UNIVERSIDAD DE COSTA RICA | CCP Centro Centroamericano de Población

Doi: https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

Población y Salud en Mesoamérica

The impact of recurring urinary infections on the quality of life of women in outpatient care in Brazil

Luciano Garcia Lourenção, Jacqueline Flores de Oliveira, José Carlos Carraro-Eduardo, Giovani Machado Homem and Carlos Augusto Faria

Cómo citar este artículo:

Garcia Lourenção, L., Flores de Oliveira, J., Carraro-Eduardo, J.C., Machado Homem, G., & Faria, C. A. (2024). The impact of recurring urinary infections on the quality of life of women in outpatient care in Brazil. *População y Salud en Mesoamérica, 21*(2). https://doi.org/10.15517/psm.v21i2.53206

ISSN-1659-0201 http://ccp.ucr.ac.cr/revista/

Revista electrónica semestral
Centro Centroamericano de Población
Universidad de Costa Rica

Población y Salud en Mesoamérica

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

The impact of recurring urinary infections on the quality of life of women in outpatient care in Brazil

El impacto de las infecciones urinarias recurrentes en la calidad de vida de mujeres en atención ambulatoria en Brasil

O impacto das infecções urinárias recorrentes na qualidade de vida de mulheres em atendimento ambulatorial no Brasil

Luciano Garcia Lourenção [1], Jacqueline Flores de Oliveira [2], José Carlos Carraro-Eduardo [3] y Giovani Machado Homem [4] & Carlos Augusto Faria[5]

Abstract: Objective: To evaluate the impact of recurring urinary infections on the quality of life of women in outpatient care. **Method:** Observational, descriptive, and analytical study with 98 women attended in the outpatient clinic of a public teaching hospital in Niterói, Rio de Janeiro, Brazil. 49 of these women had recurring urinary infections, confirmed by urine cultures, with no complications; 49 had no recurring urinary infections, and the two groups were matched for age. Quality of life was evaluated using the Brazilian version of the World Health Organization's abbreviated questionnaire WHOQOL-Bref. **Results:** The quality of life of women with urinary tract infections was more compromised in the physical (p = 0.007) and psychological (p = 0.038) domains. These women also presented a lower self-assessment of quality of life (p = 0.002) when compared to the control group. Women with recurring urinary infections presented significantly lower mean scores than the control group in the facets Energy and fatigue (p = 0.003), Positive Feelings (p = 0.014), Self-esteem (p = 0.040), Dependence on medicinal substances (p = 0.029), Negative Feelings (p = 0.023), and Recreation/leisure activities (p = 0.041). **Conclusion:** Recurring urinary tract infections have an impact on the quality of life of women, especially in the Physical and Psychological domains, being a significant problem for women, health workers, and the health system as a whole.

Keywords: Urinary Tract Infections, Quality of Life, Women's Health, Infection Control.

Resumen: Objetivo: Evaluar el impacto de las infecciones recurrentes del tracto urinario en la calidad de vida de las mujeres con infecciones recurrentes en atención ambulatoria. **Método:** Estudio observacional, descriptivo y analítico realizado con 98 mujeres atendidas en un consultorio externo de un hospital público de enseñanza de la ciudad de Niterói, Río de Janeiro, Brasil, comprendiendo 49 mujeres con infecciones urinarias recurrentes confirmadas por urocultivo sin complicaciones y 49 mujeres sin infecciones urinarias recurrentes, emparejadas por edad. La calidad de vida se evaluó mediante la versión brasileña del cuestionario abreviado de la Organización Mundial de la Salud, el WHOQOL-Bref. **Resultados:** Las mujeres con infecciones del tracto urinario mostraron mayor deterioro de la calidad de vida en los dominios físico (p = 0,007) y psicológico (p = 0,038), y mostraron menores puntuaciones de calidad de vida en la autoevaluación (p = 0,002) en comparación con el grupo de control. Las mujeres con infección urinaria recurrente mostraron puntuaciones medias significativamente más bajas que el grupo de control en las facetas Energía y fatiga (p = 0,003), Sentimientos positivos (p = 0,014), Autoestima (p = 0,040), Dependencia de la medicación (p = 0,029), Sentimientos negativos (p = 0,023) y Ocio y tiempo libre (p = 0,041). **Conclusión:** Las infecciones

[1] Universidade Federal do Rio Grande (FURG). Rio Grande, Rio Grande do Sul, BRASIL. lucianolourencao.enf@gmail.com
[2] Universidade Federal do Rio Grande (FURG). Rio Grande, Rio Grande do Sul, BRASIL. jacqueoliveira.enf@hotmail.com
[3] Universidade Federal Fluminense (UFF). Niterói, Rio de Janeiro, BRASIL. carraroeduardo@gmail.com
[4] Universidade Federal Fluminense (UFF). Niterói, Rio de Janeiro, BRASIL. gijohomem2@hotmail.com
[5] Universidade Federal Fluminense (UFF). Niterói, Rio de Janeiro, BRASIL. carlosfaria1965@gmail.com

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

urinarias recurrentes afectan a la calidad de vida de las mujeres, especialmente en los ámbitos físico y psicológico, lo que representa un problema importante para las mujeres, los profesionales sanitarios y el sistema de salud.

