



# Urinary incontinence in patients receiving medical care in selected health service facilities in the Łódź region, Poland

Nietrzymanie moczu wśród pacjentek korzystających z opieki medycznej w wybranych placówkach na terenie województwa łódzkiego

Małgorzata Widawska<sup>1,C-D,F</sup>, Adam Rzeźnicki<sup>1,A,C-D,F</sup>, Paweł Błoch<sup>2,B,D,F</sup>, Jakub Tchórzewski<sup>3,D,F</sup>,  
Dominika Cichońska-Rzeźnicka<sup>1,C-F</sup>, Karolina Tchórzewska<sup>3,D,F</sup>, Jan Krakowiak<sup>1,E-F</sup> ✉

<sup>1</sup> Department of Social Medicine, Medical University, Łódź, Poland

<sup>2</sup> Faculty of Health Sciences, Medical University, Łódź, Poland

<sup>3</sup> Faculty of Medicine, Medical University, Łódź, Poland

A – Research concept and design, B – Collection and/or assembly of data, C – Data analysis and interpretation, D – Writing the article, E – Critical revision of the article, F – Final approval of article

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## Abstract

**Introduction and Objective.** Female physiological urinary incontinence may occur in the reproductive age, but the incidence of uncontrolled urination increases in the postmenopausal period. Urinary incontinence is playing an increasingly important social and economic role. In recent years, there has been a marked increase in the number of patients affected by incontinence symptoms presenting to the doctor due to urinary tract diseases. The main aim of the study was to investigate the prevalence of urinary incontinence among patients receiving medical care in selected institutions located in the Łódź region of Poland, and factors increasing risk of the disease.

**Materials and method.** The study was conducted between January – September 2021 among women receiving health care in selected facilities in the Łódź region. The study was conducted with the use of the authors' original, anonymous survey questionnaire consisting of 43 questions. The patients were asked to complete the survey questionnaire while waiting for an appointment at the doctor's surgery. Completed survey questionnaires were returned by 117 women.

**Results.** Of the 117 interviewed women, the majority, i.e. 63 people (53.9%), admitted that they had noticed the problem of incontinence. Of these 63 women, the largest number, i.e. 25 (f=0.4), admitted to losing urine 2–3 times a week.

**Conclusions.** In view of the high prevalence of urinary incontinence among the studied women, there is a need to take action to disseminate knowledge about risk factors and methods of prevention of incontinence.

## Key words

urinary incontinence, quality of life

## Streszczenie

**Wprowadzenie i cel pracy.** Dolegliwości związane z fizjologicznym oddawaniem moczu u kobiet pojawić się mogą w wieku rozrodczym, jednakże częstość występowania niekontrolowanego oddawania moczu wzrasta w okresie pomenopauzalnym. Nietrzymanie moczu ma coraz większe znaczenie w aspekcie społecznym i ekonomicznym. W ostatnich latach zaobserwowano wyraźny wzrost liczby pacjentek dotkniętych inkontynencją, które zgłaszały się do lekarza z powodu chorób układu moczowego. Głównym celem pracy było poznanie rozpowszechnienia nietrzymania moczu wśród pacjentek korzystających z opieki medycznej w wybranych placówkach ochrony zdrowia zlokalizowanych na terenie województwa łódzkiego oraz czynników zwiększających ryzyko wystąpienia objawów choroby.

**Materiał i metody.** Badanie przeprowadzono w okresie od stycznia do września 2021 roku wśród kobiet korzystających z opieki zdrowotnej w wybranych placówkach ochrony zdrowia na terenie województwa łódzkiego. Zrealizowano je z wykorzystaniem autorskiego, anonimowego kwestionariusza ankiety składającego się z 43 pytań. Pacjentki były proszone o wypełnienie ankiety w czasie oczekiwania na wizytę w gabinecie lekarskim. Wypełnione kwestionariusze ankiet oddało 117 kobiet.

**Wyniki.** W grupie 117 ankietowanych kobiet większość, to jest 53,9% (63 osoby), przyznała, że zauważyła u siebie problem inkontynencji. W grupie 63 kobiet, które podały, że występuje u nich nietrzymanie moczu, najwięcej osób, tj. 25 (f = 0,4), przyznało, że gubi mocz 2–3 razy w tygodniu.

