



## Scientific literature on urinary elimination in Brazilian nursing journals

*Produção científica sobre eliminações urinárias em periódicos de enfermagem brasileiros*

*Producción científica sobre eliminaciones urinarias en periódicos de enfermería brasileños*

**Laís Fumincelli<sup>1</sup>, Alessandra Mazzo<sup>2</sup>, Amanda de Assunção Teodoro da Silva<sup>3</sup>,  
Barbara Juliana da Costa Pereira<sup>3</sup>, Isabel Amélia Costa Mendes<sup>2</sup>**

### ABSTRACT

**Objective:** To assess the scientific literature on urinary elimination in nursing journals published in Brazil. **Methods:** An integrative literature review was used to review the databases MEDLINE, LILACS and Web of Science. The authors used 30 descriptors to search for articles published between the years 1999 to 2009, resulting in a total of 18 articles that met criteria and which were published by nurses. The papers were analyzed using a data collection instrument to identify journal name, year of publication, type of study, subject matter, and level of evidence. **Results:** Eighteen studies were classified as Level of Evidence IV; urinary incontinence was the most frequent theme in the articles analyzed. **Conclusion:** While the clinical practice of nurses was integrated into articles addressing changes in urinary elimination, we found that this topic was narrowly defined, studies used lower level research designs, and it was noted that few authors published on the topic. All of these findings indicate the importance of greater investment in nursing research in this area of nursing knowledge and practice. **Descriptors:** Urinary tract physiological phenomena; Review literature; Scientific and technical publications

### RESUMO

**Objetivo:** Verificar a produção científica sobre eliminações urinárias divulgada em periódicos de enfermagem brasileiros. **Métodos:** Estudo realizado por meio de revisão integrativa da literatura, contemplando as bases de dados MEDLINE, LILACS e Web of Science, utilizando 30 descritores para busca de artigos publicados entre 1999 a 2009; assim, foram selecionados 18 artigos, disponíveis na íntegra, produzidos por enfermeiros. Os manuscritos foram analisados tendo por base um instrumento de coleta de dados discriminando-se nome do periódico, ano de publicação, tipo do estudo, assunto abordado e nível de evidências. **Resultados:** Os 18 estudos foram classificados com nível de evidência IV e a incontinência urinária foi o tema mais freqüente nos artigos analisados. **Conclusão:** Embora as alterações nas eliminações urinárias integrem a prática clínica do enfermeiro, nos artigos selecionados, o tema foi limitado a um âmbito restrito de assuntos, com baixo nível de delineamento, oriundos da produção de reduzido número de autores, indicando a importância de maior investimento em pesquisas nessa área. **Descritores:** Fenômenos fisiológicos do sistema urinário; Literatura de revisão; Publicações científicas e técnicas

### RESUMEN

**Objetivo:** Verificar la producción científica sobre eliminaciones urinarias difundidas en periódicos de enfermería brasileños. **Métodos:** Estudio realizado por medio de revisión integrativa de la literatura, contemplando las bases de datos MEDLINE, LILACS y Web of Science, utilizando 30 descriptores para búsqueda de artículos publicados entre 1999 al 2009; así, fueron seleccionados 18 artículos, disponibles íntegramente, producidos por enfermeros. Los manuscritos fueron analizados teniendo como base un instrumento de recolección de datos discriminándose el nombre del periódico, año de publicación, tipo del estudio, asunto abordado y nivel de evidencias. **Resultados:** Los 18 estudios fueron clasificados con nivel de evidencia IV y la incontinencia urinaria fue el tema más frecuente en los artículos analizados. **Conclusión:** A pesar que las alteraciones en las eliminaciones urinarias integren la práctica clínica del enfermero, en los artículos seleccionados, el tema fue limitado a un ámbito restringido de asuntos, con bajo nivel de delineamiento, procedentes de la producción de un reducido número de autores, indicando la importancia de una mayor inversión en investigaciones en esa área. **Descriptor:** Fenomenos fisiológicos del sistema urinário; Literatura de revisión; Publicaciones científicas y técnicas

<sup>1</sup> Nursing course, University of São Paulo at Ribeirão Preto College of Nursing - USP - Ribeirão Preto (SP), Brazil; FAPESP Scientific Initiation Grantee.

