

Patient data included age, sex, post-operative in-hospital length of stay, American Society of Anesthesiologist (ASA) score, type of procedure, antibiotic prophylaxis, pre-operative urine cultures, peri-operative use of medical devices, post-operative infections, microbial culture, and antimicrobial susceptibility testing. Infection was defined according to the European Centre for Disease Prevention and Control (ECDC) protocol. Multidrug resistant (MDR) organism was defined as a micro-organism resistant to one or more classes of antimicrobial agents tested. The main outcomes were the number of post-operative infections during the pandemic and the number of MDR isolates.

RESULTS

Baseline characteristics are presented in [Table 1](#). The post-operative infection rate during the pre-pandemic period was 14.1% compared with 12.1% during the pandemic ($p=0.494$). Ninety two percent of isolates were MDR in the pre-pandemic period compared with 52% during the pandemic ($p=0.002$). The pandemic period was associated with a reduced risk for MDR isolates on multivariate logistic regression analysis (odds ratio: 0.1; 95%

confidence interval: 0.07–0.57; $p=0.010$), but not with reduced number of infections (odds ratio: 0.84; 95% confidence interval: 0.53–1.34; $p=0.47$).

CONCLUSION

MDR isolates were lower during the pandemic in urology wards, possibly as an indirect result of COVID-19 preventive measures such as increased hand hygiene, room disinfection, and reduced family visits to inpatients. No statistically significant difference was found between the number of post-operative infections in the authors' sample. Further reports such as those from the ECDC are needed to confirm the authors' results. ■

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Linguistic and Clinical Validation of the Spanish Acute Cystitis Symptoms Score Questionnaire in Females with Acute Cystitis

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BACKGROUND AND AIMS

The Acute Cystitis Symptom Score (ACSS) is a patient self-reporting questionnaire for the clinical diagnostics and patient-reported outcome that may assess the symptoms and the effect on the quality of life in women with acute uncomplicated cystitis.^{1,2} The current study aimed to create a validated Spanish version of the ACSS questionnaire. The questionnaire was developed in Russian and English by the European Association of Urology (EAU) Section of Infections in Urology (ESIU).¹

MATERIALS AND METHODS

The ACCS questionnaire was translated from its original Russian and American English into Spanish by translators with Spanish as their mother language. Then, four urologists from Spain and Latin America reviewed the two translations and established a consensus form. This consensus form was then translated back into Russian by a translator with Russian as their mother language and American English by a translator with American English as their mother language, in order to check and exclude any relevant change of the meaning. This consensus version was then used for all countries with Spanish as their primary language for cognitive assessment processes. All comments were considered, and the study version was established.³⁻⁷ The study version was used for clinical validation in female patients from Spain, Colombia, and Peru.

Clinical evaluation was carried out by 198 female participants (151 with symptoms suspicious of uncomplicated cystitis and 47 controls). Psychometric characteristics of the ACSS were tested using coefficients of Cronbach's α and split-half reliability. The

diagnostic characteristics were tested using specificity, sensitivity, diagnostic odds ratio, positive and negative likelihood ratios, area under the receiver operating characteristic diagnostic accuracy, and risk ratio. Average point estimates and 95% confidence intervals were used to present the results of the tests.

RESULTS

The age of the 151 patients (mean: 49.9 years; standard deviation [SD]: 18.6) and 47 control (mean: 53.2 years; SD: 19.0) and their additional conditions at baseline visits such as menstruation, premenstrual syndrome, pregnancy, menopause, and diabetes were compared. Among the isolated pathogens, the most frequent was *Escherichia coli*, present in 94 urine cultures (74.6%). Other micro-organisms isolated were *Klebsiella pneumoniae* in 7 cases (5.5%), *Proteus mirabilis* in 7 (5.5%), Group B *Streptococcus* in 4 (3.1%), *Enterococcus faecalis* in 3 (2.3%), *Staphylococcus saprophyticus* in 3 (2.3%), and others.

