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Factors influencing the occurrence of urinary incontinence in patients of psycho-geriatric ward

Czynniki wpływające na występowanie nietrzymania moczu wśród pacjentów oddziału psychogeriatrycznego

Summary

Introduction: Urinary incontinence (NTM) is a subjective symptom involving uncontrolled leakage of urine. It is considered a social disease, often concealed, causing many adverse changes in the functioning of the elderly.

Goal: Assessment of the problem of urinary incontinence among patients admitted to a psychogeriatric ward.

Materials and methods: Studies have been conducted in the psychogeriatric ward from October 2009 to February 2011. The study involved 176 patients. ADL scale was used and the analysis of the Charter of Patient's Nursing of psychogeriatric ward.

Results: The subjects ages ranged from 60 to 93 years. Patients in whom there is a problem of urinary incontinence during the first week of stay in the ward were 248, while the research group was ultimately 176 patients (46.93%) - in 72 patients (19.20%) resolved the problem of urinary incontinence. Patients with limited mobility were 37 people (21.02%), and another 6 were not able to move by themselves (3.1%). Regarding the pathology of muscle tone, has been found in 37.5%. Amblyopia was found in another 52 patients (29.55%), and blindness in 1 (0.57%). Only 38 people applied the glasses. Impaired balance were 90 respondents, and dizziness 41 (23.30%). Balance disorders occur together with dizziness in 11 patients, 6.25%). Another factor which urinary incontinence - disturbed sleep patterns - occurred in 73 patients (41.48%). Also determined based on the ADL scale efficiency and partially-disabled subjects were 38 patients (21.59%) and completely disabled in terms of basic vital signs were 44 respondents (25.00%).

Conclusions: Urinary incontinence was present in 46.93% of hospitalized patients. Many patients and their caregivers hide or do not admit to the occurrence of this ailment. Patients admitted to psychogeriatric ward were much burdened in terms of factors affecting the occurrence of the problem of urinary incontinence

Keywords: urinary incontinence, elderly

Streszczenie

Wprowadzenie: Nietrzymanie moczu (NTM) to objaw podmiotowy polegający na niekontrolowanym wycieku moczu. Jest uznawane za chorobę o charakterze społecznym, często ukrywaną, powodująca wiele niekorzystnych zmian w funkcjonowaniu osób starszych.

Cel: Ocena występowania problemu nietrzymania moczu wśród pacjentów przyjętych do oddziału psychogeriatricznej.

Materiał i metody: Badania były prowadzone w Oddziale Psychogeriatricznym w okresie od października 2009 do lutego 2011 roku. Badaniu poddano 176 pacjentów. Wykorzystano skalę ADL oraz analizę Karty Pielęgowania Pacjenta Oddziału Psychogeriatricznego.

Wyniki: Wiek badanych mieścił się w przedziale od 60 do 93 lat. Pacjentów u których wystąpił problem nietrzymania moczu w ciągu pierwszego tygodnia pobytu w oddziale było 248, natomiast grupę badawczą stanowiło ostatecznie 176 pacjentów (46,93%) – u 72 osób (19,20%) problem nietrzymania moczu ustąpił. W ograniczony sposób poruszało się 37 osób (21,02%), a kolejnych 6 nie poruszało się samodzielnie (3,1%). Odnośnie patologii w zakresie napięcia mięśniowego, występował ona u 37,5%. Niedowidzenie stwierdzono u kolejnych 52 pacjentów (29,55%), a ślepotę u 1 (0,57%). Tylko 38 osób stosowało okulary. Zaburzoną równowagę miało 90 badanych, a zawroty głowy 41 (23,30%). Zaburzenia równowagi występowały razem z zawrotami głowy u 11 pacjentów 6,25%). Kolejny czynnik nasilający nietrzymanie moczu – zaburzony rytm snu – wystąpił u 73 osób (41,48%). Określono też na podstawie skali ADL sprawność badanych i częściowo sprawnych było 38 badanych (21,59%) a całkowicie niesprawnych w zakresie podstawowych czynności życiowych było 44 badanych (25,00%).

Wnioski: Nietrzymanie moczu występowało u 46,93% pacjentów hospitalizowanych.