<sup>2</sup> General and Specialized Nursing Department, University of São Paulo at Ribeirão Preto College of Nursing - USP - Ribeirão Preto (SP), Brazil.

<sup>3</sup> Teaching Diploma Program, University of São Paulo at Ribeirão Preto College of Nursing - USP - Ribeirão Preto (SP), Brazil. FAPESP Scientific Initiation Grantee.

## INTRODUCTION

Urinary elimination is one of the most important organic functions. It depends on the functions of the kidneys, ureters, bladder and urethra. People can present risk factors for impaired urinary elimination, such as advanced age, morbidity, hospitalization, pregnancy, need for catheterization, immunodeficiency and modification in self-care characteristics. Abnormalities in the urinary system can provoke different disorders, including urination modifications<sup>(1-4)</sup>.

Nursing plays an important role in patient care delivery during urinary eliminations, regarding health promotion and the prevention of and intervention in health problems. In care delivery, nurses perform actions ranging from health promotion to acute care in case of alterations in urinary elimination.

When actions are focused on health promotion, nurses offer education to patients, family members and/or caregivers, highlighting the need for adequate fluid intake, encouraging personal urinary routine, underlining the need for self-care and intimate hygiene, teaching patients the main symptoms of urinary tract infections (UTIs), indicating what factors should make them seek clinical care. In the hospital context, nurses need to promote urination in a private place, permit adequate time and provide sensory stimulations for sphincter relaxation and urination ability. For clients with impaired urinary function, efficient intervention measures may be needed, such as vesical catheterization and test collection<sup>(1,5-7)</sup>.

Across impaired urinary elimination patients' test collection process, it is important for nurses to keep contact with them, helping them with the previous preparation of procedures, assisting during tests and offering the necessary post-procedure care. Nurses should also clarify doubts and work on patients and relatives or companions' anxiety<sup>(1-8)</sup>.

The relevance of experience with this theme in clinical practice, in combination with its frequency and the small number of nursing studies and study groups in Brazil regarding nursing care for urinary elimination have shown that nursing actions in this area are neglected. In care delivery to patients with impaired urinary elimination, nurses do not integrate theory and practice. Instead, they are technistic, which can entail damage for patients and professionals<sup>(9)</sup>.

Nursing care in case of urinary elimination should be based on theoretical, practical and scientific knowledge, which need to be present in daily patient care practice. Nursing research on the theme should be effective, disseminate and involve a wide range of care branches. In this sense, this study aimed to verify scientific production on urinary elimination disseminated in

Brazilian nursing journals.

## METHODS

A descriptive and exploratory study was carried out through an integrative literature review, which is used to achieve a deeper understanding of a phenomenon based on previous research. This permits joining data from different types of research designs and broadens conclusions<sup>(10)</sup>.

For the method to effectively contribute to patient interventions, the steps listed below need to be strictly followed: identification of research problem and question; establishment of study inclusion and exclusion criteria; definition of information to be extracted from the selected studies; assessment of selected studies; interpretation; and synthesis of achieved results<sup>(10)</sup>.

The databases used for the search were Medical Literature Analysis and Retrieval System On Line (MEDLINE), Latin American and Caribbean Health Science Literature (LILACS) and Web of Science.

The following guiding question was elaborated to select the papers in this study: what scientific knowledge has been produced on urinary elimination in Brazilian nursing journals? To accomplish the search, 30 descriptors were defined according to the Bireme catalogue, related to the physiology of the urinary system, urinary alterations and nursing. The inclusion criteria were established as follows: publications disseminated between 1999 and 2009, in Brazilian nursing journals, written by nurses, which answered the research question.

