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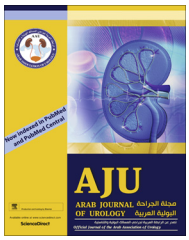

VOIDING DYSFUNCTION/FEMALE UROLOGY
ORIGINAL ARTICLE

A new tool for self-evaluation of adherence to antimuscarinic drugs treatment in patients with urinary incontinence

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KEYWORDS

Self-evaluation;
Questionnaire;
Antimuscarinic;
Adherence;
Urinary incontinence

ABBREVIATIONS

AUC, area under the curve;
BMQ, Brief Medication Questionnaire;

Abstract ***Abstract objective:*** To evaluate the validity of the Medication Adherence Self-Report Inventory (MASRI) questionnaire in determining antimuscarinic drugs adherence in patients with urinary incontinence (UI).

Patients and methods: In all, 629 patients [355 (56.4%) women and 274 (43.6%) men], aged 18–65 years, were included. All patients were prescribed antimuscarinic drugs and treatment adherence was tested at the start, and after 4, 8 and 12 weeks using the MASRI. The standard of external monitoring was the Brief Medication Questionnaire (BMQ) and visual count of the remaining pills. The functional status of the lower urinary tract was tested using voiding diaries and uroflowmetry.

Results: The correlation between indicators of adherence according to the MASRI and screen mode of the BMQ was $r = 0.84$ ($P \leq 0.01$), $r = 0.72$ ($P \leq 0.01$), $r = 0.7$ ($P \leq 0.05$) at 4, 8 and 12 weeks of follow-up, respectively, which indicated a satisfactory competitive validity. In the study of the discriminant

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ICIQ-SF, International Consultation on Incontinence Questionnaire-Short Form;
LUT, lower urinary tract;
MASRI, Medication Adherence Self-Report Inventory;
OAB, overactive bladder;
ROC, Receiver operating characteristic;
(M)(S)(U)UI, (mixed) (stress) (urgency) urinary incontinence

validity, we found that non-adherent patients were correctly identified according to the MASRI in 96.2%, 96.9% and 96.2% of cases at 4, 8 and 12 weeks of follow-up, respectively. The values of the positive likelihood ratio (7.92, 10.81, and 12.8 at 4, 8 and 12 weeks of follow-up, respectively) were quite acceptable for the adherence forecast. The receiver operating characteristic analysis revealed a failure of the null hypothesis of the excess/insufficient discrimination power of the MASRI. The correlation between the percentage of non-adherent patients and the percentage of patients with impaired lower urinary tract function according to uroflowmetry data was $r = 0.55$ ($P \leq 0.05$) at 4 weeks; $r = 0.59$ ($P \leq 0.05$) at 8 weeks; and $r = 0.62$ ($P \leq 0.01$) at 12 weeks.

Conclusion: The MASRI questionnaire is highly constructive, competitive, has discriminant validity, and is suitable for self-assessment of treatment adherence in patients with UI taking antimuscarinics. Using the MASRI is less costly and faster compared with other assessment tools.

Introduction

Urinary incontinence (UI) is a common complaint, which the ICS defines as 'any involuntary leakage of urine' and is classified into urgency UI (UUI), stress UI (SUI), and mixed UI (MUI) [1]. The prevalence of UI is usually 29% [2] to 41.4–44% [3,4], but can be as high as 54.8% [5,6]. Direct economic costs of UI treatment are very high and comparable to the cost of treatment of diabetes and chronic obstructive pulmonary disease. UI affects productivity and is accompanied with frequent daily work breaks [7,8], and it negatively affects health-related quality of life [9]. Today, there are numerous effective and safe drugs for the treatment of UI (the first-line being antimuscarinics), but the results of their use often differ from the expected [10–13]. The important factor affecting the efficacy of UI treatment is patient's adherence to the prescribed drugs. Inaccurate and incomplete adherence to the requirements of a physician can lead to drug replacement, increasing doses being prescribed, and, eventually, to a reduction in the treatment efficacy and an increase in its cost [14,15].

The adherence level, according to practitioners often appears to be lower than that reported in randomised clinical studies [16]. Tools used for studying the level of adherence to treatment include, as a rule, electronic devices recording the number of pills administered, pharmacy records, pill count, and some interviewer questionnaires. Electronic pill counters are often used in randomised clinical studies, but are an expensive and inconvenient tool in clinical practice [17,18]. The interviewer questionnaires currently used in clinical practice for measuring adherence and determining reasons for the refusal of treatment, e.g. the Brief Medication Questionnaire (BMQ), have high construct validity as compared with other tools. However, these questionnaires may also be too complicated and time-consuming for patients [19,20].

Today, to measure treatment adherence and evaluate difficulties in following physician's instructions, the Medication Adherence Self-Report Inventory (MASRI) is proposed for use. This brief tool for evaluating adherence and reasons for the refusal of treatment has proved itself to be effective in studies in patients with various chronic diseases, as well as in women with overactive bladder (OAB) [15,21]. However, to date, no one has studied its validity for evaluating adherence and possible reasons for non-adherence to prescribing instructions in patients with various forms of UI in the population in general. Also, the correlation of objective indicators of the functional state of the lower urinary tract (LUT) with MASRI data on treatment adherence remains unstudied, which could provide additional information on the validity of this questionnaire.

The objective of the present study was to evaluate the MASRI efficacy compared to the standard BMQ questionnaire in individuals of both sexes with UI, with objective control of the LUT state.

Patients and methods

This prospective randomised study was conducted in the Urology Department of the City Polyclinic No. 3 from 9 September to 31 December 2015. It involved 629 patients [355 (56.4%) women and 274 (43.6%) men]. The criteria for inclusion were: age 18–65 years, ≥1 UI episode/day during the month preceding the study. The group included patients who were identified to have UUI [International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) N39.41] and MUI (ICD-10-CM N39.46). Voiding diaries were used for evaluating the number of UI episodes [22].