Wielu pacjentów, ich opiekunów ukrywa lub nie przyznaje się do występowania tej dolegliwości. Pacjenci przyjmowani do oddziału psychogeriatricznego byli znacznie obciążeni pod względem czynników mających wpływ na występowanie problemu nietrzymania moczu

Słowa kluczowe: nietrzymanie moczu, osoby starsze

Introduction

In 2002 International Continence Society – ICS published a restated and updated report to standardise terminology of describing lower urinary tract function (Abrams 2002). According to which urinary incontinence is individual's symptom of involuntary urination.

Urinary incontinence (UI) can be acknowledged as social based disease (affecting 5 % of general population regardless of ethnic or cultural differences). Statistical data providing the frequency of occurrence of urinary incontinence varies among sources. In accordance with research carried among people between 20 and 29 seeking medical assistance concerning urinary incontinence, was mostly occurring with women and totalled 4,4 %. Percentage of people between 30 and 39 was higher and totalled 12 %, and for over 40 years of age increased to 25 %. It is estimated that for people over 70 years of age this problem concerns even 50 % of population. Based on the abovementioned data, there is relation between patients' age and intensification of occurrence of urinary incontinence (Szyszko-Perłowska 2006).

The problem is often not recognized as the patients consciously do not reveal this disorder, treating it as shameful or inevitable cause of ageing processes, doctors do not ask about it or other health related problems absorb their attention. It is estimated that the problem concerns approximately 25 – 30 % of the population of Poland (Radziszewski 2008).

Urinary incontinence is one of the elementary symptom in geriatrics. It is often caused by dementia, pneumonia or medicine intake (Ouslander1993). As it occurs, an estimated 15 – 30 % of people over 60 years of age living in their homes suffer from urinary incontinence of various intensification – the occurrence is always more frequent in women. The percentage is higher with patients residing in nursing homes and totals over 50 % (Peet 1995). Similar data is provided by Peet, claiming that frequency of occurrence of urinary incontinence for patients of hospitals or long-term care institutions reaches 50 – 70 % (Rechberger 2001).

Urinary incontinence is more common than any other chronic condition. It is estimated that 10 – 15 % of every society suffers from UI. Anyone can be at risk regardless of age or gender with frequency of occurrence of urinary incontinence increasing with age. High risk groups include women after childbirth and during menopause and the elderly.

Confirmed risk factors include: female gender and advanced age. With ageing of human body the bladder's capacity is reduced, post-void residual volume increases, involuntary bladder contractions are more frequent, physical activity is lowered and gender related changes take place. For women urinary flow tract from bladder is shortened and urethral retro-resistance pressure is lowered as a result of decreased muscle tonus of pelvis caused by reduced estrogens level in the blood. For man commonly known enlargement of the prostate leads to reduced detrusor contractility and urinary incontinence. Other factors include urinary tract infections, menopause, lack of physical activity after childbirth, operations of urogenital system, chronic diseases and intake of various medications (Pawlaczyk 2008, Villet 2003).

Causes of urinary incontinence may be divided into three categories: urologic – gynaecologic, neurologic and systemic changes.

Urologic and gynaecologic causes

- Urinary tract infections – with point of entry through urethra, caused by *Escherchia coli*, *Proteus*, *Pseudomonas aeruginosa*. Precipitating conditions of people of old age for urinary tract infections are: incontinence and urine retention, fixed catheter, disability, significantly reduced activity, serious disease, diabetes, insufficient hygiene, fecal incontinence.
- Calculi in bladder – urinary tract infections favour occurrence of calculus, urinary retention caused by urinary flow obstruction of upper urinary tract and post-void residual volume. Other favouring factors are: reduced physical activity, leaving disabled patient in sitting or supine position and secondary anatomic changes of urinary tract.
- Bladder cancers – bladder cancer is second most frequently occurring after prostate cancer. 2-3 times more frequent in men than women. Symptoms of bladder cancer: haematuria, painful urinary urgency and urination, polyuria. Massive haematuria may lead to blood clots blocking urinary flow. May lead to severe pains over pubic symphysis and around loins. Pain in loins area may also suggest tumour invasion into urethra orifices causing urinary obstruction in upper urinary tracts.