In total, 1,286 papers were identified: 786 in LILACS, 196 in MEDLINE and 304 in Web of Science. After exhaustive reading of the titles and abstracts, 30 studies answered the established inclusion criteria, 12 of which were excluded because they were mentioned in more than one database. Hence, the study sample included 18 studies. The full versions of the 18 selected articles were read and analyzed according to the data collection instrument authors proposed in 2006, addressing data to identify the authors, year and journal of publication, adopted method, study topic, main results and conclusions<sup>(11)</sup>.

The analysis of the evidence classification was based on the proposal of authors who classify evidence in six levels, which are: Level I, studies related to the meta-analysis of multiple controlled studies, Level II individual experimental research; Level III, quasi-experimental research, such as non-randomized clinical trials, single pre and post-test group, besides time or case-control series; Level IV, non-experimental studies, including descriptive, correlation and comparative studies, qualitative research and case studies; Level V, systematically obtained program assessment data, and

level VI, expert opinions, experience reports, consensuses, regulations and legislations<sup>(12)</sup>.

Methodological details were based on Authors<sup>(13)</sup> and results were presented descriptively.

## RESULTS

To select the 18 papers under analysis, 30 descriptors were used. Although nurses carried out all studies, only six (33.3%) used the descriptor nursing, which hampers the search for and visibility of nursing research. Regarding the level of evidence, the 18 studies are classified as evidence level IV, i.e. non-experimental studies, such as descriptive, correlation and comparative studies, qualitative research and case studies. Chart 1 displays the study themes according to year and journal of publication.

## DISCUSSION

The most frequent urinary elimination alteration in the studies under analysis was urinary incontinence (UI), which can be defined as any involuntary urine loss. Factors associated with IU include pregnancy, aging, delivery, drop in estrogen levels during the menopause, prostate cancer treatment, physical and mental disabilities and some illnesses, such as cerebrovascular accident and Parkinson's disease. Prevalence levels are imprecise and incidence ratios in the elderly population are high<sup>(14-15)</sup>.

In the papers under analysis, high UI incidence rates are observed among women from all socioeconomic and cultural levels, independently of type of education and professional activity. The most determinants for UI in women include weight alterations, arterial hypertension, intestinal constipation and age. Mixed UI

**Chart 1** – Selected nursing publications on urinary elimination according to journal, year of publication and study theme - 1994 to 2009.

Study	Journal/ Year of Publication	Study theme
2	Rev Esc Enferm USP 2002	Self-catheterization technique in patients with bone marrow injury.
15	Rev Esc Enferm USP 2005	Urinary incontinence in hospitalized adults and elderly.
28	Rev Bras Enferm 2005	Development of an identification system for urinary elimination-related nursing diagnoses.
17	Rev Bras Enferm 2005	Risk factors for urinary incontinence among nursing professionals.
16	Rev Esc Enferm USP 2006	Impact of urinary incontinence in women's lives.
29	Acta Paul Enferm 2006	Hospital infection control and infection through indicators related to vesical catheterization and urinary tract incontinence.
4	Rev Bras Enferm 2007	Factors related to hospital infection prevalence.
3	Rev Latinoam Enferm 2007	Urinary retention due to opioid use.
18	Rev Bras Enferm 2007	Urinary incontinence among nursing professionals.
19	Rev Bras Enferm 2007	Prevalence and interference of urinary incontinence in occupational activities among nursing professionals.
27	Rev Bras Enferm 2008	Performance of ALTURIN, SDD system in the assessment of urinary elimination-related nursing diagnoses.
20	Rev Latinoam Enferm 2008	Psychosocial meanings of urinary incontinence in women.
30	Rev Esc Enferm USP 2009	Construction and validation of nursing care quality indicator.
21	Rev Esc Enferm USP 2009	Urinary incontinence in primary health care delivery to women.
22	Rev Bras Enferm 2009	Quality of life in urinary incontinence patients.
23	Rev Esc Enferm USP 2009	Urinary incontinence among young and nulliparous Physical Education students.
25	Rev Esc Enferm USP 2009	Literature review for differential diagnosis of urinary incontinence, using specialized support systems and their application in the health area.
26	Acta Paul Enferm 2009	Literature review on updates regarding combined urinary and fecal incontinence epidemiology.

and urge UI are the types that most affect women's lives<sup>(15-16)</sup>.

