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Perception of Lower Urinary Tract Symptoms by psychiatrists in mentally affected patients

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Summary

Aim. Lower urinary tract symptoms (LUTS) are highly prevalent and costly condition worldwide. Numerous studies have demonstrated their negative impact on health-related quality of life (HRQL), as well as on physical and mental health. The co-existence of LUTS and psychiatric symptoms is common and has been described by psychiatrists, urologists and gynecologists. However, data are lacking regarding the perception of urological symptoms by psychiatrists in their day-to-day clinical practice.

Methods. 31-question survey was designed to learn what is the perception of LUTS among psychiatrists. Survey link was sent by email to all psychiatrists registered to the Polish Association of Psychiatry via the association's email lists. The SurveyMonkey website was used as a platform where responses were collected and stored.

Results. 953 physicians completed the questionnaire. Majority of investigated psychiatrists only 'occasionally' ask their patients about voiding dysfunctions. Respondents estimated the frequency of voiding dysfunctions in their patients as 'moderately frequent' with a '10–30%' prevalence. However, discrepancies between different subgroups of psychiatrists have been

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noted. Furthermore, psychiatrists may not be fully aware of the effects of psychiatric treatment (psychotherapy/pharmacotherapy) on LUTS improvement, as well as possible deteriorations of voiding dysfunctions with psychiatric disorder progression.

Conclusions. This survey showed that the perception of urological symptoms by psychiatrists in their patients may be limited. Therefore, it is necessary to adequately inform and educate psychiatrists in terms of the impact of urological symptoms on patients' management, prognosis and quality of life.

Key words: lower urinary tract symptoms, urological symptoms, overactive bladder; psychiatrists, psychiatric patients

Introduction

Lower urinary tract symptoms (LUTS) encompass storage (frequency, urgency, nocturia, incontinence, bladder pain), voiding (hesitancy, straining, slow stream, intermittency), and post-micturition symptoms (sensation of incomplete emptying, post-micturition dribble) [1]. Urinary incontinence, frequency and urgency, when occurring idiopathically, are termed overactive bladder (OAB). LUTS are highly prevalent and costly condition worldwide [2].

An overall prevalence of LUTS was estimated as 62.5% in men and 66.6% in women aged ≥ 40 years by the Epidemiology Urinary Incontinence and Comorbidities (EPIC) study with a total of 19,165 participants from five Western European and North American countries [3]. LUTS are not disease or condition specific despite being commonly related to bladder outlet obstruction [1, 4]. The co-existence of urological and psychiatric symptoms is common and has been described by psychiatrists, urologists and gynecologists in multiple studies [5, 6]. Numerous papers have reported significant associations between LUTS or OAB and depression or anxiety. The relationships between urological symptoms and other mental illnesses (e.g., schizophrenia, dementia, psychoactive substance addiction, sleeping and eating disorders) have been described as well [7–9]. However, data are lacking regarding the perception of urological symptoms by psychiatrists in their day-to-day clinical practice. It is unknown whether psychiatrists are sufficiently aware of the considerable correlations between functional urological symptoms and symptoms of psychological origin. Despite LUTS and OAB not being considered life threatening, numerous studies have demonstrated their negative impact on health-related quality of life, as well as on physical and mental health [10, 11]. Presence of urological symptoms may contribute to embarrassment, fear, sadness, and social isolation [12]. Thus, the impact of LUTS on treatment success is crucial. This kind of awareness among psychiatrists may have direct practical implications for patients' management, prognosis and overall well-being. The purpose of this descriptive study was to determine what is the current practice among Polish psychiatrists regarding the perception of urological symptoms in psychiatric patients.

Methods

31-question survey was designed to learn what is the perception of LUTS and OAB among psychiatrists. Demographic questions regarding sex, age, professional status, and workplace at academic versus non-academic hospitals were also included. Participation was voluntary and the principal of implied consent was used. Survey was sent by email to all psychiatrists registered to the Polish Psychiatric Association. To increase response rate, the email was sent three times and the survey link was placed on Facebook fan page of the Polish Psychiatric Association. The SurveyMonkey website was used as a platform where responses were collected and stored. Furthermore, the survey was mobile responsive and optimized for Android and iOS devices. Responses were anonymous and no personal information was collected.

