Health Care Network And Urinary Catheterization: a Situational Diagnosis

Rede de Atenção à Saúde e Cateterismo Urinário: Um Diagnóstico Situacional
Red de Atención En Salud y Cateterismo Urinario: Un Diagnóstico Situacional

RESUMO
Objetivo: Realizar um diagnóstico situacional dos pacientes de cateterismo urinário e de seus cuidadores na Rede de Atenção à Saúde pública em São Carlos, São Paulo, Brasil. Método: Estudo quantitativo, descritivo-exploratório, retrospectivo, realizado com gerentes de serviços de saúde referentes aos atendimentos de pacientes em uso de cateterismo urinário. Resultados: Foram identificados 38 gerentes de serviços de saúde do município estudado, sendo que 26,3% ofereceram atendimento para 23 pacientes de cateterismo urinário. Sobre o cateter urinário 61,0% dos pacientes já utilizaram o cateter urinário de demora e todos utilizaram cateter intermitente. Dos pacientes, seis não possuíam cuidadores, sendo os demais com cuidadores familiares. Conclusões: O diagnóstico situacional se constituiu em uma estratégia indispensável para a criação de intervenções contextualizadas em saúde. Tal estudo possibilitou a criação de respostas, tanto para o enfrentamento da produção saúde-doença, quanto para identificar os respectivos pacientes, suas condições clínicas e contexto social.
DESCRITORES: Atenção à Saúde; Sistema Único de Saúde; Bexiga Urinária; Cateterismo Urinário; Cuidadores.

ABSTRACT
Objective: To perform a situational diagnosis of urinary catheter patients and their caregivers in the public health care network in São Carlos, São Paulo, Brazil. Method: Quantitative, descriptive-exploratory, retrospective study conducted with health service managers related to the care of patients using urinary catheters. Results: Thirty-eight health service managers in the studied municipality were identified, and 26.3% provided care to 23 urinary catheter patients. Regarding urinary catheters, 61.0% of patients had already used an indwelling urinary catheter and all used intermittent catheters. Of the patients, six did not have caregivers, and the others had family caregivers. Conclusions: The situational diagnosis was an indispensable strategy for the creation of contextualized health interventions. This study made it possible to create responses, both to address the health-disease production and to identify the respective patients, their clinical conditions and social context.
DESCRIPTORS: Health Care; Unified Health System; Urinary Bladder; Urinary Catheterization; Caregivers.

RESUMEN
Objetivo: Realizar un diagnóstico situacional de los pacientes con cateterismo urinario y de sus cuidadores en la Red de Atención a la Salud pública en São Carlos, São Paulo, Brasil. Método: Estudio cuantitativo, descriptivo-exploratorio, retrospectivo, realizado con gerentes de servicios de salud relacionados con la atención de pacientes con cateterismo urinario. Resultados: Se identificaron 38 gerentes de servicios de salud del municipio estudiado, de los cuales el 26,3% ofrecieron atención a 23 pacientes con cateterismo urinario. En cuanto al cateter urinario, el 61,0% de los pacientes ya habían utilizado el cateterismo de demora y todos utilizaron catéter intermitente. Seis pacientes no tenían cuidadores, mientras que los demás tenían cuidadores familiares. Conclusiones: El diagnóstico situacional constituyó una estrategia indispensable para la creación de intervenciones contextualizadas en salud. Este estudio permitió la creación de respuestas tanto para enfrentar la producción de salud-enfermedad, como para identificar a los pacientes respectivos, sus condiciones clínicas y el contexto social.
DESCRIPTORES: Atención a la Salud; Sistema Único de Salud; Vejiga Urinaria; Cateterismo Urinario; Cuidadores.