**Wnioski.** W związku z dużym rozpowszechnieniem nietrzymania moczu wśród badanych kobiet istnieje potrzeba podjęcia działań zmierzających do rozpowszechnienia wiedzy na temat czynników ryzyka oraz metod przeciwdziałania inkontynencji.

## Słowa kluczowe

nietrzymanie moczu, jakość życia

✉ Address for correspondence: Jan Krakowiak, Department of Social Medicine, Medical University, Łódź, Poland  
E-mail: jan.krakowiak@umed.lodz.pl

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## INTRODUCTION

In professional literature there are several classification systems regarding symptoms of lower urinary tract dysfunctions, as well as different types of incontinence. The most well-known and common system is the one adopted by the International Continence Society (ICS) in 2002 (modified in 2009). According to the accepted definition provided by the Society, urinary incontinence is a condition in which hygiene problems and impaired interpersonal contact are caused by the inability to maintain control over urination [1]. From the pathogenesis perspective, urinary incontinence is not a separate disease but a symptom that may occur in pathologies of the lower urinary tract or nervous system, and in functional disorders. These include developmental malformations, urinary fistulas, spinal cord injuries, meningo-spinal hernias and many others [2].

Female physiological urinary incontinence may occur in the reproductive age, but the incidence of uncontrolled urination increases in the post-menopausal period. Urinary incontinence is playing an increasingly important social and economic role, and in recent years, there has been a marked increase in the number of patients affected by incontinence symptoms presenting to the doctor due to urinary tract diseases [3].

According to the ICS, the following types and causes of urinary incontinence are distinguished:

- stress urinary incontinence (SUI) resulting from excessive mobility of the bladder neck or sphincter mechanism incompetence;
- urge urinary incontinence (UI) due to over-reactivity of the detrusor muscle or poor bladder compliance;
- overflow incontinence due to underactivity of the detrusor muscle or an obstruction to the outflow;
- extra-urethral incontinence due to a fistula or malformation [4].

The problem of urinary incontinence has taken a global form with an increasing number of women worldwide experience impaired social, occupational, family and sexual functioning due to urinary incontinence [5, 6, 7]. The prevalence of urinary incontinence varies from country-to-country and is characterised by wide variations. The problem more often affects female residents of developing countries [8]. It is estimated that in highly developed countries, the problem affects about 10% of the population, and in the group of women over 65 years of age, as many as 35–45% suffer from this problem.

It is worth noting that urinary incontinence does not affect only women. It is estimated that about 423 million people (303 million women and 121 million men) suffer from this disease worldwide [9, 10]. It can be speculated that with increasing life expectancy and the proportion of older people in the population, the prevalence of urinary incontinence will increase [11, 12].

In the Polish female population, the prevalence of urinary incontinence is estimated to be between 4–6 million, the majority of whom are diagnosed with stress urinary incontinence (63%), urgency urinary incontinence (19–25%) and mixed incontinence (12–19%). Problems with urinary control in women may occur in the reproductive age, but the incidence increases in the post-menopausal period [13, 14, 15]. The problem of urinary incontinence represents

a significant challenge for the health care system. Women suffering from urinary incontinence account for 70–80% of patients presenting to the doctor due to urinary tract diseases. Particularly noteworthy is the fact that, due to its high prevalence and various types of symptoms, urinary incontinence is classified as an ailment that negatively and strongly affects the psychological and physical condition of female patients [16, 17].

The main aim of the study was to discover the prevalence of urinary incontinence among patients receiving medical care in selected institutions located in the Łódź Province of Poland, and factors increasing the risk of the disease. Another aim was to assess women's opinions on the walks of life disturbed by urinary incontinence.

## MATERIALS AND METHOD

The study was conducted between January – September 2021 among women receiving health care in selected facilities in the Łódź region of Poland. The study was conducted with the use of the authors' original, anonymous survey questionnaire consisting of 43 questions. The questionnaire was divided into three parts: the first part concerned the respondents' demographics, the second was exclusively for women affected by incontinence, and the third part dealt with the impact of incontinence on the quality of life. The visual analogue scale (VAS) was used to subjectively assess the impact of urinary incontinence on quality of life.