- Enlargement of the prostate – with age prostate enlarges. This process is intensified after 50 years of age. The fact of prostate enlargement is not troublesome itself but problematic symptoms depend of its size. It is important, though, that prostate houses urinary duct – urethra transporting urine from bladder. Enlarged gland presses against it and narrows its urethra openings. The effect are obstruction and slowdown of urination.
- Changes of upper urinary tract caused by radiotherapy of pelvic (treatment of cervical cancer, endometrial cancer) – atrophic changes of vascularity of lower urinary tract may lead to instability and areflexia of detrusor, urethra and fistula insufficiency, fibrosis. Post-radiation complications may occur after many, even thirty years after treatment.
- Lowered estrogens level in women – during menopause period frequency of occurring stress urinary incontinence increases. It is related to lowered level of estrogens, conditioning the state of epithelium of urethra and connective tissue. Thus, progressive atrophy of myofascial structures leads to functional and anatomical impairment in pelvis (Rechberger 2003).
- Iatrogenic causes – namely damage of urethral sphincter inflicted during removal of prostate or surgical procedures within pelvis.

Neurological causes

- Head injuries – most typical symptom of bladder impairment caused by frontal lobe damage is urinary incontinence with intensified urge urination and polyuria not related to dementia. Only insignificant number of patients have urinary retention or difficulty with initiating urination. Bladder related symptoms of people after brain trauma may be related to localization of damage in frontal lobe, impairment of cognitive functions, deficiency of adiurectic hormone or local changes in urinary tract resulting from long-term catheterisation.
- Brain tumours – resulting from pressure on brain structures where dysfunction of the nervous system, especially for areas where urination centre is localised. Dysfunction results in urination urgency or urine retention and complete suppression of urethral sphincter and detrusor.
- Parkinson's Disease – is often degenerative disorder of the central nervous system of unknown aetiology. First symptoms of urinary tract disorders are usual after few years of therapy, usually concurrent with adverse symptoms of L-dope treatment. Most common being detrusor's hyperreflexia. In accordance with scientific research, nucleus basalis impose inhibiting influence on urination process, thus loss of brain matter cause that dysfunctions. Complaints of urging urination and polyuria and urinary incontinence especially in the aspect of limited mobility pose serious therapeutic problem. Urination problems may also be a cause of adverse reaction to medicine intake (Skolmowska 2002).
- Diabetic and alcoholism neuropathy – neuropathy, damage to many mainly peripheral nerves are complications of diabetes mellitus or alcoholism. Apart from peripheral neuropathy mainly concerning limbs, there is also autonomic neuropathy concerning nerves of autonomic nervous system.

- Undergone strokes – in cerebrovascular accident due to sudden disturbance of blood supply to brain there is sudden functional impairment of the nervous system. In acute state, urinary retention was observed with 6 % of patients. After three months significant urinary dysfunction was observed with 53 % of researched patients. The most uncomfortable problem being often nocturnal incontinence (36 % patients) sudden urging urination (29 %) and difficulty of urination (25 %).
- Multiple sclerosis – causing impairment of various functions of neuronal pathways. Dysfunctions of the bladder may be the first symptom of the disease, but most commonly they develop with time. With deterioration of neurological state, the functioning of lower urinary tract worsens accordingly. Initially there is hyperactivity of detrusor which may be accompanied by detrusor – sphincter dyssynergia and detrusor insufficiency.

Systemic changes causing or intensifying urinary incontinence

- Dementia – may impair ability to recognize urinary urge. Patients suffering from dementia may have problems with using toilet.
- Depression and anxiety – may impair the bladder functionality. Patients may also not react properly to urinary urgency.
- Constipation – always causing excessive stretching of the final part of the digestive system. Constipated fecal matter press against the urinary bladder, thus reducing its capacity and irritate urinary bladder's walls. Moreover may also press against the urethra causing difficulty with ejection of urine from the urinary bladder. It leads to overfilling of bladder and involuntary loss of urine due to overflow.
- Obesity – scientifically proven risk factor for developing urinary incontinence, especially of stress type. Additional weight of abdominal wall increases intra-abdominal and bladder pressure, aggravates diaphragma pelvis causing overstretching and weakening of muscles and connective tissues of the pelvis wall.
- Chronically immobilized patients – forces the usage of fixed bladder catheter or other products of protection like disposable diapers for adults. This leads to loss of control over feeling urgency to urinate. Additionally immobilization contributes to urinary tract infections, calculi in the bladder, thus favouring urine retention and indirectly cause urinary incontinence. In this case mixed urinary incontinence is most frequently observed (Pawelczyk 2008).