Palabras clave: Infecciones Urinarias, Calidad de Vida, Salud de la Mujer, Control de Infecciones

Resumo: Objetivo: Avaliar o impacto das infecções recorrentes do trato urinário na qualidade de vida de mulheres com infecções recorrentes, em atendimento ambulatorial. **Método:** Estudo observacional, descritivo e analítico, realizado com 98 mulheres atendidas em ambulatório de um hospital público de ensino da cidade de Niterói, Rio de Janeiro, Brasil, sendo 49 mulheres com infecções recorrentes de trato urinário, confirmadas pela cultura de urina, sem complicações e 49 mulheres sem infecções recorrentes de trato urinário, pareadas por idade. A qualidade de vida foi avaliada utilizando a versão brasileira do questionário abreviado da Organização Mundial de Saúde, o WHOQOL-Bref. **Resultados:** Mulheres com infecções do trato urinário apresentaram maior comprometimento da qualidade de vida nos domínios físico (p = 0,007) e psicológico (p = 0,038), e demonstraram maior escore de qualidade de vida na auto avaliação (p = 0,002), quando comparadas ao grupo controle. As mulheres com infecção urinária recorrente apresentaram escores médios significativamente menores do que o grupo controle nas facetas Energia e fadiga (p = 0,003), Sentimentos positivos (p = 0,014), Autoestima (p = 0,040), Dependência de medicação (p = 0,029), Sentimentos negativos (p = 0,023) e Recreação e lazer (p = 0,041). **Conclusão:** As infecções recorrentes do trato urinário causam impacto na qualidade de vida das mulheres, principalmente nos domínios Físico e Psicológico, representando um problema significativo para as mulheres, para os profissionais de saúde e para o sistema de saúde.

Palavras chave: Infecções Urinárias; Qualidade de Vida; Saúde da Mulher; Controle de Infecções.

Recibido: 22 nov, 2022 | **corregido:** 05 oct, 2023 | **aceptado:** 10 oct, 2023

1. Introduction

Urinary tract infections (UTI) are bacterial infections which, in most cases, appear in outpatient clinic settings, globally affecting nearly 150 million people a year, especially women. Estimates show that one in three women will have at least one UTI episode in their lives, and from 30 to 50% of these women can present another case of the infection from 6 to 12 months afterwards (Grigoryan et al., 2022; Naber et al., 2022).

The likelihood of recurring infections increase with age. This growth in the incidence of recurrent UTIs is due to factors such as lower estrogen production during menopause, and a higher prevalence of urinary incontinence (Renard et al., 2015; Wagenlehner et al., 2018).

Clinically, several factors can be associated with UTI episodes, such as being female, sexual activity, diabetes, obesity, genetic susceptibility, and vaginal infections caused by different organisms that colonize the perineum and vagina, and may cause isolated or repeated infections (relapses or

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

reinfections) at varying intervals, with higher or lower levels of severity (Flores-Mireles et al., 2015; Keren et al., 2015; Moreira et al., 2016).

Recurring urinary infections increase expenses with consultations, lab exams, medications, and hospitalizations, being thus an economic burden for the health system. Additionally, they generate social costs, as they cause absenteeism and morbidity in those affected (Flores-Mireles et al., 2015; Haddad et al., 2020; Wagenlehner et al., 2018).

Studies have shown that recurring urinary tract infections and cystitis have a strong impact on people's quality of life (Aydin et al., 2015; Izett-Kay et al., 2022; Yang, & Foley, 2018). Many women with recurring UTI experience discomfort due to its physical, psychological, emotional, and social effects, which can interfere in daily activities and quality of life, transforming these infectious frameworks into an important health problem for women, which, nonetheless, can be mitigated by the right treatment (Izett-Kay et al., 2022; Vahlensieck et al., 2016).

Prophylaxis can be a strategy to improve the quality of life of patients and avoid antibiotic overuse (Sosland, & Stewart, 2021); however, there is no consensus in Latin America about the prophylaxis or treatment of recurrent urinary infections (Haddad et al., 2020).

European studies suggest that repeated UTIs have a significant impact on the quality of life of women, representing an important problem for their physical and mental health, in addition to having relevant social impacts (Sosland, & Stewart, 2021; Wagenlehner et al., 2018). In this context, investigating the level to which recurring UTIs compromise the quality of life of women contributes to organize actions to promote health care and related activities, which may impact on the management of the services as it reduces the cost of treating these women.

Considering the above, the objective of this study was to evaluate the impact of recurring urinary infections on the quality of life of women in outpatient care.