UI provokes activity restrictions: sexual, social, housework, occupational, entailing constraints and discomfort that can be perpetuated by the devaluation of signs and symptoms, besides the lack of information about treatment and prevention measures. This fact can arouse feelings of sadness, depression, social isolation and generate personal contact strategies, including the naturalization of urinary losses. UI influences quality of life and increases the distance between patients and health professionals. It can get aggravated by the development of urinary tract infection (UTI) and dysuria. Its treatment is surgical or clinical<sup>(14,17-23)</sup>.

In the analyzed papers, it is observed that nurses have worked in care delivery to UI patients, seeking clinical information together with the multiprofessional team, offering advice on treatments and service offer, promoting educative actions and performing nursing consultations with a view to a better quality of life<sup>(1,24-26)</sup>. Nursing care in the recovery of urination functions is essential for physical re-establishment and self-esteem. The following are indicated; strengthening of pelvic muscles, particularly those muscles with difficulties to start or interrupt urination; bladder retraining through repetition, establishment of routines for urination times, positive reinforcement to patients regarding actions performed and self-catheterization for patients with chronic disorders or bone marrow injury<sup>(1,24-26)</sup>.

UI was the most frequent theme in Brazilian publications. The description of its meaning in patients' daily reality and possible nursing interventions in its monitoring and treatment indicate the importance of nursing and nurses' work in this area. The content of the papers under analysis, however, as well as clinical and teaching experience, demonstrate that Brazilian nursing professionals still have not incorporated these actions. Although their education prepares them for care delivery, when included in the nursing team, nurses delegate part of this responsibility to other professionals.

Urinary Retention (UR) is the accumulation of urine in the bladder and is caused by the bladder's disability to get emptied. Patients can accumulate up to 3,000 ml of urine, due to the loss of secondary urinary tonus or excessive distension of detrusor muscle fibers, depending on case complexity. UR incidence levels are higher among men and elderly patients. It can also affect patients who use analgesics, particularly orthopedic surgical patients, patients with neurological problems and postpartum women after vaginal delivery. The worsening of UR can less to a loss of urinary tonus, UTIs and the formation of kidney stones, due to urinary stasis and hydronephrosis. Nursing care for UR uses non-invasive methods, such as lukewarm compresses

in the suprapubic region, enhancing patients' privacy and offering the sound of running water, so that spontaneous urination can occur. In some cases, aseptic intermittent catheterization is needed, which entails the important need for clinical nursing assessment<sup>(1,3, 27-28)</sup>.

UTIs have been addresses as one of the main factors of concern among health professionals, representing about 40% of hospital infections, placing an economic burden on services, provoking sequelae, complications and immeasurable patient damage. Most UTI cases are related to vesical catheterization and approximately 10% of hospitalized patients are exposed to this procedure. They are related to intrinsic problems, such as comorbidities, and extrinsic factors, including dwelling time and handling of the catheter by the nursing team. UTIs require constant surveillance and are related to worsening in patients' conditions at Intensive Care Units. Hence, it is extremely important for nurses to assume the responsibility for all aspects of this care, highlighting issues related to epidemiological knowledge and institutional nursing protocol control, self-catheterization, among others.

The lack of publications on nursing care delivery in case of UR evidences the importance of nursing team review and qualification regarding vesical catheterization and the need for research on non-invasive interventions. Nursing tasks include patient assessment and clinical reasoning, leading to effective nursing actions and enhancing patients' wellbeing, care quality and clinical recovery<sup>(29-30)</sup>. It is fundamental for nurses to take charge of and be accountable for nursing care to the full range of urinary elimination, thus promoting safe care delivery. This reveals the need for professional qualification on the theme<sup>(31)</sup>, for nurses as well as nursing teams.