The patients were asked to complete the survey questionnaire while waiting for an appointment at the doctor's surgery. Completed survey questionnaires were returned by 117 women. The period of the COVID-19 pandemic significantly affected the number of female patients who took part in the study.

Prior to the survey, consent was obtained from both the managers of the facilities where the survey was conducted and the patients who took part in the survey. All female respondents were informed of the anonymity of the study, learned for what purposes the data collected during the study would be used, and that participation was voluntary. The collected empirical material was entered into an MS Excel spreadsheet and then subjected to a descriptive and statistical analysis. The Chi-square test was used to examine the relationship between variables. In the calculations,  $p < 0.05$  was adopted as the significance level.

## RESULTS

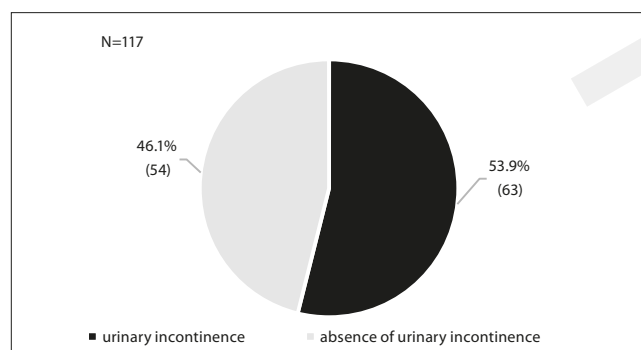
Of the total number of respondents, i.e. 117, women aged 41–50 years made up the largest group, i.e. 31 (26.5%). The largest number of women i.e. 51 (43.6%), had a university degree. The majority of the respondents, 78 people (66.7%), lived in cities with more than 20,000 inhabitants. The largest group (39.3%) were women with white-collar employments (Tab. 1).

More than half of the female patients, 61 people (52.1%), were overweight or obese. Most respondents (68.4%) had given birth to at least one child (Tab. 1).

Of the 117 interviewed women, the majority, i.e. 63 people (53.9%), admitted that they had noticed a problem with incontinence (Fig.1).

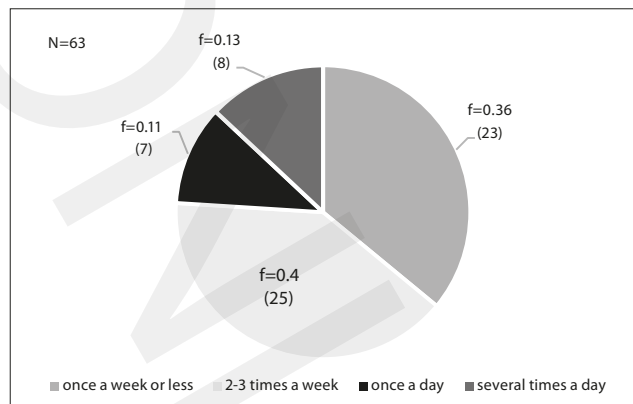
**Table 1.** Characteristics of the respondents

Age	N	%
below 20 years	14	11.9
21–30 years	21	17.9
31–40 years	10	8.5
41–50 years	31	26.5
51–60 years	12	10.2
over 60 years	29	24.8
Total	117	100.0
Education	N	%
primary	13	11.1
vocational	20	17.1
secondary	33	28.2
university	51	43.6
Total	117	100.0
Place of residence	N	%
village	16	13.7
town with a population below 20,000	23	19.6
town with a population between 20,000–100,000	41	35.1
city with a population above 100,000	37	31.6
Total	117	100.0
Employment/type of work performed	N	%
manual	30	25.6
white-collar	36	39.3
unemployed	41	35.1
Total	117	100.0
Body weight	N	%
underweight	1	0.9
normal	55	47.0
overweight	49	41.9
obese	12	10.2
Total	117	100.0
Number of births	N	%
1	37	31.6
2	33	28.2
3	12	10.3
4	4	3.4
did not give birth	31	26.5
Total	117	100.0