The aim of work

The aim of work was to determine the occurrence of urinary incontinence among patients hospitalized on Psychogeriatric Ward, based on family and caregivers inquiries and describing factors influencing the occurrence of urinary incontinence (symptoms of urinary incontinence, used assisting means, motor skills, functioning of senses, describing psychical condition, places of residence and occurrence of co-existing diseases).

Materials and methods

The research was conducted in the Psychogeriatric Ward in the period of October 2009 to February 2011. At that time 375 patients were hospitalized, including 201 women (53,60 %) and 174 men (46,40 %).

To determine the occurrence of urinary incontinence and mobility of patients ADL (Activities of Daily Living) scale was used, thus assessing patient's independence in the following areas: bathing, dressing, toileting, continence, feeding and transferring. These activities are assessed in the scale of 0-1. Patients is granted one point for every activity he/she can do independently or 0 points if not. Granting 0-2 points means that patient is completely dependent and requires round-the-clock care. A person partially independent is one that was granted 3-4 points and fully independent 5-6 points. The assessment must be done based on the observations and not on the question asked. At preliminary assessment, upon admission to the ward, the scale was filled based on data provided by family/caregivers. ADL is a standardised and readily available scale.

Patients' medical documents analysis concerned the analysis of Psychogeriatric Ward Patient Treatment Chart, being an integral part of documents for patients hospitalised in the Psychogeriatric Ward. It was used to determine the probable causes of urinary incontinence in the research group apart from diagnosed dementia.

The ethical approval to perform research was granted by Bioethical Commission of Medical University in Lublin. The approval was granted by patients or patients' guardians in case of severe cognitive impairment.

The condition to be enlisted to the researched group was occurrence and preservation of the problem of urinary incontinence in the period of five weeks upon admission to hospital. The total number of patients with the problem of urinary incontinence within first week of admission to hospital was 248 (66.13 % of all hospitalized), but the final research group was narrowed to 176 patients (46.93 %) – and with 72 patients (19.20 %) the problem withdrew.

Results

The age of research subjects was between 60 and 93 years. The arithmetic mean in the group totaled 74.67 years with standard deviation of 7.93. The age median was 75. In the research group there were 67 residents of the cities (38.07 %) and 109 residents of villages (61.93 %).

Most patients came to ward directly from family homes, where they resided with family – 108 patients (61,36 %). People living on their own constituted a third of admissions (59; 33,52 %). Few people came from Welfare Centers (4; 2,27 %) and Nursery Centers or Nursery-Treatment Centers (5; 2,84 %).

In accordance with the interview, prior to admission to the ward no urological sets were used by 88 patients (50,00 %). Most frequent being disposable diapers for adults – 60 people (34,09 %) and urological pads – 23 patients (13,07 %). Among the researched patients 8 (4,55 %) used both disposable diapers and urological pads. External urinary catheters were used with 8 patients (4,55 %) whereas indwelling urinary catheters were used with 5 (2,84 %).

Based on initial interview no problems with urination were with 61 subjects (34,66 %). Most commonly indicated was urinary incontinence – 88 patients (50,00 %). Problematic urination was with 22 patients (12,50 %). Painful urge urination was with 6 patients (3,41 %) and 4 patients (2,27 %) were with urinary retention and 4 (2,27 %) with burning and itching sensation. The sum of given answers is higher than test group, as for 5 people (2,84 %) there were 2 difficulties and with another 2 people (1,14 %) there were 3 answers given.

Great majority of patients were ambulant – concerned 141 (80,11 %). Among admissions there were 27 seated (15,34 %) and other 8 (4,55 %) were bedridden patients.