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INTRODUCTION

Among the main comorbidities and disabilities throughout the life cycle, lower urinary tract symptoms (LUTS) emerge as a significant public health challenge in Brazil. This problem affects individuals of all ages, from newborns to the elderly, and tends to be observed and intensified throughout the life cycle. [1-3] These dysfunctions not only impact the quality of life of these individuals, but also impose an economic burden on the health system due to the need for continuous treatment and specialized monitoring. [4,5]

The increase in demand for care for people with LUTS has become a challenge faced by the entire multidisciplinary health team, especially in daily nursing practice, where professionals play a fundamental role in the prevention, treatment and rehabilitation of these disorders. [5] In this context, for the prevention and adequate treatment of patients, the involvement of the entire multidisciplinary team is necessary, such as nephrologists and urologists, physiotherapists, psychologists, nutritionists and mainly, nurses who will accompany patients and caregivers throughout the health-disease process, including complications and rehabilitation. [5-7]

LUTS result from changes in one of the components of the normal urination process, leading to dysfunction in the urinary system as a whole. These dysfunctions may be of neurological or non-neurological origin. For many patients with LUTS, the use of a urinary catheter is a frequently adopted measure. [9, 10] Urinary catheterization, whether intermittent or continuous (indwelling), plays a crucial role in the management of these urinary conditions, providing symptom relief, preventing complications such as urinary tract infections, and improving patients' quality of life. [12,13] However, its use requires careful monitoring and intervention by healthcare staff, especially nurses, to ensure its effectiveness and minimize associated risks. [14,15]

Based on the authors' experience in dealing with caregivers of patients who use urinary catheters, it is clear that, in domestic contexts, the use of these devices is not always well accepted. [5] This is due to the strangeness of this procedure within the family environment, causing embarrassment to the patient or care-

giver. In addition, as other studies indicate, it is common to observe significant changes in caregivers' lives as they strive to meet the needs of patients. [18-20]

Therefore, given the difficulties encountered by patients with LUTS, carrying out a situational diagnosis is essential, as it contributes to defining priorities, planning actions and care, and consequently, enables the organization of care for these patients and their caregivers in the SUS. [21-23] Furthermore, the situational diagnosis contributes to the identification of epidemiological data and existing health information and activities carried out by the caregiver at home, which contribute to better quality of care. [23]

In this sense, this study had the general objective of performing a situational diagnosis of adult and child patients using urinary catheterization and their caregivers in the public RAS in the city of São Carlos, São Paulo, Brazil. The specific objectives were to identify the health units in the city covered by the RAS that provide care to patients using urinary catheters and to characterize the profile of patients using urinary catheterization treated in these units.

METHOD

This is a descriptive, exploratory and retrospective study with a quantitative approach, carried out in the municipality of São Carlos, in the interior of the State of São Paulo, Brazil, which has a population of 254,857 inhabitants in a territory of 1,136.907 km². [24-25]

The RAS health services of the studied municipality had 22 Family Health Units (USF), 12 Basic Health Units (UBS), a Central Warehouse, a Medical Specialties Center (CEME - Centro de Especialidades Médicas), a Home Care Service and an Oncology Center. Thus, the study included the managers of the departments and services of the RAS of the studied municipality, who were active in the health services during the data collection and who agreed to participate in the research. From these contacts, data was collected on catheter patients for each RAS health service in the municipality. The electronic contacts of the managers of the indicated services were forwarded by the Municipal Health Department (SMS - Secretaria Municipal de Saúde) after approval of the study by the Research Ethics Committee with human beings of the proposing institution, under CAAE No. 27238819.9.0000.5504, in accordance with ethical precepts, complying with Resolution No. 466/2012 and Circular Letter No. 2/2021/CONEP/SECNS/MS of the National Health Council (CNS - Conselho Nacional de Saúde).

Data collection was carried out from November 2020 to June 2021. Due to the COVID-19 pandemic scenario and following ethical precepts, the interview was sent via electronic form. Given the acceptance to participate in the research, with the signing of the Free and Informed Consent Form (FICF), data collection was carried out via email by responding to the instrument through an electronic form created by the researchers.

The instrument used was to characterize the care provided to patients using urinary catheterization by age group, cause of chronicity, type of device and health actions in the health services and departments of the RAS of the municipality. The instrument presented items about the care provided to these patients carried out in the municipal health system, the supplies made available for performing urinary catheterization, the health services associated with this procedure and the health actions developed with these patients undergoing periodic treatment and daily use of urinary catheterization.