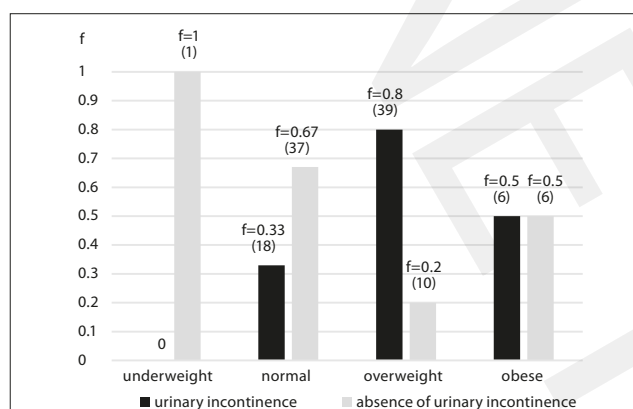
**Figure 1.** Prevalence of urinary incontinence among respondents

Of the 63 women who admitted to experiencing urinary incontinence, the largest number, i.e. 25 (f=0.4), admitted to losing urine 2–3 times a week (Fig. 2).



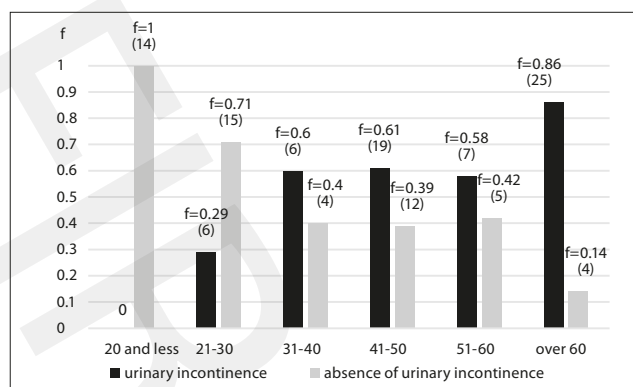
**Figure 2.** Frequency losing urine by female respondents

In the group of 49 overweight women, the majority, i.e. 39 respondents (f=0.80), admitted to experiencing urinary incontinence. Of 55 respondents with normal body weight, 18 women admitted to experiencing urinary incontinence and the number was statistically significantly lower (f=0.33) – p<0.05; Chi2=24.18 (Fig. 3).



**Figure 3.** Urinary incontinence by body weight of respondents

Of 29 respondents aged above 60 years, the majority, i.e. 25 (f=0.86) reported urinary incontinence. 14 respondents below the age of 20 years were not affected by incontinence. The observed differences were statistically significant – p<0.05; Chi2=37.71 (Fig. 4).



**Figure 4.** Urinary incontinence by age of respondents

Of 46 female respondents who were white-collar employees, the majority, i.e. 28 (f=0.61) noticed urinary incontinence. Among 30 respondents who had manual jobs, the number of women affected by incontinence was the lowest, i.e. 13 (f=0.43). The observed differences were statistically insignificant –  $p>0.05$ ;  $\chi^2=2.30$  (Fig. 5).

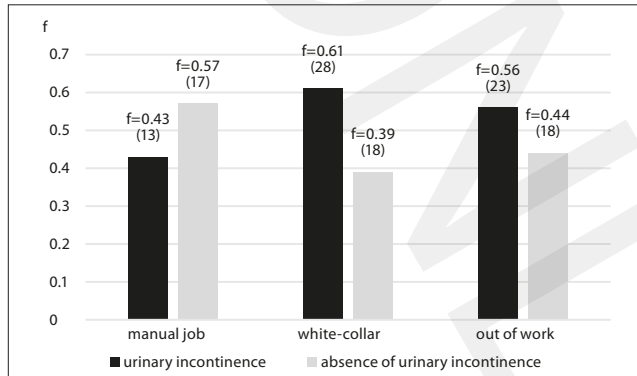


Figure 5. Urinary incontinence by type of employment of the respondents

Among 31 women who had never given birth, the vast majority, i.e. 27 (f=0.87) did not observe symptoms of urinary incontinence. Of 37 respondents who had given birth to one child, more than half, i.e. 21 people (f=0.54) admitted that they had urinary incontinence. All women who had given birth to at least three children observed symptoms of urinary incontinence ( $p<0.001$ ;  $\chi^2=42.12$ ) (Fig. 6).