## CONCLUSION

Nursing care in case of urinary elimination is a routine in clinical nursing practice. In the surveyed databases, however, the analyzed papers reflect Brazilian nursing research's investments in urinary elimination-related problems, restricted to a small group of themes. Besides, they demonstrate a low level of research design and result from a small number of authors' investments.

The analyzed studies emphasize neither health promotion, nor symptom prevention and nursing care in case of clinical tests, which are frequent in the population and health services' daily reality. Neglecting them entails onus, delays diagnoses and causes problems in daily life, affecting patient safety.

There is an urgent need for investments and visibility of urinary elimination research by nurses in the Brazilian nursing context. The theme permits a range of nursing interventions, regarding different care aspects and complexities. Nurses should assume the commitment

to use the scientific method in their clinical practice, delivering care to urinary elimination and disseminating research results, including the descriptor nursing. Thus,

nurses can qualify nursing care delivery to patients in case of urinary elimination. Research consumers will get easier access to publications in search processes.

## REFERENCES

- Craven RF, Hirnle CJ, editores. Fundamentos de enfermagem: saúde e função humanas. 4a ed. Rio de Janeiro: Guanabara Koogan; 2006.
- Moroóka M, Faro ACM. A técnica limpa do autocateterismo vesical intermitente: descrição do procedimento realizado pelos pacientes com lesão medular. *Rev Esc Enferm USP*. 2002; 36(4):324-31.
- Fernandes MCBC, Costa VV, Saraiva RA. Postoperative urinary retention: evaluation of patients using opioids analgesic. *Rev Latinoam Enferm*. 2007; 15(2):318-22.
- Moura MEB, Campelo SMA, Brito FCP, Batista OMA, Araújo TME, Oliveira ADS. Infecção hospitalar: estudo de prevalência em um hospital público de ensino. *Rev Bras Enferm*. 2007; 60(4):416-21.
- Pils K, Neumann F. [Different attitudes towards hypertension and urinary tract incontinence in elderly individuals participating in a health promotion project]. *Wien Med Wochenschr*. 2006;156(5-6):158-61. German.
- Irwin DE, Milsom I, Reilly K, Hunskaar S, Kopp Z, Herschorn S, et al. Overactive bladder is associated with erectile dysfunction and reduced sexual quality of life in men. *J Sex Med*. 2008;5(12):2904-10.
- Kim H, Suzuki T, Yoshida H, Yoshida Y, Shimada H. [Prevalence of geriatric syndrome and risk factors associated with obesity in community-dwelling elderly women]. *Nippon Ronen Igakkai Zasshi*. 2008;45(4):414-20. Japanese.
- Carvalho GF, Rocha LCA, Monti PR. Urocultura e exame comum de urina: considerações sobre sua coleta e interpretação. *Rev AMRIGS*. 2006; 50(1):69-62.
- Souza ACS, Tipple AFV, Barbosa JM, Pereira MS, Barreto RASS. Cateterismo urinário: conhecimento e adesão ao controle de infecção pelos profissionais de enfermagem. *Rev Eletrônica Enferm* [Internet]. 2007 [citado em 2009 Jun 01];9(3):724-35. Disponível em: <http://www.fen.ufg.br/revista/v9/n3/v9n3a12.htm>
- Mendes KDS, Silveira RCCP, Galvão CM. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. *Texto & Contexto Enferm*. 2008;17(4):758-64.