2. Methods

Observational, descriptive and analytical study with 98 women attended in the outpatient clinic of a public teaching hospital in Niterói, Rio de Janeiro, Brazil. 49 of these women had recurring urinary infections, confirmed by urine culture, with no complications; 49 did not have this type of infection.

We considered an infection to be recurrent when there were three different instances of urinary tract infection with three positive urine cultures in the last 12 months, or two instances of UTI in the last six months (Malik, & Zimmern, 2018).

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

We selected women aged 18 or above for the study group, who had had at least two urinary tract infections in the last six months and/or three or more cases in a single year, according to clinical history as confirmed by urine culture tests (Faria et al., 2018). Women who were pregnant, were using bladder catheters, had an obstructed urinary tract, or neurogenic bladder were excluded. For the control group, we selected 49 women whose ages matched those of the case group and were undergoing some form of outpatient treatment in the same institution (outpatient service), but had no urinary tract infections.

For data collection, we used an instrument elaborated by the authors, which contained clinical variables (weight, height, hypertension, diabetes mellitus, number of pregnancies, number of childbirths, number of c-sections, active sex life, type of incontinence, contraceptive use), and the Brazilian version of the World Health Organization's quality of life questionnaire, the WHOQOL-Bref, which consists of 26 questions whose answers are scored using a five-point Likert scale in relation to four types of scales (depending on the content of the question): intensity, capacity, frequency, and evaluation (World Health Organization, 2010).

This instrument allows for a generic assessment, using a multidimensional and multicultural approach to quality of life in four domains: Physical, Psychological, Social Relations, Environment. It also includes two general questions, the first of which relates to quality of life (How would you evaluate your quality of life?), while the second is related to health (How satisfied are you with your health?). The higher the score of a domain, the better the quality of life. Values below 50.00 indicate significant quality of life impairments (Cordioli Junior et al., 2020; World Health Organization, 2010).

In the second semester of 2018, after data collection was finished, results were analyzed using the software Statistical Package for the Social Sciences (SPSS), version 23.0. Clinical variables were used to describe the sample studied and, to evaluate the quality of life of the women analyzed, we performed statistical analyses, considering frequencies and descriptive statistical measures of the general questions about life and health of the participants; mean scores and standard deviations for the WHOQOL-Bref domains; and mean scores for the facets that form the WHOQOL-Bref domains, comparing the two groups (case and control). To compare the groups, we used a chi-squared test for general questions and the t-test for domains and facets, considering a significance level of 95% ($p \leq 0.05$). To evaluate the potential impact of recurring urinary infections on quality of life, we carried out a regression analysis, adjusted for potential confounding factors (hypertension, active sex life, BMI, and use of contraceptives).

The study followed all formal requirements of national and international norms that regulate research with human beings and was approved by the Research Ethics Committee of the

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

Universidade Federal Fluminense under Certificate of Submission for Ethical Approval No. 01655812.1.0000.5243.

3. Results

Participants were aged from 18 to 87 years, with a mean of 41.6 (± 17.0); 36.7% had had from one to three pregnancies; 32.2% had given birth from one to three times; and 74.5% claimed to have an active sexual life. 37.8% had urinary incontinence (UI), caused, in 9.2% of cases, by stress, and in 14.3% by overactive bladder, with 14.3% presenting cases of mixed incontinence. Furthermore, 46.9% of the women in the control group and 18.4% of those in the study group (with recurrent urinary tract infection) were hypertensive.

When the body mass indexes (BMI) of participants were compared, 59.6% of patients in the control group and 44.2% of women with recurrent urinary tract infection were found to be overweight or had some degree of obesity, with 36.2% of the control group having grade I obesity, and 11.6% of those with recurrent urinary tract infections presenting grade III obesity. Regarding contraceptive use, 23.5% of women made continued use of contraceptives.

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

Table 1

Clinical characteristics of women undergoing outpatient treatment. Niterói – Rio de Janeiro, Brazil, 2018