Results

953 physicians completed the questionnaire (response rate – 953/4093 – 23.3% of respondents). The demographic characteristics are presented in Table 1.

Table 1. **Demographic characteristics of respondents**

Specification	Total, N (%)
Number of physicians	953 (100%)
Sex	
Men	410 (43%)
Women	543 (57%)
Status	
Resident	166 (17%)
Specialist	787 (83%)
Work seniority	
Less than 5 years	159 (17%)
5–10 years	190 (20%)
10–20 years	339 (36%)
More than 20 years	265 (28%)
Workplace	
Academic hospital	209 (22%)
Community hospital	517 (54%)
Private practice	558 (59%)
Outpatient clinic	719 (75%)

Majority of investigated psychiatrists (411; 43%) only "occasionally" ask their patients about voiding dysfunctions. 183 (19%) perform it "often", 133 (14%) "rarely", 114 (12%) "very rarely", 93 (10%) "usually", and 19 (2%) do not ask their patients about micturition disturbances. However, there are differences when it comes to subgroup sex analyses. The most popular answer among men was "often" (32%), followed by "occasionally" (22%), "usually" (20%), "rarely" (16%), and "very rarely" (10%), whereas the most popular answer among women was "occasionally" (59%), followed by "very rarely" (14%), "rarely" (13%), "often" (9%) and "usually" (2%). Physicians with work seniority between 5 and 10 years and greater than 20 years are more willing to ask their patients about voiding problems than others (approximately 70% of these specialists perform it "usually", "often" or "occasionally"). The same trend was seen among psychiatrists from the academic institutions.

419 (44%) of psychiatrists estimated the prevalence of voiding dysfunctions in their patients as a "moderately frequent" condition. 312 (33%) stated that micturition disturbances are "rare", 157 (16%) indicated them as "frequent", 42 (4%) as "very frequent", and 23 (2%) as "very rare". However, there are variations depending on asking frequency. Psychiatrists who "usually" and "often" ask about voiding dysfunctions estimated them as a "frequent" condition (53% of respondents). Physicians asking "occasionally" and "rarely" indicated micturition disturbances as a "moderately frequent" condition (62% of respondents). Physicians that inquire their patients about LUTS "very rarely" or do not practice it, estimated the presence of the urinary symptoms as "rare" in 92% of cases.

Then, respondents were asked to estimate the prevalence of voiding dysfunctions among their patients with precise percentage intervals. The most frequently chosen answer was "10–30%" (447; 47% of respondents). The distributions of chosen answers in overall group and subgroups with various asking frequencies are presented in Figure 1.

More than half of respondents stated that "less than 10%" of their patients report urological problems by themselves. Further questions regarding patient self-reporting in particular mental disorders have shown that patients with anxiety disorders are more inclined to notify their urological symptoms to psychiatrists. 45% of examined physicians indicated that "10–30%" of patients with anxiety disorders are willing to report their urological symptoms.

The most commonly reported urological symptom in psychiatric patients was frequency. It was indicated by 295 (31%) psychiatrists. Frequency was followed by nocturia (218; 23% of respondents), urinary incontinence (193; 20%), urgency (104; 11%), and straining (80; 8%). The most bothersome symptom in psychiatrists' opinion was urinary incontinence indicated by 425 (46%) respondents and followed by urinary frequency (180; 19%), urgency (92; 10%) and nocutria (84; 9%).

Psychiatrists most commonly come into contact with LUTS in patients with anxiety disorders (611 psychiatrists, 64% of respondents), dementia (592; 62%), depression

