

Research Article

Prevalence of Urinary Incontinence and Impact on Quality of Life: Observational Study in a Higher Education Institution

Nathalia de Souza Abreu-Freire^{1*}, Liliana Fajardo Oliveira¹, Gilselaine Carvalho Landim², Layane Carrero Amaral², Lidyanne Ilidia da Silva³

¹Physiotherapy Course, Faculty of Medical and Health Sciences, Juiz de Fora, Brazil

²Terezinha de Jesus Hospital and Maternity Hospital, Juiz de Fora, Brazil

³Physiotherapist, Juiz de Fora, Brazil

***Corresponding author:** Nathalia de Souza Abreu Freire, Professor, Medical and Health Sciences School of Juiz de Fora, Federal University of Juiz de Fora, Physiotherapist, Terezinha de Jesus Hospital and Maternity, Minas Gerais, Brazil, E-mail: nathyfst@gmail.com

Received: 12 January 2021; **Accepted:** 20 January 2021; **Published:** 06 February 2021

Citation: Nathalia de Souza Abreu-Freire, Liliana Fajardo Oliveira, Gilselaine Carvalho Landim, Layane Carrero Amaral, Lidyanne Ilidia da Silva. Prevalence of Urinary Incontinence and Impact on Quality of Life: Observational Study in a Higher Education Institution. Archives of Physiotherapy and Rehabilitation 4 (2021): 005-011.

Abstract

Introduction: Urinary incontinence is more common in women due to anatomical reasons, as well as births and pregnancies, that weaken the perineal muscles, negatively influencing quality of life.

Objective: To identify the prevalence of UI among women in an academic environment and, among incontinent, to assess the impact of incontinence on quality of life.

Materials and methods: Observational and cross-sectional study with a sample of women linked to a higher education institution. For data collection, an online questionnaire was made available to volunteers via Google Forms to be answered anonymously.

Results: 63 women were interviewed with a prevalence of urinary incontinence of 36.5% among respondents. Among incontinent, there was mild incontinence in

78.2% and moderate in 21.7% and negative impact on personal relationships in 47.8% of them.

Conclusion: The results of the present study showed a prevalence of UI equal to 36.5% among women inserted in an academic environment. This percentage can be considered high due to the average age of the sample and the context in which these women are inserted. Regarding the impact of urinary losses on quality of life, almost half of the incontinent sample reported that the losses interfere with personal life. Despite this, they perceived their health status positively.

Keywords: Urinary incontinence; Women's health; Quality of life

1. Introduction

According to the ICS (International Continence Society), urinary incontinence (UI) is characterized by any loss of involuntary urine associated or not with efforts [1]. It is more frequent in women, due to anatomical reasons and hormonal changes, as well as births and pregnancies that can generate overload and favor structural damage to the pelvic floor tissues [2]. Incontinence can be classified into (i) stress urinary incontinence (SUI), when there is involuntary loss of urine during efforts, (ii) urgent urinary incontinence (UUI), when there is involuntary loss of urine through urination and (iii) mixed urinary incontinence (MUI), when there is a combination of urinary loss on exertion and urinary urgency [3-5].

UI is a multifactorial condition and the risk factors most commonly identified among women include anatomical and obstetric factors, advanced age, traumatic injury and overload in the pelvic floor tissues, menopause and medication use, in addition to smoking, obesity, caffeine

consumption and sedentary lifestyle or intense physical activity [6-7]. There is evidence that suggests urinary losses among young and nulliparous women practicing physical exercise due to the excessive burden that some activities cause on the lumbopelvic segment [8].

The prevalence of urinary incontinence varies according to the sample studied. Studies indicate that 21% to 45% of the puerperal women have UI [6, 7, 9] and that 14% to 57% of women aged 20 to 89 years present or will present this problem at some point in their lives [10-13]. Among elderly women, losses are so frequent that sphincter incontinence is one of the most important geriatric syndromes [14]. Among young women, prevalence studies are less common and a study was found with a sample composed of high school and university students, which demonstrated that young female athletes who participate in high-impact sports may be at greater risk of urinary incontinence [15]. Although urinary losses negatively influence urogynecological health and quality of life, there is a high percentage of women who are unaware of the available therapies and who believe that urinary losses are due to the natural aging process [3, 4].