Clinical variables	Women with UI	Women without UI	P-value [1]
Pregnancies			
None	17 (34.7)	18 (36.7)	
One to three	18 (36.7)	24 (49.0)	0.439
Four or more	6 (12.2)	7 (14.3)	
Did not answer	8 (16.3)	-	
Childbirth			
None	25 (51.0)	31 (63.3)	
One to three	13 (26.5)	16 (32.7)	0.800
Four or more	3 (6.1)	2 (4.1)	
Did not answer	8 (16.3)	-	
C-sections			
None	24 (49.0)	27 (55.1)	
One to three	16 (32.7)	22 (44.9)	0.491
Four or more	1 (2.0)	-	
Did not answer	8 (16.3)	-	
Active sex life			
Yes	40 (81.6)	33(67.3)	0.105
No	9 (18.4)	16 (32.7)	
Type of urinary incontinence			
No	26 (53.1)	35 (71.4)	
Stress incontinence	5 (10.2)	4 (8.2)	0.293
Overactive bladder	9 (18.4)	5 (10.2)	
Mixed incontinence	9 (18.4)	5 (10.2)	
Hypertension			
Yes	9 (18.4)	23 (46.9)	**0.003**
No	39 (79.6)	26 (53.1)	
Did not answer	1 (2.0)	-	
Diabetes			
Yes	2 (4.1)	5 (10.2)	0.251
No	46 (93.9)	44 (89.8)	
Did not answer	1 (2.0)	-	
Body mass index (BMI)			
Malnutrition	1 (2.0)	-	
Normal weight	23 (46.9)	19 (38.8)	
Overweight	12 (24.5)	10 (20.4)	**0.002**
Grade I obesity	2 (4.1)	17 (34.7)	
Grade II obesity	-	1 (2.0)	
Grade III obesity	5 (10.2)	-	
Did not answer	6 (12.2)	2 (4.1)	
Contraceptive use			
No	23 (46.9)	28 (57.1)	
Male condom and spermicide	9 (18.4)	7 (14.3)	
Continuous-use oral contraceptive	14 (28.6)	9 (18.4)	0.150
Oral cyclic contraceptive	-	4 (8.2)	
Intrauterine device (IUD)	-	1 (2.0)	
Did not answer	3 (6.1)	-	

[1] Chi-squared test.

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

As Table 2 shows, the percentage of women with recurring urinary infections that consider their quality of life to be bad or very bad (14.2%) is significantly higher than the percentage of women in the control group (2.0%) who evaluate their quality of life in such a way. As opposed to this result, the percentage of women with recurring urinary infections who consider their lives to be good or very good (55.1%) is significantly lower than the percentage of women in the control group (73.4%) who evaluate their lives as in this manner.

Similarly, the percentage of women with recurring urinary infections who consider themselves to be dissatisfied or really dissatisfied with their health (48.9%) is significantly higher than the percentage among women in the control group (14.3%) (p = 0.004). In turn, the percentage of women with recurring urinary infections who consider themselves satisfied or very satisfied with their health (34.7%) is significantly lower than the percentage of women in the control group (59.2%) who see themselves in this light.

Table 2

Response frequency of women with and without recurring urinary infections and mean scores for general quality of life questions. Niterói – Rio de Janeiro, Brazil, 2018

Question	Answer options	With UI		Without UI	
		n	%	n	%
How would you rate your quality of life?	*1-very bad*	1	2.0	-	-
	2-bad	6	12.2	1	2.0
	3-neither bad nor good	15	30.6	12	24.5
(p = 0.027) [1]	*4-good*	19	38.8	33	67.3
	5-very good	8	16.3	3	6.1
	Mean score	3.6		3.8	
	Standard deviation	1.0		0.6	
How satisfied are you with your health?	*1-very dissatisfied*	6	12.2	3	6.1
	2- dissatisfied	18	36.7	4	8.2
	3-neither satisfied nor dissatisfied	8	16.3	13	26.5
(p = 0.004) [1]	*4-satisfied*	16	32.7	24	49.0
	5-very satisfied	1	2.0	5	10.2
	Mean score	2.8		3.5	
	Standard deviation	1.1		1.0	

[1] Chi-squared test

The quality of life of women with UTIs was more compromised in the physical and psychological domains. However, these women presented a better self-assessment of quality of life when compared to the control group, as table 3 shows.

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

Table 3

Quality of life assessment in the groups of women with and without recurrent urinary infections. Niterói – Rio de Janeiro, Brazil, 2018

WHOQOL-Bref domains	With UI [1]	Without UI [1]	p-value [2]
Physical	62.81 ± 15.59	71.35 ± 14.89	0.007
Psychological	67.79 ± 14.76	73.95 ± 14.18	0.038
Social Relationships	77.76 ± 13.60	75.52 ± 15.03	0.440
Environment	67.33 ± 13.78	63.52 ± 12.05	0.148
Self-assessment of Quality of Life	72.65 ± 12.37	63.06 ± 17.10	0.002

[1] Mean ± standard deviation. [2] T-test.

An evaluation of the impact of recurring UTIs on the quality of life showed that women with urinary infections had a 13.3% lower mean than those in the control group (without urinary infections), as Figure 1 shows.

After an analysis adjusted for potential confounding factors (hypertension, active sex life, BMI, and use of contraceptives), the association between recurrent urinary infections and quality of life continued to be statistically significant (β = -1.95; p = 0.014).