ACSS comparative analysis reported a significant difference ($p < 0.001$) between patients and controls at the baseline visit regarding sum score of the typical symptoms (mean: 8.11; SD: 4.31; and mean: 0.70; SD: 1.04), differential symptoms (mean: 1.46; SD: 2.1; and mean: 0.28; SD: 0.58), and quality of life (mean: 4.9; SD: 2.1; and mean: 1.32; SD: 1.9) (Table 1). At the follow-up visit, in the 'Evolution' domain of Part B of the questionnaire, 74.2% of patients were asymptomatic (back to normal), 15.7% much better, and 10.1% somewhat better. None of the patients persisted without clinical changes or had worsened in their symptoms

Cronbach's α of the ACSS was 0.88 (mean: 0.85; SD: 0.90), and the split-half reliability was 0.89 (mean: 0.78; SD: 0.93). Using a sum score of >6 for typical symptoms, a specificity of 0.98 (mean: 0.89; SD: 1.00) and sensitivity of 0.53 (mean: 0.54; SD: 0.79) were found. The diagnostic odds ratio was 16.33 (mean: 2.08; SD: 128.06); diagnostic accuracy 0.56 (mean: 0.44; SD: 0.62); positive likelihood ratio and negative likelihood ratio were 25.57 (mean: 3.65; SD: 179.13) and 0.48 (mean: 0.39; SD: 0.58), respectively; risk ratio was 1.80 (mean: 1.51; SD: 2.14); and area under the receiver operating characteristic was 0.73 (mean: 0.68; SD: 0.77).

CONCLUSIONS

The validated Spanish ACSS questionnaire is a reliable, valid, and easy-to-use questionnaire that can evaluate the symptoms and clinical outcomes of patients with acute cystitis. It can be used as a patient's self-diagnosis of acute cystitis, as a patient-reported outcome measure tool and help to rule out other pathologies in patients with voiding syndrome.²⁻⁷ ■

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Table 1: Acute Cystitis Symptom Score questionnaire scores for each item of the domains: typical symptoms, differential, and quality of life for cases and controls.

	Severity	Cases		Control		
	(Likert scale)	n	Mean (SD)	n	Mean (SD)	p value
Frequency	0 (no)	19	1.81 (1.00)	35	0.36 (0.67)	0.001
	1 (mild)	35		7		
	2 (moderate)	52		5		
	3 (severe)	44		0		
Urgency	0 (no)	16	1.78 (0.96)	42	0.11 (0.31)	<0.001
	1 (mild)	42		5		
	2 (moderate)	52		0		
	3 (severe)	41		0		
Painful micturition	0 (no)	43	1.51 (1.16)	45	0.06 (0.32)	<0.001
	1 (mild)	27		1		
	2 (moderate)	42		1		
	3 (severe)	39		0		
Incomplete bladder emptying	0 (no)	56	1.28 (1.17)	45	0.04 (0.20)	<0.001
	1 (mild)	30		2		
	2 (moderate)	32		0		
	3 (severe)	33		0		
Suprapubic pain	0 (no)	66	1.07 (1.13)	44	0.06 (0.25)	<0.001
	1 (mild)	33		3		
	2 (moderate)	27		0		
	3 (severe)	25		0		
Visible haematuria	0 (no)	89	0.66 (0.92)	45	0.06 (0.32)	<0.001
	1 (mild)	35		1		
	2 (moderate)	17		1		
	3 (severe)	10		0		

Table 1 continued.

	Severity	Cases		Control		
	(Likert scale)	n	Mean (SD)	n	Mean (SD)	p value
Flank pain	0 (no)	91	0.71 (1.00)	39	0.19 (0.45)	0.011
	1 (mild)	26		7		
	2 (moderate)	21		1		
	3 (severe)	13		0		
Abnormal vaginal discharge	0 (no)	101	0.47 (0.76)	44	0.09 (0.35)	0.005
	1 (mild)	33		2		
	2 (moderate)	13		1		
	3 (severe)	4		0		
Urethral discharge	0 (no)	131	0.19 (0.534)	47	0.00 (0.00)	0.079
	1 (mild)	14		0		
	2 (moderate)	4		0		
	3 (severe)	2		0		
Fever	0 (no)	131	0.19 (0.52)	47	0.00 (0.00)	0.079
	1 (mild)	13		0		
	2 (moderate)	6		0		
	3 (severe)	1		0		
General discomfort	0 (no)	4	1.82 (8.03)	31	0.36 (0.53)	<0.001
	1 (mild)	52		15		
	2 (moderate)	61		1		
	3 (severe)	33		0		
Impact on daily activities/work	0 (no)	14	1.77 (0.82)	30	0.49 (0.75)	<0.001
	1 (mild)	48		12		
	2 (moderate)	65		4		
	3 (severe)	29		1		
Impact on social activities	0 (no)	13	1.76 (0.93)	31	0.47 (0.75)	<0.001
	1 (mild)	49		11		
	2 (moderate)	49		4		
	3 (severe)	39		1		

SD: standard deviation.