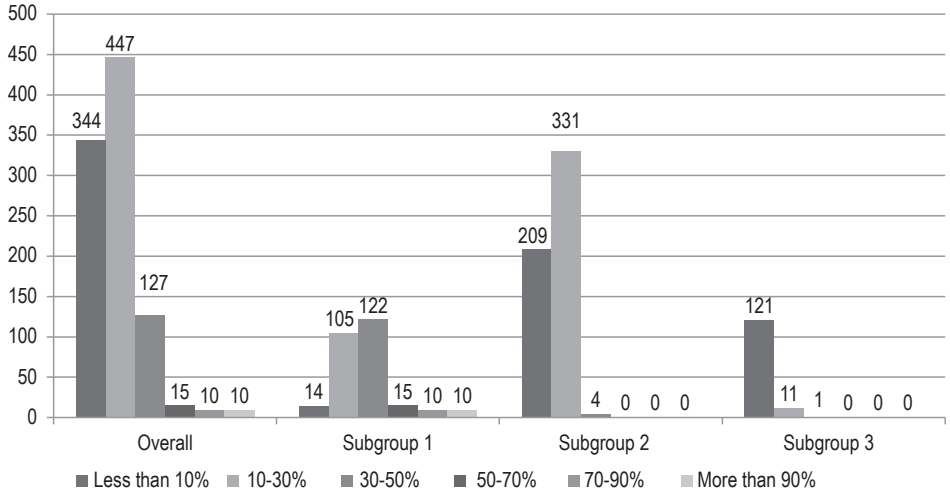

Figure 1. **Distribution of answers to the question: "Could you please estimate the prevalence of voiding dysfunctions in psychiatric patients?"**

Overall: all respondents; Subgroup 1: group of psychiatrists who indicated that "usually" and "often" ask their patients about voiding dysfunctions; Subgroup 2: group of psychiatrists who indicated that "occasionally" and "rarely" ask their patients about voiding dysfunctions; Subgroup 3: group of psychiatrists who indicated that "very rarely" ask their patients about voiding dysfunctions or do not practice it.

(560; 59%), and somatic disorders accompanied by psychiatric symptoms (477; 50%). However, physicians infrequently observe LUTS in patients with sleeping disorders (251; 26%), schizophrenia (239; 25%), alcohol and psychoactive substance abuse (184; 19%), bipolar affective disorder (133; 14%), sexual disorders (100; 10%), personality disorders (52; 5%), schizoaffective disorders (41; 4%), mania/hypomania (16; 2%), and eating disorders (12; 1%).

Urinary frequency and urgency were indicated as the leading urological complaint in patients with anxiety disorders (516; 54% of respondents), somatic disorders accompanied by psychiatric symptoms (83; 9%) and depression (49; 5%). Examined physicians specified urinary incontinence as the most common urological symptom in dementia (389; 41%), anxiety disorders (146; 15%) and somatic disorders accompanied by psychiatric symptoms (105; 11%). Nocturia usually appears as the leading urological symptom in sleeping disorders (194; 20%), somatic disorders accompanied by psychiatric symptoms (108; 11%) and anxiety disorders (95; 10%). Interestingly, 209 (22%) psychiatrists stated that it is difficult to indicate the only one psychiatric disorder where nocturia is the leading urological symptom.

553 (58%) of respondents claimed to be familiar with the term LUTS and 854 (90%) of them have heard of the term OAB. 786 (82%) physicians did not see any

correlation between voiding dysfunctions and suicidal thoughts. However, perception of relationship between micturition disturbances and suicidal ideation varies among different subgroups of examined psychiatrists. These disparities are presented in Figure 2.

Psychiatrists were also asked to state whether they perform urinalysis and urine culture in patients with LUTS. Overall, urinalysis was more frequently chosen test than urine culture in patients with urinary tract symptoms (Table 2). Almost 90% of psychiatrists who "usually" and "often" ask their patients about micturition disturbances "usually" perform urinalysis if patient reports voiding dysfunctions. 40% of those physicians "often" perform urine culture, 30% of them "sometimes" and 21% "usually". At the other end of the spectrum, those asking "very rarely" or not practicing it, perform urinalysis or urine culture "very rarely" (62% and 100% of respondents, respectively).