Figure 1

Impact of recurring urinary infections on the quality of life of women treated in outpatient services. Niterói – Rio de Janeiro, Brazil, 2018

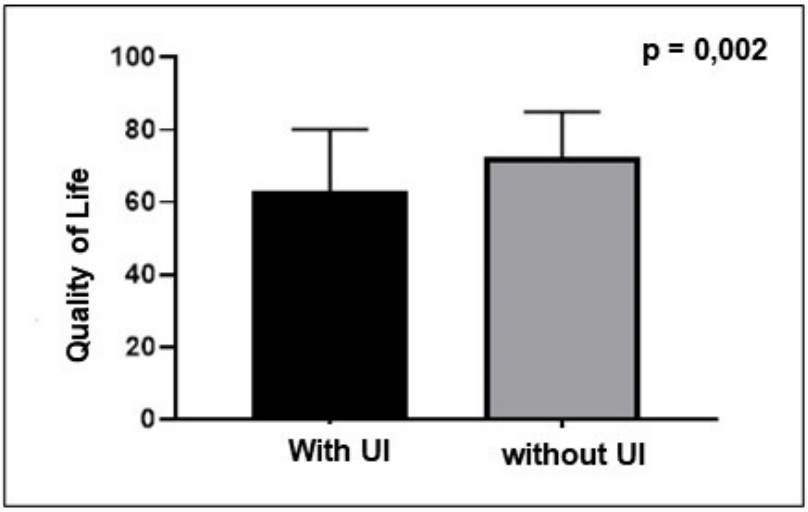


Figure 2 shows the mean scores of the WHOQOL-Bref facets, according to the study groups (case x control), showing that women with recurring UTIs presented impairments in the facets Sleep and rest (48.47), Dependence on medicinal substances and medical aids (44.27), Positive feelings (46.94),

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

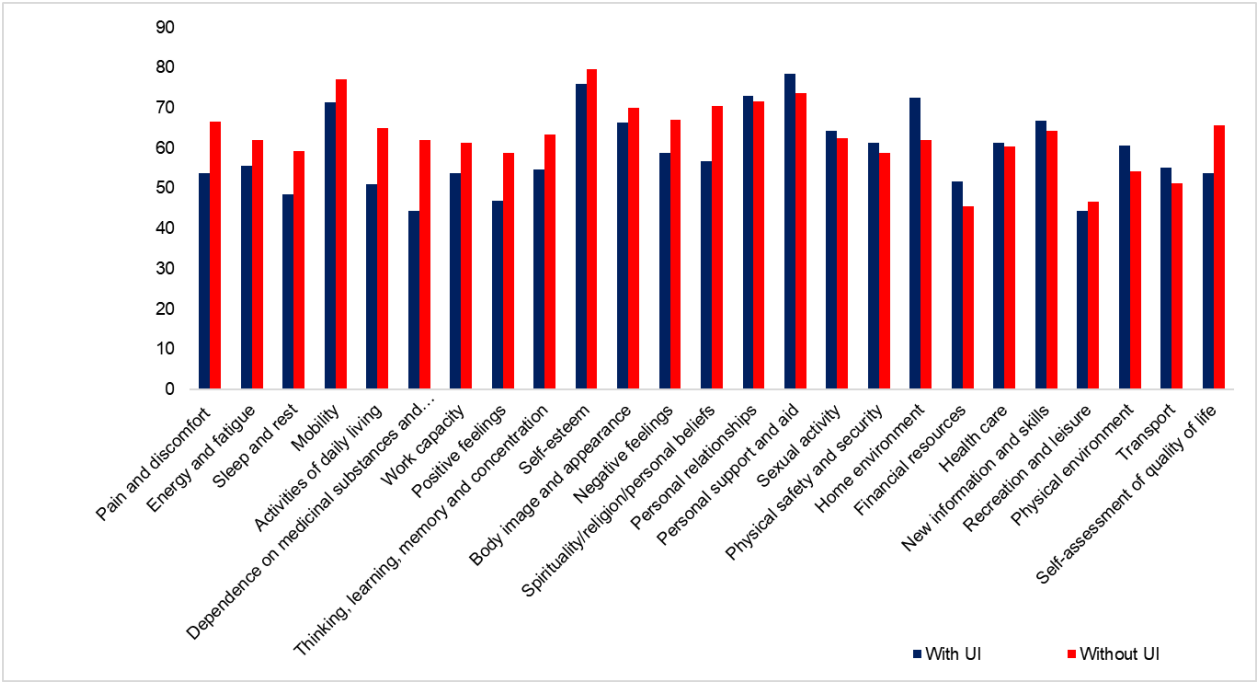
https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

and Recreation and leisure activities (44.9), while women from the control group presented impairments in the Financial resources facet (45.42).

The group of women with recurring urinary infections had significantly lower mean scores than the control group on the facets Energy and fatigue, Positive feelings, Self-esteem, Dependence on medicinal substances and medical aids, Negative feelings, and Recreation and Leisure activities.

Figure 2

Mean scores for the WHOQOL-bref facets, according to the groups in the study (with and without urinary infections).
Niterói – Rio de Janeiro, Brazil, 2018.



3.1 Discussion

Results show that recurring urinary tract infections in women have a significant impact on quality of life and health satisfaction. This study also shows that the quality of life of women with recurring UTI is significantly more compromised in its physical and psychological aspects than is the case for women without these infections. These findings corroborate previous studies with Asian and European women with recurring infections of this nature, which indicated that these infections had a broad negative impact on the quality of life of these women, especially affecting physical and mental dimensions (Ennis et al., 2018; Renard et al., 2015).