- Ursi ES, Galvão CM. Prevenção de lesões de pele no perioperatório: revisão integrativa da literatura. *Rev Latinoam Enferm*. 2006;14(1):124-31.
- Stetler CB, Morsi D, Rucki S, Broughton S, Corrigan B, Fitzgerald J, et al. Utilization-focused integrative reviews in a nursing service. *Appl Nurs Res*. 1998;11(4):195-206.
- Polit DF, Beck CT, Hungler BP. Fundamentos de pesquisa em enfermagem: métodos, avaliação e utilização. 5a ed. Porto Alegre: Artmed; 2004.
- Abreu NS, Baracho ES, Tirado MGA, Dias RC. Qualidade de vida na perspectiva de idosas com incontinência urinária. *Rev Bras Fisioter*. 2007; 11(6):429-36
- Silva APM, Santos VLGG. Prevalência da incontinência urinária em adultos e idosos hospitalizados. *Rev Esc Enferm USP*. 2005; 39(1):36-45.
- Lopes MHBM, Higa R. Restrições causadas pela incontinência urinária à vida da mulher. *Rev Esc Enferm USP*. 2006; 40(1):34-41.
- Higa R, Lopes MHBM. Fatores associados com a incontinência urinária na mulher. *Rev Bras Enferm*. 2005; 58(4):422-8.
- Higa R, Lopes MHBM. Porque profissionais de enfermagem com incontinência urinária não buscam tratamento. *Rev Bras Enferm*. 2007; 60 (5):503-6.
- Higa R, Lopes MHBM. The impact of urinary incontinence on female nursing personnel. *Rev Bras Enferm*. 2007; 60(2):213-6.
- Higa R, Lopes MHBM, Turato ER. Psychocultural meanings of urinary incontinence in women: a review. *Rev Latinoam Enferm*. 2008;16(4):779-86.
- Silva L, Lopes MHBM. Incontinência urinária em mulheres: razões da não procura por tratamento. *Rev Esc Enferm USP*. 2009; 43(1).
- Honório MO, Santos SMA. Incontinência urinária e envelhecimento: impacto no cotidiano e na qualidade de vida. *Rev Bras Enferm*. 2009; 62(1):51-6.
- Santos ES, Caetano AS, Tavares MCGCF, Lopes MHBM. Incontinência urinária entre estudantes de educação física. *Rev Esc Enferm USP*. 2009; 43(2).
- Borba AMC, Lelis MAS, Brêtas ACP. Significado de ter incontinência urinária e ser incontinente na visão das mulheres. *Texto & Contexto Enferm*. 2008 ; 17(3):527-35.
- Lopes MHBM, Marin HF, Ortega NRS. The use of expert systems on the differential diagnosis of urinary incontinence. *Rev Esc Enferm USP*. 2009; 43(3):704-10.
- Santos CRS, Santos VLGG. Epidemiologia das incontinências urinária e anal combinadas. *Acta Paul Enferm*. 2009; 22(3):328-30.
- Higa R, Lopes MHBM. Avaliação de um sistema especialista em diagnóstico de enfermagem relacionado à eliminação urinária. *Rev Bras Enferm*. 2008; 61(5):565-9.
- Lopes MHBM, Higa R. Desenvolvimento de um sistema especialista para identificação de diagnósticos de enfermagem relacionados com a eliminação urinária. *Rev Bras Enferm*. 2005; 58(1):27-32.
- Fernandes MVL, Lacerda RA, Hallage NM. Construção e validação de indicadores de avaliação de práticas de controle e prevenção de infecção do trato urinário associada a cateter. *Acta Paul Enferm*. 2006;19(2):174-89.
- Vituri DW, Matsuda LM. Validação de conteúdo de indicadores de qualidade para avaliação do cuidado de enfermagem. *Rev Esc Enferm USP*. 2009; 43(2).
- World Health Organization - WHO. Quality of care: patient safety. Report by the secretariat. Fifty-ninth World Health Assembly. p.1-6, May, 2006. [cited 2008 May 6] Available from: [http://www.who.int/patientsafety/about/a59\\_22-en.pdf](http://www.who.int/patientsafety/about/a59_22-en.pdf)