After data collection, the data were previously coded and entered into a formatted database in the Microsoft Excel® spreadsheet editor, using double entry. After validation, the database was subjected to statistical treatment. The variables were ordered descriptively and presented as absolute and relative frequency, while measures of central tendency, variability and position were used to describe the numerical variables. Fisher's test, Pearson's chi-square test and multiple correspondence analysis were used to verify associations between variables, with significance being less than or equal to 0.05.

RESULTS

Characterization of participants

A total of 38 (100.0%) managers of health services in the city's RAS were identified, of which 15 (39.5%) participated in the study, eight (21.0%) managers of UBS and seven (18.4%) of USF.

According to the information sent by the managers of the units participating in this study, 23 patients using urinary catheterization were reported in the aforementioned units located in the northwest (4), southwest (6), northeast (3) and southeast (2) regions of the city. Table 1 presents the sociodemographic and clinical characterization of the patients identified by the managers.

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Table 1. Numerical and percentage distribution of the sample of patients presented by managers, according to sociodemographic and clinical data. São Carlos, SP, Brazil, 2021.

Sociodemographic data	n(%)	Clinical Data	n(%)
Gender		Level of care in the RAS	
Male	12 (52,2)	*Primary*	*23 (62,1)*
Female	11 (48,8)	*Secondary and Tertiary*	*14 (37,8)*
Age		*Medical Diagnosis Category* **	
10 to 20	04 (17,4)	*Urological*	*18 (58)*
21 to 59	07 (30,4)	*Neurological*	*9 (29,0)*
≥ 60	12 (52,2)	*Cardiological*	*4 (12,9)*
Marital status		*Type of urinary catheterization* ***	
Married	05 (21,7)	*Indwelling (ICD)*	*14 (37,8)*
Divorced	02 (8,7)	*Intermittent (IUC)*	*23 (62,1)*
Single	11 (47,8)	*ICD usage period*	
Widowed	05 (21,7)	*1986 to 2014*	*4 (28,5)*
Education level		*2016 to 2019*	*6 (42,8)*
Illiterate	01 (4,3)	*2020*	*4 (28,5)*
Elementary School	14 (60,7)	*IUC usage period*	
High School	02 (8,7)	*1990 to 2010*	*8 (36,3)*
Higher education	06 (26,1)	*2011 to 2020*	*14 (63,6)*
Monthly Income in Minimum Wage (MW)*		*Number of caregivers in the home*	
1 MW	12	*None*	*5 (22,7)*
Over 1 MW	11 (47,8)	*1 caregiver*	*8 (36,3)*
Up to 4 MW	03 (13,0)	*More than 1 caregiver*	*9 (40,9)*

* MW reference value in Brazil: R$1100.00 (abril./2021)(Source: https://agenciabrasil.ebc.com.br/economia/noticia/2021-04/governo-propoe-salario-minimo-de-r-1147-em-2022-sem-aumento-real#:~:text=Em%202021%2C%20o%20sal%C3%A1rio%20m%C3%ADnimo,R%24%202%20ao%20sal%C3%A1rio%20m%C3%ADnimo).
** Category that includes clinical conditions mentioned by health users. Examples include urological (related to the urinary system), neurological (related to the nervous system), and cardiological (related to the cardiovascular system).
*** Category that describes the catheterization methods mentioned by participants. Includes intermittent (performed at specific intervals) and indwelling (catheter left in place for a prolonged period of time).

Situational Diagnosis of patients using urinary catheterization in the municipality: structuring and coverage area in the RAS

Therefore, there were associations between sociodemographic and clinical data to identify the situational diagnosis of patients using urinary catheterization in the RAS, which indicated a statistically significant difference with more than two variables and their categories, as shown in Table 2

Table 2 - Associations between situational diagnosis data in the RAS, according to the intersection of two variables and their categories. São Carlos, SP, Brazil, 2021.

