On



**Figure 3.** Percentages of frequency distributions of gestational and post-partum urinary incontinence.



**Figure 4.** Percentages of frequency distributions of perineal functions according to the Oxford Scale.



**Figure 5.** Percentages of frequency distributions of the QoL questionnaire scores - IQoL.

the other hand, considering that the prevalence of UI increases with age<sup>31</sup>, one might expect a greater number of elderly women suffering from UI who attended this aforementioned service. The lack of information about UI being a natural consequence of the aging process, and that there is no treatment for it<sup>8,32</sup>, the presence of chronic pathologies among elderly women, as well as the relatively lesser importance given to this urinary disorder, compared to others, may on the whole or in isolation explain the predominance of women within this age group.

The lowest level of education observed in this investigated sample, similarly to the other studies involving the Brazilian population<sup>7-9</sup>, indicates that the professionals within this service must be aware of how to approach patients in a suitable manner. It should be kept in mind that part of the physical therapy treatment for UI, especially for mixed and those with urge incontinence included behavioral therapy, whose efficiency depends on the adequate understanding of the information on how to deal with the symptoms associated with the urinary incontinence<sup>33</sup>.

The literature refers to the EUI as being the prevalent UI type, followed by the mixed type, and by urge-incontinence<sup>8,9,34</sup>. The data presented here demonstrated that most participants suffered from mixed UI, followed by EUI, and few had urge-incontinence in isolation. The criterion for directing the patients towards physical therapy interventions may have contributed to this result. Because there is no global definition, to date, towards which type of EUI to select and whether their degree of diagnosis improves with the physical therapy intervention, the professionals within the service defined their own criteria to orient their patients for treatment. One of the criteria taken into account was how serious the EUI was, which was defined by the pressure of urine loss during the urodynamic study. Cases of EUI with pressure losses inferior to 90cm H<sub>2</sub>O were not routinely being directed for physical therapy treatments. This fact may have contributed to a greater prevalence of mixed UI cases in the investigated sample, which may not reflect the reality of the population of women with UI. Future studies which document the distribution of cure and recovery of EUI patients who underwent physical therapy treatments could be useful in the sense of defining objective criteria to orient patients for physical therapy treatment, which may represent an alternative for women suffering from serious EUI.

The prevalence of complaints about fecal incontinence associated with UI in the studied sample was similar to that described in the literature<sup>5</sup>. Therefore, there is the need to adequately prepare professionals so that they can offer patients a comprehensive approach that encompasses not only urogynecologic issues, but proctologic aspects as well.

Some authors refer to loss of strength<sup>2,21</sup>, urgency<sup>2,21</sup>, pollakiuria<sup>6</sup>, nocturia<sup>6</sup>, and nocturnal enuresis<sup>6</sup> as prevalent signs and symptoms of women with UI. In the present

study, all of these symptoms were detected, particularly in the loss of strength and urinary urgency (Figure 2). These results reveal the need to consider the above symptoms from the patient's own evaluation, so that the most suitable treatment for each case may be planned. Nevertheless, the data regarding signs and symptoms should not be overestimated, since they do not inform about their impact on the patients' QoL, which may be their ultimate goal. Future studies covering the relationships between the UI signs and symptoms and the affected women's QoL are necessary to develop more effective strategies in physical therapy interventions, considering the individual within their social context.

A high prevalence of the use of urinary tampons of various sorts was found, probably aimed at minimizing the discomfort caused by the urinary loss; and this finding contrasts with that by Silva and Santos<sup>7</sup>, who found a prevalence of tampon use in 25.9% out of the 77 investigated patients. This relatively low prevalence of tampon use may be related to the fact that the sample within that study was also composed of men, unlike in the present study, made up of only women. The behavior observed among the participants of the present study may reflect a strategy to consider UI, which indicates a need to analyze this and other possible strategies, which could orient us to a better understanding of how different women cope with their urinary disorders. Such knowledge may guide preventive measures against the aggravation of this urinary disorder, since the use of these procedures over long periods might induce epithelial lesions, as well as urinary infections, and over the long term, lead to the hyperactivity of the bladder detrusor muscles<sup>35</sup>.

About half of the participants in this study reported their UI family history. This result was similar to that of a previous investigation<sup>18</sup> and suggests the need of preventive work with women who have a positive UI family history, to prevent and/or to reduce the negative impact of this disorder on their lives.

It is known that weight gains during pregnancy<sup>16</sup> as well as during vaginal delivery<sup>7,21,22</sup>, may increase the risk of UI. In this study, 88% of the participants reported pregnancies, and 76% had had vaginal deliveries. These results corroborated the importance of considering these risk factors for UI and to reinforce the need for the preventive work with pregnant women who are planning to have vaginal deliveries, by advising them to keeping their body weight under control during this period. In addition, two thirds of the women who suffered from UI during pregnancy also had postpartum UI. Once again, the results revealed the importance of a preventive approach during pregnancy, through the awareness and training of the pelvic floor muscles<sup>19</sup>, so that UI can be less prevalent in later stages of their lives.

Like a previous study<sup>36</sup>, the perineal functions observed were low, indicating that women in this sample had low bodily perceptions and a low capacity of contracting the muscles of the pelvic floor. In spite of this, it must be highlighted that the women who showed the same degree of perineal functions reported different UI symptoms and these impacts on their daily lives. A possible factor associated with this variation could be the existence of different continence mechanisms, such as those which do not directly depend on the pelvic floor functions, but upon those of the urethral support systems and of the urethral sphincter closing system<sup>37,38</sup>.

Recent studies have documented the negative impacts of the UI on women's QoL<sup>11,25,39</sup>. Specific questionnaires tailored for women with UI, such as the IQoL used in this study, are important to evaluate the impact of this disease from the patient's viewpoint, as well as, their perceptions of the recovery after treatment<sup>24</sup>. In the present study, it was noted that a little more than half of the women had IQoL scores

above 50%, which indicated a relatively small impact of UI on their QoL. Such results may be due to the fact that, in this focused service, the women with serious symptoms of urinary loss were usually immediately to surgery, without going through the normal physical therapy treatments. Thus, the results reflected a specific criterion of the service that may not have been carefully analyzed, considering that they may not have mirrored the reality of the UI female population, as a whole. Although in the investigated sample, the impact of the UI on their QoL was relatively small, this did not diminish the importance of the patients' complaints; no matter how underestimated, the impact of the UI on their QoL was considered.

These results present will contribute to direct the approaches of the evaluations and preventive and rehabilitating interventions for women with UI in this and in other services, along with broadening the knowledge of the UI female patients' profiles who attended the public services which were offered by the Urogynecologic Physical Therapy Services

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