The fact that the physical and psychological domains of women with recurring urinary infections were the most compromised may be explained by the fact that the symptoms from these diseases

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

are chronic, thus having the potential to affect work activities and work engagement, physical activities, family care, and other daily activities carried out by women. Furthermore, these infections lead to symptoms such as burning or pain at urination (dysuria), frequent or urgent urination, polyuria, hematuria, or lower abdomen discomfort, which can influence in daily activities and in the quality of life of women (Carvalho et al., 2023; Keren et al., 2015; McLellan, & Hunstad, 2016).

In Brazil, a study with women who had recurring urinary infections, using the WHOQOL-Bref and the King's Health Questionnaire (KHQ) as instruments, found that these infections had an effect over physical, social, and sexual activities, with loss of self-esteem and emergence of anxiety and depression (Faria et al., 2018). In addition, as these repeated infections compromise daily activities, they have an impact on the mental health of women, triggering feelings such as frustration, irritation, and fatigue (Naber et al., 2022; Scott et al., 2021; Wagenlehner et al., 2018).

A study with women from five European countries showed that, for many, recurring urinary infections are associated to the emergence of stress, and can lead to the development of depression (Wagenlehner et al., 2018). These findings are corroborated by other studies that suggest that recurring UTIs can cause negative feelings and emotional impairments (Grigoryan et al., 2022; Izett-Kay et al., 2022; Naber et al., 2022; Renard et al., 2015; Sosland, & Stewart, 2021).

The quality of life impairment in sleep and rest, positive feelings, and recreation/leisure activities that was presented by women with recurring UTIs can be related to the clinical framework originated by the infectious episodes. This hypothesis is made more credible as women with recurring urinary infections had significantly lower scores in feelings, self-esteem, and recreation/leisure activities facets, when compared to women with no infection.

The discomfort from urgent urination caused by the infection can affect the quality of sleep in women, in addition to compromising their social lives, hindering their satisfaction of enjoying life (Bermingham, & Ashe, 2012; Faria et al., 2018). There is also prejudice related with leisure activities, such as social activities in group, travels, and family activities, which may compromise self-esteem, aggravating the negative impact on the quality of life of these women (Faria et al., 2018; Seshan, & Muliira, 2014).

The recurrence of UTI episodes requires constant medication treatment, including antibiotic therapy. In addition to taking a relevant economic toll on the public health system. The inadequate use of antibiotics may favor the development of multidrug-resistant micro-organisms, making the clinical situation of the infections more severe. This may explain the fact that the score of women with recurring UTI in the facet dependence of medicinal substances or medical aids was lower than the

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

one presented by women with no infections (Al Demour, & Ababneh, 2018; Faria et al., 2018; Medina, & Castillo-Pino, 2019; Sosland, & Stewart, 2021; Wagenlehner et al., 2018).

European data shows that recurrent urinary infections lead to an increase in absenteeism and medical consultations. According to literature, each episode of urinary infection leads, on average, to three days of sick leave. This loss of work capacity, associated to the emotional fatigue caused by the infection and its treatment, leads to a greater loss of energy and to increased fatigue among women with recurring urinary infections, favoring the emergence of negative feelings such as fear, frustration, moodiness, anxiety, and depression, in addition to having an impact on economic productivity (Bermingham, & Ashe, 2012; Medina, & Castillo-Pino, 2019; Scott et al., 2021; Wagenlehner et al., 2018).

Although literature shows an increase in the well-being of women, there are no reports of treatment-related quality of life improvements. This indicates that a successful medical treatment of an infection episode will not necessarily improve the quality of life of the patient (Sosland, & Stewart, 2021). However, studies indicate that, when there are adverse events related to treatment, the quality of life of women tends to be more compromised (Renard et al., 2015; Wagenlehner et al., 2018).

Thus, the definition and implementation of efficient strategies to prevent and treat recurring urinary tract infections requires health workers, especially physicians and nurses, to understand the real impact of these infections on the lives of these women. This requires professionals and users to make decisions together, in order to reach expectations and improve the quality of life of these women (Moskowitz, & Lee, 2018; Sosland, & Stewart, 2021; Wagenlehner et al., 2018).

Although a recent multi-centric European study pointed out that prophylaxis can reduce the number of infections and improve the quality of life of women, the lack of consensus regarding prophylaxis and how to treat recurring urinary infections in Latin America makes it harder to adopt prophylactic measures (Ennis et al., 2018; Renard et al., 2015; Wagenlehner et al., 2018). Thus, we need further studies that can evaluate the efficacy, risks and benefits that different prophylactic options bring to the quality of life of women with recurrent UTI.

This study has limitations regarding the number of women in its sample and its unicentric origin, meaning that further research on the topic is important, with larger samples from different services in different regions of the country. Nevertheless, the results found can subsidize the organization of health care actions that contribute for the quality of life of women with recurring infections, enhancing the promotion, recovery, and restoration of the health of these women undergoing outpatient care.