Considering this context, it becomes important to identify possible urinary losses so that women are properly oriented about the clinical condition, the need for evaluation and diagnosis and the possibilities of treatment. In addition, it is possible to believe that women with a high socio-cultural level, including those linked to higher education institutions in health courses, have easier access to information and therapies capable of minimizing possible losses and favoring genitourinary health. Thus, the objective of this study was to identify the prevalence of urinary incontinence among women inserted in an academic environment

and, among incontinents, to assess the impact of incontinence on quality of life.

2. Materials and Methods

2.1 Design and ethical aspects

This is an observational, cross-sectional study, carried out in accordance with the ethical guidelines and the Helsinki Declaration of 1975 after approval by the Research Ethics Committee of the Faculty of Medical and Health Sciences of Juiz de Fora (opinion number 3.630.601). All participants signed an informed consent form.

2.2 Study period and location

Data collection took place from October to November 2019 on the premises of the Faculty of Medical and Health Sciences of Juiz de Fora and also on a virtual basis.

2.3 Eligibility and non-inclusion criteria

Female volunteers, at least 18 years old, students, teachers and collaborators from the Faculty of Medical and Health Sciences of Juiz de Fora were eligible. Women who reported central or peripheral neurological diseases that could impair sphincter control were not included.

2.4 Sample size and characteristics

Sample characteristics and size were determined for convenience.

2.5 Outcomes

The primary outcome was involuntary loss of urine, according to the volunteer's report. Secondary outcomes were frequency and volume of urinary loss assessed by the Incontinence Severity Index (ISI) questionnaire [16] and impact of incontinence on quality of life, as

measured by the King's Health Questionnaire (KHQ) [17].

2.6 Research procedures

For data collection, an online questionnaire was made available to volunteers via Google Forms, to be answered anonymously. This questionnaire was composed of 36 questions and divided into sections. The first contained sociodemographic information; in the second 2 questions from ISI and in the third the 30 questions from KHQ. Sections 2 and 3 were only answered by women who claimed to experience urinary losses in section 1. ISI is a questionnaire that assesses the frequency of losses and the amount of urine lost. Its score makes it possible to classify the UI as mild (1 to 2) mild, moderate (3 to 6), severe (8 to 9) and very severe (12) and is calculated by multiplying the results of the two questions.

The KHQ, in turn, is a questionnaire widely used in scientific research to investigate the impact of UI on quality of life. It consists of 21 questions divided into 9 domains, namely: general health perception (one item), impact of urinary incontinence (one item), limitations of daily activities (two items), physical limitations (two items), social limitations (two items), personal relationship (three items), emotions (three items) and sleep / mood (two items), severity measures (four items) Scores are calculated by mathematical formulas where the score for each domain ranges from 0 to 100, so that the higher the score obtained, the worse the quality of life related to that domain. Participants were contacted in person, during their class hours or work at college. On the occasion, they received explanations related to the research, clarified their doubts and were invited to participate as volunteers. Those who agreed, signed a Free and Informed Consent Form and informed the

phone number to receive the virtual questionnaire via the WhatsApp messaging application.

2.7 Analysis of results

The data were presented using absolute and relative frequencies. All analyzes were performed using the GraphPadPrism ® 8.0 program (GraphPad Software Inc., San Diego, CA, USA).

3. Results

Sixty-three women answered the questionnaire with an average age of 25 years and an average of two children.

Of this universe, 23 women reported having urinary incontinence (36.5%) and only 5 of them reported having children. Regarding the result of the ISI questionnaire, there was mild incontinence in 18 (78.2%) participants and moderate in 5 (21.7%). Approximately half of the incontinent women (47.8%) reported their health status at that time as normal and only (4.3%) classified it as poor. Eleven women (47.8%) reported UI interference in their personal lives. Regarding the KHQ domains, there was a greater impact on personal relationships and on the general perception of health.