Associations between sociodemographic and clinical data	n(%)	n(%)
Intermittent urinary catheter by number of caregivers	Use of ICU	*Doesn't use ICU*
None	6 (100,0)	*0 (0,0)*
1 Caregiver	6 75,0)	*2 (25,5)*
More than 1 caregiver	3 (33,3)	*6 (66,7)*
Fisher's exact test	0,0315	
Pearson's Chi-square test	0,0227	

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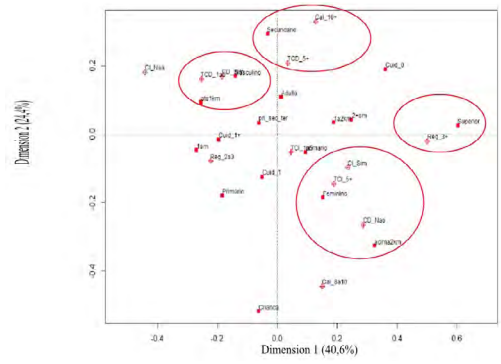
Intermittent urinary catheter use frequency by level of education	2 to 3 times a day	*More than 3 times a day*
Elementary School	8 (80,0)	*2 (20,0)*
High School	3 (60,0)	*2 (40,0)*
Higher education	0 (0,0)	*4 (100,0)*
Fisher's exact test	0,0182	
Pearson's Chi-square test	0,0234	
Calibre do CUI por Idade	10 to 20 years old	*Over 21 years old*
8 a 10 (French)	4(100,0)	*4 (28,6)*
Maior que 10 (French)	0 (0,0)	*10 (71,4)*
Teste Exato de Fisher	0,0229	
Teste quiquadrado de Pearson	0,0494	
Cateter urinário de demora por cateter urinário intermitente	Uses ICU	*Doesn't use ICU*
Uso de CUD	6 (40,0)	*8 (100,0)*
Não usa CUD	9 (60,0)	*0 (0,0)*
Teste Exato de Fisher	0,0072	
Teste quiquadrado de Pearson	0,0183	
Tempo de CUD por tempo de CUI	ICU use from 1 to 5 years	*Use of ICU for more than 5 years*
Uso CUD de 1 a 5 anos	5 (100,0)	*0 (0,0)*
Uso CUD mais de 5 anos	0 (0,0)	*5 (100,0)*
Teste Exato de Fisher	0,0079	
Teste quiquadrado de Pearson	0,0114	
Calibre do CUI por CUD	Use of ICD	*Doesn't use ICD*
8 a 10 (French)	1 (11,1)	*7 (77,8)*
Maior que 10 (French)	8 (88,9)	*2 (22,2)*
Teste Exato de Fisher	0,0155	
Teste quiquadrado de Pearson	0,0177	

From the sample of patients and caregivers presented in Table 2, it is worth noting that no child used an ICD, while most adult patients had already used or still used an indwelling catheter.

Regarding education, it is worth noting that patients using an ICU with primary and secondary education used it regularly two to three times a day, and patients with higher education used it more than three times a day. Regarding the time of use of the urinary catheter, both patients using an ICD and an ICU had used some type of urinary catheter for more than five years. Regarding the urinary catheter caliber, patients using an ICD had a caliber greater than 10 Fr, and patients using an ICU had calibers between 8 and 10 Fr.

In this situational diagnosis, Figure 1 demonstrates the multiple correspondence analysis between the data from this study in a factorial plan with the association of the variables presented in Table 2. In this sense, Figure 1 shows that the closer the points referring to two or more categories, the more evident the association between them.

Figure 1. Factorial plan of the situational diagnosis highlighting the associations between the variables. São Carlos, SP, Brazil, 2021.