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

4. Conclusion

This study shows that recurring urinary tract infections have a negative impact on the quality of life of women, especially in the physical and psychological domains, compromising their level of satisfaction with health. These results reiterate that these recurring infections are a public health issue that affects women, health workers, and the health system itself.

The adoption of prophylactic measures is hindered by the scarcity of studies proving their effectiveness and the lack of a consensus in this regard in Latin America. Thus, further research is necessary to expand the discussion on the risk factors associated with recurring urinary infections, its socioeconomic impact, and the efficacy of prophylactic treatments, producing knowledge that can subsidize the implementation of effective actions for the health care of this population.

5. References

Al Demour, S., & Ababneh, M. A. (2018). Evaluation of Behavioral and Susceptibility Patterns in Premenopausal Women with Recurrent Urinary Tract Infections: A Case Control Study. *Urologia Internationalis, 100*, 31-36. https://doi.org/10.1159/000485568

Aydin, A., Ahmed, K., Zaman, I., Khan, M. S., & Dasgupta, P. (2015). Recurrent urinary tract infections in women. *International Urogynecology Journal, 26*(6), 795-804. https://doi.org/10.1007/s00192-014-2569-5

Bermingham, S. L., & Ashe, J. L. (2012). Systematic review of the impact of urinary tract infections on health-related quality of life. *BJU International, 110*(11 Pt C), E830-6. http://dx.doi.org/10.1111/j.1464-410X.2012.11337.x

Carvalho, T. M., Lourenção, L. G., Pinto, M. H., Viana, R. A. P. P., Moreira, A. M. B. S. G., Mello, L. P., Medeiros, G. G., & Gomes, A. M. F. (2023). Quality of life and work engagement among nursing staff at the start of the COVID-19 pandemic. *Ciência & Saúde Coletiva, 28*(10), 2903-2913. https://doi.org/10.1590/1413-812320232810.09982023

Cordioli Junior, J. R., Cordioli, D. F. C., Gazetta, C. E., Silva, A. G., & Lourenção, L. G. (2020). Quality of life and osteomuscular symptoms in workers of primary health care. *Revista Brasileira de Enfermagem, 73*(5), e20190054. http://dx.doi.org/10.1590/0034-7167-2019-0054

Ennis, S. S., Guo, H., Raman, L., Tambyah, P. A., Chen, S. L., & Tion, H. Y. (2018). Premenopausal women with recurrent urinary tract infections havelower quality of life. *International Journal of Urology, 25*(7), 684-689. https://doi.org/10.1111/iju.13698

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

Faria, C. A., Lourenção, L. G., Quintanilha, D. O., Vieira, M. S., Andrade, P. F. L. &, Carraro-Eduardo, J. C. (2018). Quality of life in women with recurrent urinary tract infections in an outpatient care. *Fisioterapia Brasil, 19*(3), 329-336. http://www.portalatlanticaeditora.com.br/index.php/fisioterapiabrasil/article/view/2064

Flores-Mireles, A. L., Walker, J. N., Caparon, M., & Hultgren, S. J. (2015). Urinary tract infections: Epidemiology, mechanisms of infection and treatment options. *Nature Reviews Microbiology, 13*, 269-284. https://doi.org/10.1038/nrmicro3432

Grigoryan, L., Mulgirigama, A., Powell, M., & Schmiemann, G. (2022). The emotional impact of urinary tract infections in women: a qualitative analysis. *BMC Women's Health,* 22, 182. https://doi.org/10.1186/s12905-022-01757-3

Haddad, J. M., Ubertazzi, E., Cabrera, O. S., Medina, M., Garcia, J., Rodriguez-Colorado, S. et al. (2020). Latin American consensus on uncomplicated recurrent urinary tract infection - 2018. *International Urogynecology Journal, 31*, 35-44. https://doi.org/10.1007/s00192-019-04079-5

Izett-Kay, M., Barker, K. L., McNiven, A., & Toye, F. (2022). Experiences of urinary tract infection: A systematic review and meta-ethnography. Neurourology and Urodynamics, 41(3), 724-739. https://doi.org/10.1002/nau.24884

Keren, R., Shaikh, N., Pohl, H., Gravens-Mueller, L., Ivanova, A., Zaoutis, L., Patel, M., deBerardinis, R., Parker, A., Bhatnagar, S., Haralam, M. A., Pope, M., Kearney, D., Sprague, B., Barrera, R., Viteri, B., Egigueron, M., Shah, N., & Hoberman, A. (2015). Risk Factors for Recurrent Urinary Tract Infection and Renal Scarring. *Pediatrics, 136*(1), e13. https://doi.org/10.1542/peds.2015-0409

Malik, R. D., Wu, Y., & Zimmern, P. E. (2018). Definition of Recurrent Urinary Tract Infections in Women: Which One to Adopt?. *Female Pelvic Medicine & Reconstructive Surgery, 24*(6), 424-429. https://doi.org/10.1097/SPV.0000000000000509

