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SHORT COMMUNICATION

# Linguistic validation and cognitive assessment of the French version of the Acute Cystitis Symptom Score questionnaire



*Validation linguistique et évaluation cognitive de la version française du questionnaire Acute Cystitis Symptom Score (ACSS)*

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## KEYWORDS

Uncomplicated urinary tract infection;

## Summary

**Introduction.** – The Acute Cystitis Symptom Score (ACSS) questionnaire first developed in Russian and Uzbek languages and now available in many other languages can be used for clinical diagnostics and patient-reported outcome (PRO) in female patients with acute uncomplicated

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Acute cystitis;  
Acute Cystitis  
Symptom Score;  
Questionnaire;  
Linguistic validation;  
Cognitive  
assessment;  
Female patients;  
French version

cystitis (AUC). The aim of the current study was the linguistic validation and cognitive assessment of the French version of the ACSS questionnaire according to internationally accepted guidelines.

**Methods.** – After two forward translations from Russian into the French language and backward translation into Russian and Uzbek, the two original languages, the scientific committee (SC) performed a slightly adapted French version, which finally was cognitively assessed by female subjects with different ages and educational levels and medical professionals, such as nurses, physicians, and pharmacists.

**Results.** – All comments of the female subjects and professionals were discussed within the SC and after slight, but necessary adaptations, the SC agreed on the final study version of the French ACSS.

**Conclusion.** – Now, the linguistically validated and cognitively assessed French version of the ACSS can be used for clinical studies and practice.

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## MOTS CLÉS

Infection urinaire non compliquée ;  
Cystite aiguë ;  
Questionnaire ;  
Validation  
linguistique ;  
Femme ;  
Français

## Résumé

**Introduction.** – Le questionnaire *Acute Cystitis Symptom Score* (ACSS) a été développé, pour la première fois, en langues russe et ouzbek, et est maintenant disponible dans de nombreuses autres langues. Il peut être utilisé pour les diagnostics cliniques et les résultats rapportés par les patientes atteintes de cystite aiguë non compliquées (AUC). Le but de la présente étude était la validation linguistique et l'évaluation cognitive de la version française du questionnaire ACSS selon les lignes directrices internationalement reconnues.

**Méthodes.** – Après deux traductions depuis le russe vers le français, puis du français vers le russe et l'ouzbek, les deux langues originales, le comité scientifique (SC) a réalisé une version française adaptée, qui a finalement été évaluée cognitivement par des sujets féminins d'âges et de niveaux d'éducation différents et des professionnels de la santé, tels que les infirmières, les médecins et les pharmaciens.

**Résultats.** – Tous les commentaires des sujets féminins et des professionnels ont été discutés au sein du SC et après des adaptations légères, mais nécessaires, le SC a approuvé la version finale de l'étude de l'ACSS français.

**Conclusion.** – Désormais, la version française, validée sur le plan linguistique et évaluée cognitivement de l'ACSS, peut être utilisée pour les études cliniques et la pratique.

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## Introduction

Acute cystitis is the most frequent bacterial infection in women [1]. The diagnosis of acute uncomplicated cystitis (AUC) can be made with high probability based on a focused history of lower urinary tract symptoms (dysuria, frequency and urgency) and the absence of vaginal discharge or irritation [2]. Various urinary symptoms have been used to assess the diagnosis and severity of UC in women [3–6], but only a few studies developed a questionnaire to also evaluate the severity and impact on activity impairment [4,5], which, however, were not designed for diagnostics of AUC, but only for follow up.

The Acute Cystitis Symptom Score (ACSS) questionnaire was first developed in Uzbek and Russian language and has been translated and validated in several other languages, such as German, Hungarian, Italian, UK and American English [7–12] with many other languages in preparation.

The ACSS is an 18-item questionnaire divided into 4 domains. The first domain ("Typical" domain) composed of 6 items examines typical acute cystitis symptoms, the second ("Differential" domain) composed of 4 items examines symptoms suggesting infection of adjacent or relative organs (e.g., urethra, vagina, kidney). The third domain ("QoL" domain), composed of 3 items examines the impact of the symptoms on quality of life. There are 4 ranking choices for each of the above 13 items to accurately measure the severity of symptoms. The last domain ("Additional" domain) is composed of 5 additional questions (requiring simple "Yes/No") to gather information on the presence of known diabetes mellitus and the gynecological profile of the patient such as menstruation and pregnancy, additional conditions that may require the appropriate adjustment of the treatment modality.

The ACSS has proven to be a valuable instrument for clinical studies and medical practice for initial diagnosis, as well as a patient-reported outcome (PRO) measure moni-

toring the therapeutic efficacy in women suffering from AUC [13,14].

The ACSS can be used for clinical diagnostics and patient-reported outcome (PRO) in female patients with acute uncomplicated cystitis (AUC). The aim of the current study was the linguistic validation and cognitive assessment of the French version of the ACSS questionnaire according to internationally accepted guidelines [15].

## Methods

The Russian version of the ACSS was forward translated into French language by two independent professional translators. From the two French translations, the scientific committee (SC), consisting of the authors, performed a consensus translation, which was backward translated again by two independent translators to Russian and to Uzbek, the two original languages of the ACSS, in order to identify and rule out possible discrepancies. After slight adaptation, this French version of the ACSS was used for the cognitive assessment procedure asking a total of 11 physicians (urologists) and two female nurses to comment on each question of the ACSS about its intelligibility. After slight adaptation also to the American English version, the French version of the ACSS was cognitively assessed again by 17 female subjects with a median (range) age of 46 (20–85) years and different educational levels (no college – 1, college – 5, licence/bachelor – 9, master – 2) and by 6 physicians (3 general practitioners, 1 gynecologist, 2 urologists) and 6 pharmacists. The 2nd part will include female subjects (Ethical committee registration number 2021-069 at 14th April 2021).

## Results

All comments of the female subjects and professionals were discussed within the SC and after slight, but necessary adaptations the SC agreed on the final study version of the French ACSS (Online material Tables 1A and 1B).

## Conclusion

Now, the linguistically validated and cognitively assessed French version of the ACSS can be used for clinical studies and practice to test its suitability and practicability for diagnostics and PRO in female patients with AUC.

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(Germany), and Florian Martin Erich Wagenlehner (Germany). The e-USQOLAT is copyrighted by the Authorship Certificate of the International Online Copyright Office, European Depository, Berlin, Germany (Nr. EC-01-001179; 18 May 2017) 19. Translations of the ACSS in other languages are available on the website: <http://www.acss.world/downloads.html>.

## Author contributions

B.F., A.J., N.K.G., W.F.M.E. had participated in the development of the study plan and design. B.F. chaired the 1st part and P.A. (2nd author) the 2nd part of the cognitive assessment. All authors made up the scientific committee. N.K.G. wrote and revised the first draft of the manuscript. B.F., P.A., A.J. and W.F.M. updated, complemented, and edited the manuscript, which was reviewed, discussed, finalized, and approved by all authors. All authors have read and agreed to the published version of the manuscript.

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## Disclosure of interest

Kurt G. Naber, Florian M. Wagenlehner, Adrian Pilatz, and Jakhongir Alidjanov are authors and copyright holders of the ACSS questionnaire.

## Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.purol.2021.12.001>.

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