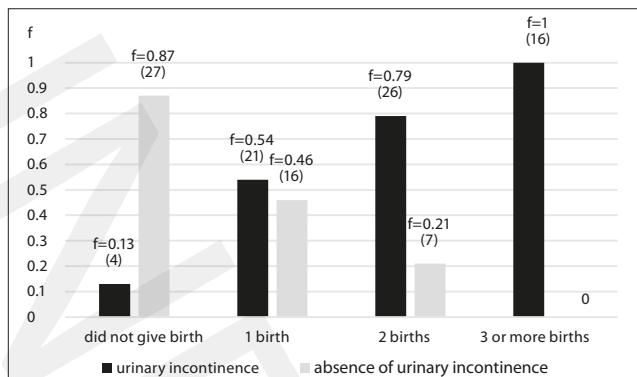


Figure 6. Urinary incontinence by number of births

Of the total number of women with and without symptoms of urinary incontinence, 41 (f=0.57) and 36 (f=0.43) respondents, respectively, believed that urinary incontinence disturbs their sexual sphere. In the group of women with incontinence, one in five respondents (f=0.21, 23 women) admitted that the disease disrupts her family life, but with regards to the group of women without incontinence symptoms, only one respondent gave such an answer. The observed differences were statistically significant –  $p<0.01$ ;  $\chi^2=18.2$  (Fig. 7).

Of the total number of respondents, the highest number, i.e. 29.9% (35 women), claimed that urinary incontinence affected their quality of life. They scored level 7 on the 10-degree VAS Scale (Fig. 8).

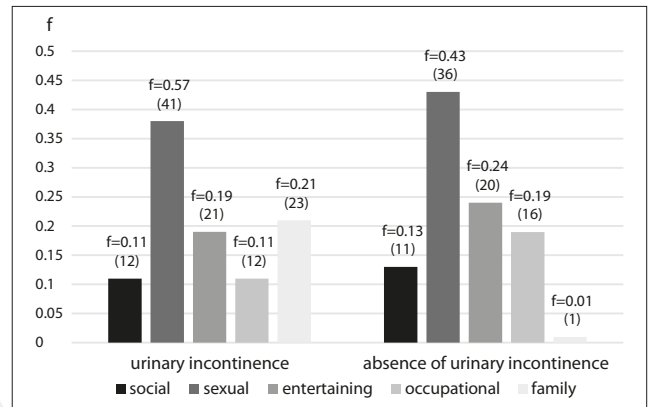


Figure 7. Respondents' opinions on the areas of life affected by urinary incontinence according to the presence of incontinence symptoms (more than one answer possible)

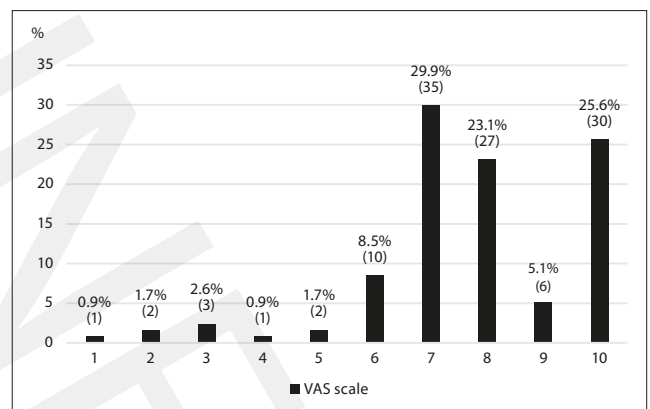


Figure 8. Impact of urinary incontinence on quality of life in the opinion of female respondents

## DISCUSSION

Due to its embarrassing nature, urinary incontinence lowers self-esteem and evokes a sense of incomplete social value. Therefore, quality of life is often impaired in every sphere, from social to sexual [18]. Many women avoid going out, give up work and social contacts because of the psychological barrier associated with the risk of losing urine. Women give up practising sports or limit physical activity to exercising at home or only going for walks for fear of wetting underwear or revealing an unpleasant odour in public places. In frequent cases, this leads to complete isolation and even to depression [19].