McLellan, L. K., & Hunstad, D. A. (2016). Urinary tract infection: pathogenesis and outlook. *Trends in Molecular Medicine, 22*(11), 946-957. https://doi.org/10.1016/j.molmed.2016.09.003

Medina, M., & Castillo-Pino, E. (2019). An Introduction to the Epidemiology and Burden of Urinary Tract Infections. *Therapeutic Advances in Urology, 11*, 3-7. https://doi.org/10.1177/1756287219832172

Moreira, A. C., Lourenção, L. G., Sassaki, N. S. G. M. S., Gazetta, C. E., Vendramini, S. H. F., & Santos, M. L. S. G. (2016). Mortality risk associated with blood sugar levels in patients with septicemia in Intensive Care. *Rev Rene, 17*(3), 324-329. http://dx.doi.org/10.15253/2175-6783.2016000300004

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

Moskowitz, D., & Lee, U. (2018). Patient Distress in Women with Recurrent Urinary Tract Infections: How Can Physicians Better Meet Patients Needs?. *Current Urology Reports, 19,* 97. https://doi.org/10.1007/s11934-018-0849-1

Naber, K. G., Tirán-Saucedo, T., Wagenlehner, F. M. E., & RECAP group. (2022). Psychosocial burden of recurrent uncomplicated urinary tract infections. *GMS infectious diseases, 10*, Doc01. https://doi.org/10.3205/id000078

Renard, J., Ballarini, S., Mascarenhas, T., Zahran, M., Quimper, E., Choucair, J., et al. (2015). Recurrent Lower Urinary Tract Infections Have a Detrimental Effect on Patient Quality of Life: a Prospective, Observational Study. *Infectious Diseases and Therapy, 4*(1), 125-135. https://doi.org/10.1007/s40121-014-0054-6

Scott, V. C. S., Thum, L. W., Sadun, T., Markowitz, M., Maliski, S. L., Ackerman, A. L., Anger, J. T., & Kim J. (2021). Fear and Frustration among Women with Recurrent Urinary Tract Infections: Findings from Patient Focus Groups. *The Journal of Urology, 206*(3), 688-695. https://doi.org/10.1097/JU.0000000000001843

Seshan, V., & Muliira, J. K. (2014). Dimensions of the impact of urinary incontinence on quality of life of affected women: a review of the English literature. *International Journal of Urology Nursing, 8*(2), 62-70. https://doi.org/10.1111/ijun.12034

Sosland, R., & Stewart, J. N. (2021). Management of Recurrent Urinary Tract Infections in Women: How Providers Can Improve the Patient Experience. *Urology, 151*, 8-12. https://doi.org/10.1016/j.urology.2020.06.059

Vahlensieck, W., Perepanova, T., Bjerklund Johansen, T. E., Tenke, P., Naber, K. G., & Wagenlehner, F. M. E. (2016). Management of Uncomplicated Recurrent Urinary Tract Infections. *European Urology Supplements, 15*(4), 95-101. https://doi.org/10.1016/j.eursup.2016.04.007

Wagenlehner, F., Wullt, B., Ballarini, S., Zingg, D., & Naber, K. G. (2018). Social and economic burden of recurrent urinary tract infections and quality of life: a patient web-based study (GESPRIT). *Expert Review of Pharmacoeconomics & Outcomes Research, 18*(1), 107-117. https://doi.org/10.1080/14737167.2017.1359543

World Health Organization. Quality of Life BREF - WHOQOL-BREF. In Preedy, V. R., & Watson, R. R. (eds). (2010). Handbook of Disease Burdens and Quality of Life Measures. Springer. https://doi.org/10.1007/978-0-387-78665-0_6927

Yang, B., & Foley, S. (2018). First experience in the UK of treating women with recurrent urinary tract infections with the bacterial vaccine Uromune®. *BJU International, 121*(2), 289-292. https://doi.org/10.1111/bju.14067

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/

https://doi.org/10.15517/psm.v21i2.53206
Volume 21, issue 2, Sci art. january-june 2024

Población y Salud
en Mesoamérica

¿Quiere publicar en la revista?
Ingrese **aquí**

O escríbanos:
revista.ccp@ucr.ac.cr

Población y Salud en Mesoamérica (PSM) es la revista electrónica que cambió el paradigma en el área de las publicaciones científicas electrónicas de la UCR. Logros tales como haber sido la primera en obtener sello editorial como revista electrónica la posicionan como una de las más visionarias.

Revista PSM es la letra delta mayúscula, el cambio y el futuro.

Indexada en los catálogos más prestigiosos. Para conocer la lista completa de índices, ingrese **aquí.**

Scopus · SciELO · DOAJ · latindex · redalyc.org · Dialnet

Revista Población y Salud en Mesoamérica -

Centro Centroamericano de Población
Universidad de Costa Rica

ISSN-1659-0201
http://ccp.ucr.ac.cr/revista/