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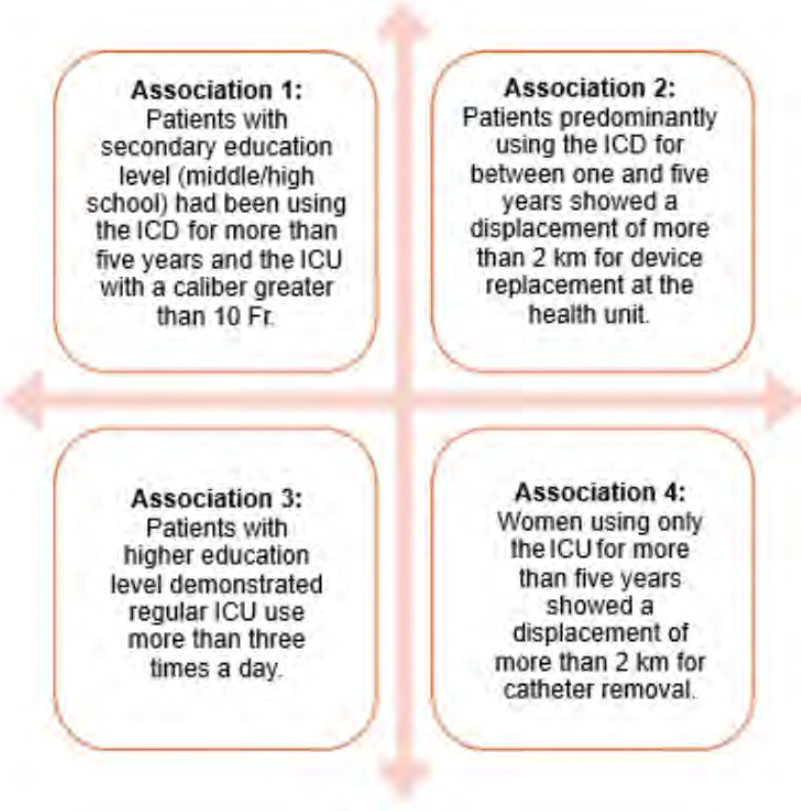
Thus, Figure 2 presents the four main findings of the situational diagnosis of patients using urinary catheters in the municipality of this study.

Figure 2. Main associations of the situational diagnosis of patients using urinary catheters in the municipality. São Carlos, SP, Brazil, 2021.



DISCUSSION

In this study, the sociodemographic and clinical profiles found in the sample of patients using urinary catheterization corroborate the results of previous studies. [2-6] Thus, the characterization of these patients and their caregivers constitutes an indispensable strategy that enables the creation of multiple responses, both to address the health-disease production and to overcome the fragmentation of care and management, improving the political-institutional functioning of the Unified Health System (SUS). [22,23]

Of the managers who participated in this survey, approximately 40% reported data on patients using urinary catheters in healthcare facilities. Notably, a significant portion of these patients had little or no education, in addition to having a limited family income (1MW). This reality is common in Brazil and has direct implications for the distribution of risk factors for chronic diseases. The literacy rate, therefore, is intrinsically linked to the health conditions and quality of life of patients using urinary catheters. Healthcare professionals should consider this crucial aspect when providing guidance to patients. Communication should be clear and simple, facilitating understanding of the procedure and promoting adherence to treatment.

Regarding the age of these patients, it is worth noting that the population over 60 years of age is the main user of urinary catheterization in the municipality of this study. This factor may be mainly associated with population aging, since in this period of the life cycle, the individual is more susceptible to developing comorbidities and prone to major changes in the genitourinary tract. In addition, concomitantly with these changes, there is an increasing occurrence of the need for urinary catheterization for the treatment and prevention of urinary problems in this age group. [14]

According to the associations between sociodemographic and clinical data of the situational diagnosis of urinary catheter use in the municipality, it was possible to see that the percentage of patients who used urinary catheterization did not vary significantly between men and women, which indicates that both sexes are also likely to perform this procedure. [5] In this sense, it is extremely important that the health professional remembers the differences in the procedure due to the anatomical structure of each sex, especially, for example, when providing guidance on home care for the intermittent urinary catheter. In males, although the urethral meatus is easier to see, there is greater difficulty in fully inserting the urinary catheter due to the male urethral anatomy. In females, there is greater anatomical difficulty in visualizing the urethral meatus, but insertion is easier because this same anatomy is smaller. [10,12]