Independent walking was with 71 patients (40,3 %). Some help with walking required 62 subjects (35,23 %). Limited walking was with 37 people (21,02 %) and other 6 could not walk independently (3,41 %).

Correct muscle tone was with majority of hospitalized patients – during interview was stated with 110 patients (62,50 %). Lowered muscle tone was with 36 people (20,45 %). Paresis was with 14 patients (7,95 %). Palsy was with 7 patients (3,98 %), tremor with 6 (3,41 %). Increased muscle tone was observed in 2 people (2,27 %). Among tested subject one person (0,57 %) had both lowered muscle tone and palsy. 123 subjects (69,89 %) had correct eyesight. Impaired eyesight was observed with 52 patients (29,55 %), blindness with 1 (0,57 %). In researched group 38 people were using corrective glasses (21,59 %). 98 patients (55,68 %) had correct hearing, impaired hearing was stated with 74 people (42,05 %). Among test subjects there were 4 deaf (2,27 %). 37 people (21,02 %) used hearing aids.

In researched group there were 56 people (31,82 %) with correct sense of balance. Balance disorders were observed with 90 subjects (51,14 %), lightheadedness with 41 (23,30 %). Balance disorders with lightheadedness were concurrent with 11 patients (6,25 %).

Great majority of research subjects (128; 72,73 %) were verbally communicative. Nonverbal communication was used by 16 patients (9,09 %). With 9 people (5,11 %) there were speech disorders such as aphasia. No contact was observed with 23 researched subjects (13,07 %).

Over one half (99; 56,25 %) had lowered mood. Average mood was observed with 50 people (28,51 %). 27 people (15,34 %) had above average mood.

Dividing test subjects by their awareness and state of mind there were 2 categories: with full awareness (156 people; 88,64 %), and showing signs of sleepiness (20, 11,36 %).

Correct circadian rhythm sleep was noted with 103 subjects (58,52 %). Sleep rhythm disorders was observed with 73 people (41,48 %).

Two most frequently observed behaviors and emotional reactions in patients were fear and anxiety – 63 cases (39,80 %). Depression was observed with 54 subjects (30,68 %). Apathy was observed with 33 people (18,75 %). Protest with 21 cases (11,93 %). Calmness with 11 patients (6,25 %). Over cheerfulness was observed with 8 people (4,55 %) and despair with 7 (3,98 %). 15 test subjects (8,52 %) had positive attitude towards his/her health condition. Half of the test group were indifferent towards his/her health condition (88; 50,00 %). 73 patients (41,48 %) had negative attitude.

Only 12 people were positive towards hospitalization (6,82 %). Indifference was observed in 92 cases (52,27 %). Negative attitude was noted with 72 subjects (40,91 %).

Based on the interview with family/caregivers Katz Index of Independence in Activities of Daily Living (ADL) was assessed. 94 people (53,41 %) were fully independent upon admission to hospital. Partly independent were 38 subjects (21,59 %). Fully dependent in activities of daily living were 44 patients (25,00 %).

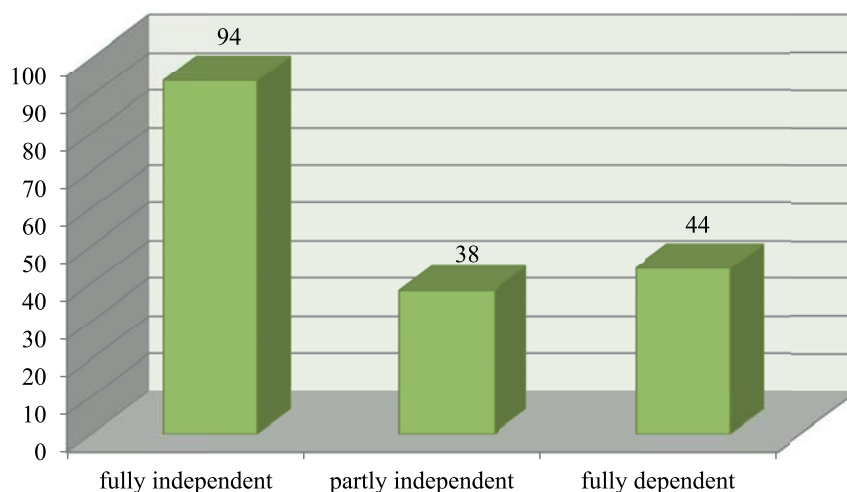


Fig.1. ADL results upon admission

Among 375 hospitalized patients of the ward there were 176 people (46,93 %) with permanent state of urinary incontinence. Temporary urinary incontinence was observed with 72 people (19,20 %). No urinary incontinence was observed with the rest of 127 patients (33,87 %).