A study conducted in 2011 by Prażmowska et al. on 170 women above the age of 45 years receiving outpatient care at an outpatient clinic and hospital in Mielec, Poland, showed that the quality of life of women with incontinence was reduced. The specificity of urinary incontinence, in particular its intimate nature and embarrassing symptoms, reduces the level of life satisfaction in all analysed aspects of life, i.e. physical activity, emotional state, daily work, social activity, general health status, and also contributed to changes in the health status [20]. In the current study, the female respondents clearly indicated that urinary incontinence considerably affected functioning in all spheres of life, with sexual life being the most affected sphere. Both patients with and without incontinence indicated this area of life as most disturbed by the disorder.

A 2014 study by Stadnicka in a group of 213 patients reporting symptoms of incontinence, aimed to show the psychosocial consequences of incontinence among women. The study revealed that the problem of incontinence also affects middle-aged women – 12.7% were 40-years-old or younger, median age – 33 years. The authors note that the majority of the surveyed women declared that urinary incontinence symptoms affected their well-being to a great (33.8%) or very great (37.1%) extent. In the current study, the highest percentage of incontinence was reported among women aged 41–50 years. Almost one in five women reporting symptoms of urinary incontinence was aged 40 years or younger.

According to the respondents without incontinence symptoms taking part in the study, the condition did not disturb family life. A different opinion was held by women who reported problems with incontinence. In this group, one in five respondents stated that family life was disrupted by the disease. Obtained results are similar to those received by Stadnicka et al., who observed that many women hide their symptoms even from their closest relatives, perceiving them as embarrassing. In the above study, more than 16% of women admitted that they do not talk to their husbands about incontinence problems, or even hide them from them (13% of respondents) [21].

In 2017, Klimaszewska K. and Bartusek M. conducted a study on the socio-economic aspects of urinary incontinence. Its aim was to analyse the costs associated with the diagnosis and treatment of urinary incontinence incurred by both the payer – the National Health Fund and patients. The analysis showed that due to numerous limitations of public funding, it is not possible to cover the costs of all elements of diagnosis, treatment and rehabilitation necessary for patients, which in turn forces them to purchase the services with their own money. As a result, there is a risk of patients dropping out of treatment, which results in a deterioration of quality of life. Data presented in the study show that doctors providing primary health care in Poland still do not perceive the threat of this disease, which might be worrying as the prevalence of incontinence symptoms in the population is high. It is estimated that around 3–4 million citizens are affected. The authors emphasised the increasing importance of the economic aspect of urinary incontinence for the Polish health care system [22].

In a study conducted for the purpose of the above analysis, it was observed that more than half of the surveyed women observed symptoms of urinary incontinence in themselves. The majority of the respondents were also aware that the condition decreases the quality of life and disrupts all walks of functioning of a particular respondent. Such results imply that urinary incontinence is becoming a more and more serious challenge for public health in Poland, both in health and economic terms.

Analysis of literature on the impact of urinary incontinence on women's quality of life showed that this condition reduces work activity, decreases the emotional state, has a negative impact on daily work, and disrupts social activity manifested as limited social contacts, worsening of relationships with the partner and family. In addition, it makes performing daily activities, physical activity and travelling freely more difficult. Women with incontinence complained of reduced levels of life satisfaction [23, 24, 25, 26].

## CONCLUSIONS

- 1) In view of the high prevalence of urinary incontinence among the studied women, there is a need to take action to disseminate knowledge about risk factors and methods of prevention of incontinence.
- 2) One of the main risk factors significantly increasing the likelihood of urinary incontinence symptoms, and at the same time easily modifiable, was overweight. When carrying-out preventive measures aimed at reducing the prevalence of urinary incontinence in the female population, particular attention should be paid to proper nutrition and physical activity in order to maintain a normal body weight.
- 3) Health education programmes on urinary incontinence should primarily target older, overweight and obese women who have given birth to children.
- 4) The respondents' awareness of the negative impact of incontinence on the quality of life was satisfactory. This might imply that they will be willing to participate in education and prevention programmes.

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