In this study, health unit managers reported data on patients using urinary catheterization in different regions of the municipality: 4 in the northwest, 6 in the southwest, 3 in the northeast and 2 in the southeast. This geographic distribution is relevant to assess the success or failure of the catheterization technique and patient adherence. [21] A crucial factor for the success of this procedure is the quality of the materials used, in which associations are observed between types of catheter, gauge and transportation to the health unit (as shown in Table 2). For example, the use of lubricated catheters is not yet common in Brazil, however it is the type of catheter that causes the least complications in the urinary tract and infections. [5, 11-14] In the ICU, a simple catheter, lidocaine hydrochloride, represented approximately 53% of the patient's choice as lubricant. This

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local anesthetic has properties that cause a reduction in the sensitivity of the urethral mucosa, contributing to its protection compared to the use of 0.9% saline solution and other unspecified lubricants, which do not provide the same effect. [13,14]

Regarding the associations with the variables of this study, it is also essential to highlight the prolonged use of the ICD for up to five years and with large calibers. It is worth mentioning that the prolonged use of this type of urinary catheter can cause urinary retention with recurrent episodes of Urinary Tract Infection (UTI), lacerations of the urethral canal, and even rashes, ulcers or wounds on the skin that come into contact with urine. [14,15] Another aspect was the movement of patients to the units related to the use of the catheter (Figure 2).

> "It is clear that the greater the support from the health team for the multidimensional issues of the patient's life using urinary catheterization, the better the adherence to treatment will be." (21)

In this process, nurses are professionals who are decisive in the progress of patients, since they help patients to become independent within the reality they experience, through self-care and help to obtain a better quality of life. [5,21]

In the treatment of patients with LUTS using a urinary catheter, the caregiver is usually present during the training phase and provides the patient with security in continuing care at home. In this study, it was noted that most patients did not have, or had only one caregiver (60.8%). Caregivers contribute to a better quality of care for the patient, as in the case of care provided at home. However, the continuous use of the urinary catheter can affect the daily activities of the binomial (patient and caregiver). Therefore, the Nursing team needs to be attentive to the emotional and physical health of the caregiver, since they are the source for providing guidance and training on how to provide care at home. [19]

Furthermore, when carrying out this situational diagnosis, it is important to highlight the identification of Primary Health Care (PHC) as the direct and continuous contact of these patients using some type of urinary catheter. In this context, the different health services need guidance on the use of urinary catheters, and the most appropriate type and gauge of catheter to be provided to patients. [21] The PHC also plays an essential role in the process of coordinating comprehensive care for this type of patient, in which the RAS acts as an articulated set of health services linked to the PHC and promotes comprehensive and continuous health care, with quality and in a humanized manner, according to the needs of each citizen. Therefore, the importance of the situational diagnosis of the municipality of this study is highlighted, for patients with LUTS using urinary catheters, undergoing a complex treatment process, especially in the PHC.

CONCLUSION

The situational diagnosis for urinary catheter users was essential to identify the specific needs and conditions of these patients, which allows for personalized care focused on the user's safety and quality of life. In addition, providing care to patients using urinary catheters and their caregivers in the Health Care Network (RAS) is of great importance in the Unified Health System (SUS), since it is a continuous and interdisciplinary treatment.

Therefore, health professionals must pay special attention to these individuals, helping them define goals and care strategies, in addition to strengthening support networks through PHC. It is also important to highlight the need to create lines of care, care flows and monitoring of the therapeutic itinerary and coordination of care for these RAS patients.

It is important to mention that this study has the number of participants as its main limitation. Due to the COVID-19 pandemic scenario, data collection occurred electronically, together with the proposed services and their respective supervisors and/or managers. The challenges faced during electronic collection included delays in responses and limitations in data access resources.

In view of these results, future research can outline objectives according to the needs and conditions observed by health professionals. In addition, these findings can drive the development of new health care technologies for families of patients using urinary catheterization, as well as provide recommendations for future research on the topic.

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