Discussion

Essential activity of daily life connected with continence control is ability of independent or partly independent movement around the hospital ward. Based on the analysis of the interviews carried upon admission and data of Psychogeriatric Ward Patient Treatment Chart it was concluded that 37 people (21,02 %) had limited mobility and 6 (3,1 %) could not move independently. Considering muscle tone dysfunction – it occurred in 37,5 % cases. Impaired eyesight was stated with 52 patients (29,55 %), blindness with 1 (0,57 %). Only 38 people used corrective glasses. Sense of balance disorders were observed with 90 subject, lightheadedness with 41 (23,30 %). Balance disorders with lightheadedness were concurrent with 11 patients (6,25 %). Another factor intensifying urinary incontinence – sleep rhythm disorders – present with 73 people (41,48 %). Based on ADL scale, measuring independence of researched group, there were 38 partly independent patients (21,59 %), and 44 fully dependable in activities of daily living (25,00 %).

The research of the study indicate that patients upon admission to psychogeriatric ward were considerably burdened considering factors influencing the occurrence of urinary incontinence. It must be noticed that during preliminary interview only 88 people (50,00 %) admitted to urinary incontinence and problematic urination was with 22 patients (12,50 %). After five weeks upon admission to hospital the permanent state of urinary incontinence was with 176 people (46,93 %), temporary urinary incontinence was observed with 72 people (19,20 %). Result suggest that many patients, their caregivers conceal or do not admit to having this ailment. People who admitted to urinary incontinence in the

interview also indicated using urological products (diapers, pads, catheters). Information concerning urinary incontinence is very important upon admission as it may determine placing the patients near the toilets, assistance with transfer to and from toilet or necessity to use urological products. It must be remembered that urinary incontinence with limited independence resulting from coexistence of many factors contributing to this problem is often a cause of falls, thus increasing patient suffering and limiting his/her independence.

Regarding the frequency of admitting to the problem of urinary incontinence, similar results were acquired by other researches, namely 60 % of patients in United States of America and 43 % in Germany when not asked, never admitted to the problems of urinary incontinence voluntarily, often treating it as a symptom of ageing processes (Rechberger 2001, Yarnell et al 1981).

Wojsztel claims that frequency of occurrence of urinary incontinence among hospitalized patients in the old age is around 25 – 35 % (Wojsztel 2003), and in welfare nursing centers – 50 – 70 %. Carried research indicated that urinary incontinence was existent in 31,7 % of subject residing in cities and 46,8 % residing in villages (Wojsztel 2003, Wdowiak et al 2009).

Research carried by Wdowiak et al. assessing the quality of living in stationary long term care, the problem of urinary incontinence was present in 65,6 % of tested subjects. These disorders were more frequently indicated by patients of nursery-treatment centers – 80 % in comparison with welfare nursing centers – 61,9 % (Chloe 2001).

Other American research indicates that frequency of occurrence of urinary incontinence with people residing in welfare nursing centers is twice higher (60 % of residents) than with people of old age residing in their own homes (Bujanowska-Fedak et al 2002).

Urinary incontinence is one of the most frequent chronic diseases among women and in Poland itself there are approximately 4 – 6 million people suffering from it (Chloe 2001, Rechberger et al. 2005, Tołłoczko 2002).

Frequency of occurrence of urinary incontinence is also associated with physical and mental disability, which may explain the observed tendency of more frequent occurrence of this disorder in hospital wards and institutions of long term care (Peet 1995).

Conclusion

1. Urinary incontinence was observed with 46,93 % of hospitalized patients.
2. Many patients, their caregivers conceal or do not admit to having this ailment.
3. Patients upon admission to psychogeriatric ward were considerably burdened considering factors influencing the occurrence of urinary incontinence.

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