	Mean ± Standard Deviation	Minimum maximum
General health perception	34.4 ± 20.6	0 – 75
Impact of urinary incontinence	16.7 ± 17	0 – 33
Task performance limitation	5.6 ± 10.6	0 – 33
Physical limitation	6.9 ± 12.9	0 – 33
Social limitation	10.6 ± 6.9	0 – 22
Personal relationships	27.8 ± 15.3	0 – 50
Emotions	5.1 ± 10.9	0 – 44
Sleep / Energy	20.1 ± 19	0 – 67
Severity measures	21.2 ± 16.3	0 – 58

Table 1: Result of the King's Health Questionnaire (KHQ) (n = 23).

4. Discussion

The present study showed that urinary losses were prevalent among volunteers, including among young women, corroborating what is usually observed in clinical practice. The prevalence of urinary losses is highly variable according to the profile and size of the sample, as well as the lack of uniform definitions, the lack of long-term follow-up of the studied populations, ignorance of the natural history of urinary incontinence and the different types of questionnaires applied. In this research, the prevalence was 36.5%, affecting especially

young and nulliparous women. It is likely that young and nulliparous women do not present dysfunctions caused by pelvic floor overloads or that eventual overloads were not sufficient to cause structural damage.

For this reason, it is believed that the genetic weakness of the connective tissue, the lower location of the pelvic floor and the reduced number of muscle fibers in this region may explain the incontinence in these women [18]. Regarding the impact of urinary losses on the

volunteers' lives, despite the fact that most KHQ domains do not present significant values, it was found that incontinence affects quality of life. It is possible that these women live relatively well with the losses because they believe it is "normal", perhaps because women close to them experience them too. In addition, we must point out that the responses may have been influenced by the shame of talking about the topic, highlighting the need to address this issue more frequently in order to be demystified, showing women that urinary loss should not be a cause for shame. It is a problem that can be prevented and, when present, needs to be treated [19-21].

It is noteworthy that identifying urinary incontinence, especially in young women, is important with regard to health education with a focus on autonomy and quality of life. Furthermore, based on the identification of the problem, it is possible to guide them to better live with urinary losses until therapeutic measures become effective. It is necessary to point out limitations of this study, such as the small sample size, the fact that the volunteers were not asked about the performance of activities and intense physical exercises, so that it was not possible to relate urinary losses to possible efforts of greater magnitude.

Another issue that could have been addressed is the knowledge that these volunteers had about urinary incontinence, its possible risk and therapeutic factors. Despite the relatively small sample, this study provided interesting information about the prevalence of UI and the impact on quality of life among volunteers in an academic context. However, so that these data can be generalized to a larger population, it is encouraged to conduct studies with larger samples submitted to more comprehensive and in-depth questionnaires, in order to

better understand the factors related to urinary losses, lifestyle and the knowledge that women in a Higher Education Institution have about their incontinence.

5. Conclusion

The results of the present study showed a prevalence of UI of 36.5% among women inserted in an academic environment. This percentage can be considered high due to the average age of the sample and the context in which these women are inserted. As for the impact of urinary losses on quality of life, almost half of the incontinent sample reported that the losses interfere with personal life. Despite this, they perceived their health status positively.

References

1. Abrams P, Andersson KE, Birder L, et al. Evaluation and treatment of urinary incontinence, pelvic organ prolapse, and fecal incontinence. *Neurourology and Urodynamics* 29 (2010): 213-240.
2. Caetano AS, Tavares MCGCF, Lopes MHBM, et al. Influence of physical activity on the quality of life and self-image of incontinent women. *Revista Brasileira de Medicina do Esporte* 15 (2009): 93-97.
3. Correia S, Dinis P, Rolo F, et al. Prevalence, treatment and known risk factors of urinary incontinence and overactive bladder in the noninstitutionalized Portuguese population. *International Urogynecology Journal Pelvic Floor Dysfunction* 20 (2009): 1481-1489.
4. Fernandes S, Coutinho EC, Duarte JC, et al. Quality of life in women with urinary incontinence. *Revista de Enfermagem Referência* 5 (2015): 93-99

5. Weber AM, Abrams P, Brubaker L, et al. The standardization of terminology for researchers in female pelvic floor disorders. *International Urogynecology Journal* 12 (2001): 178-186.
6. Leroy LS, Lúcio A, Lopes MH. Risk factors for postpartum urinary incontinence. *Revista da Escola de Enfermagem da USP* 50 (2016): 200-207.
7. Fritel X, Tsegan YE, Pierre F, et al. "EDEN Mother-Child Cohort Study Group": Association of postpartum depressive symptoms and urinary incontinence. A cohort study. *European Journal Obstetrics Gynecology Reproductive Biology* 198 (2016): 62-67.
8. Marques LP, Schneider IJC, Giehl MWC, et al. Demographic factors, health conditions and life habits associated with urinary incontinence in the elderly in Florianópolis, Santa Catarina. *Revista Brasileira de Epidemiologia* 18 (2015): 595-606.
9. Wesnes SL, Hunskaar S, Bo K, et al. The effect of urinary incontinence status during pregnancy and delivery mode on incontinence postpartum. A cohort study. *British Journal of Obstetrics and Gynaecology* 116 (2009): 700-707.
10. Rincon AA. Caracterización clínica de la incontinencia urinaria y factores asociados em usuarias de la Unidad de la Mujer del Centro de Salud Familiar "Ultra estación" em la ciudad de Chillán, Chile. *Revista Médica de Chile [Internet]* 143 (2015): 203-212.
11. Bonfim IQM, Soutinho RSR, Araujo EN. Comparison of the quality of life of women with urinary incontinence treated in the public and private health system. *UNOPAR Científica. Ciências Biológicas e da Saúde* 16 (2014): 19-24.
12. Pedro AF, Ribeiro J, Soler ZASG, et al. Quality of life of women with urinary incontinence. *Revista Eletrônica Saúde Mental Álcool Drogas* 7 (2015): 63-70.
13. Senra C, Pereira GM. Quality of life in women with urinary incontinence. *Revista Associação Médica Brasileira* 61 (2015): 178-183.
14. Reis RB, Cologna AJ, Martins ACP, et al. Incontinência urinária no idoso. *Acta Cir Bras* 18 (2003): 47-51.
15. Carls C. The prevalence of stress urinary incontinence in high school and college-age female athletes in the midwest: implications for education and prevention. *Urologic Nursing* 27 (2007): 21-24.
16. Pereira VS, Santos JYC, Correia GN, et al. Translation and validation into Portuguese of a questionnaire to assess the severity of urinary incontinence. *Revista Brasileira de Ginecologia e Obstetrícia* 33 (2011): 182-187.
17. Fonseca ESM, Camargo ALM, Castro RA, et al. Validation of the quality of life questionnaire (King's Health Questionnaire) in Brazilian women with urinary incontinence. *Revista Brasileira de Ginecologia e Obstetrícia* 27 (2005): 235-242.
18. Bo K, Borgen JS. Prevalence of stress and urge urinary incontinence in elite athletes and controls. *Medicine & Science in Sports & Exercise* 33 (2001): 1797-1802.
19. Pitangui ACR, Silva RG, Araújo RC. Prevalence and impact of urinary incontinence on the quality of life of institutionalized elderly women. *Revista Brasileira de Geriatria e Gerontologia* 15 (2012): 619-626.
20. Santos ES, Caetano AS, Tavares MCGCF, et al. Urinary incontinence among physical education

students. Revista Escola de Enfermagem USP
42 (2009): 307-312.
21. Silva APM, Santos VLCG. Prevalence of

urinary incontinence in hospitalized adults and
elderly. Revista Escola de Enfermagem USP 39
(2005): 36-45.



This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC-BY\) license 4.0](https://creativecommons.org/licenses/by/4.0/)