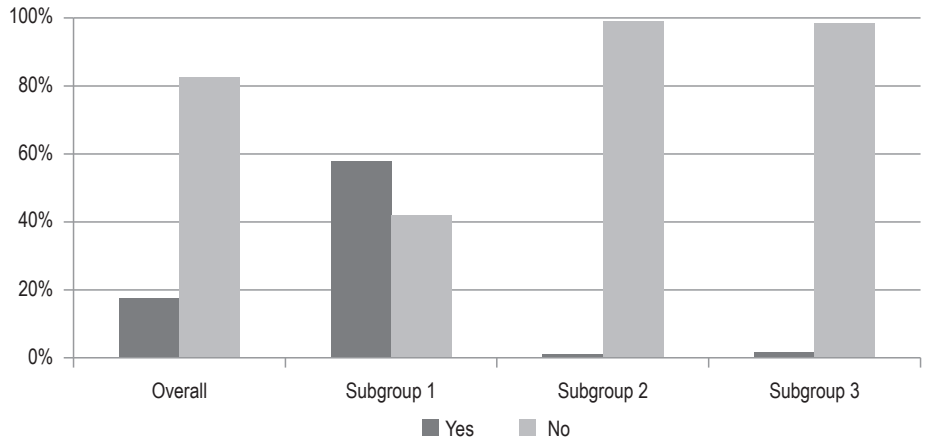

Figure 2. **Distribution of answers to the question: "Do you notice correlation between voiding dysfunctions and suicidal thoughts?"**

Overall: all respondents; Subgroup 1: group of psychiatrists who indicated that "usually" and "often" ask their patients about voiding dysfunctions; Subgroup 2: group of psychiatrists who indicated that "occasionally" and "rarely" ask their patients about voiding dysfunctions; Subgroup 3: group of psychiatrists who indicated that "very rarely" ask their patients about voiding dysfunctions or do not practice it.

Table 2. **Distribution of answers to the question: "How often do you perform urinalysis and urine culture in patients with voiding dysfunctions?"**

Frequency of asking about urological symptoms	Urinalysis, N (%)	Urine culture, N (%)
"Usually"	356 (37%)	63 (7%)
"Often"	166 (17%)	116 (12%)

table continued on the next page

"Occasionally"	103 (11%)	131 (14%)
"Rarely"	223 (23%)	153 (16%)
"Very rarely"	105 (11%)	490 (51%)

The pattern of referrals in patients with voiding dysfunctions are presented in Table 3. Examined psychiatrists are more prolific referring their patients to family doctors than to urologists.

Table 3. **Distribution of answers to the questions: "How many patients with voiding dysfunctions do you refer to family doctors?" and "How many patients with voiding dysfunctions do you refer to urologists?"**

Number of referred patients	Family doctor, N (%)	Urologist, N (%)
Less than 10%	216 (23%)	466 (49%)
10–30%	110 (12%)	222 (23%)
30–50%	127 (13%)	104 (11%)
50–70%	137 (14%)	57 (6%)
70–90%	83 (9%)	48 (5%)
More than 90%	280 (29%)	56 (6%)

Psychiatrists are reluctant to treat micturition disturbances. Only 23% of examined physicians treat voiding dysfunctions. However, in a group of psychiatrists who "usually" and "often" ask their patients about these symptoms, 72% of respondents admitted to treat micturition disturbances by themselves. Psychiatrists are reluctant to prescribe urological drugs. Only 20% of respondents admitted to use herbal remedies (184; 19%), alpha blockers (157; 16%), antimuscarinics (95; 10%), 5-alpha-reductase inhibitors (61; 6%) or beta-3-agonists (15; 2%). Interestingly, more than 90% of psychiatrists who treat voiding dysfunctions were men.

Physicians were asked to indicate how often their psychiatric treatment (psychotherapy and/or pharmacotherapy) influence an improvement of patient-reported voiding dysfunctions. Obtained results are presented in Figure 3. 41% of psychiatrists admitted that improvement of micturition disturbances "sometimes" appears along with psychiatric treatment. 31% of physicians defined this correlation as "often", whereas 17%, 6%, 3% and 1% of respondents estimated this interdependence as "rare", "very rare", "usual" or "absent", respectively. Interestingly, in a group of psychiatrists who "usually" and "often" ask their patients about voiding problems, presented correlation between improvement of urological symptoms and implementation of psychiatric treatment was defined as "often" by 240 respondents (87%).

Looking at this interdependence from the other side, psychiatrists were also asked whether progression of psychiatric disease deteriorates urological symptoms. The leading answer was "rarely" (29% of respondents), followed by "sometimes" (25%), "often"

(23%), "never" (17%), "very rarely" (6%), and "usually" (1%). Similarly, in a group of psychiatrists who "usually" and "often" ask their patients about voiding problems, the leading answer was "often" and was given by 200 respondents (72%).

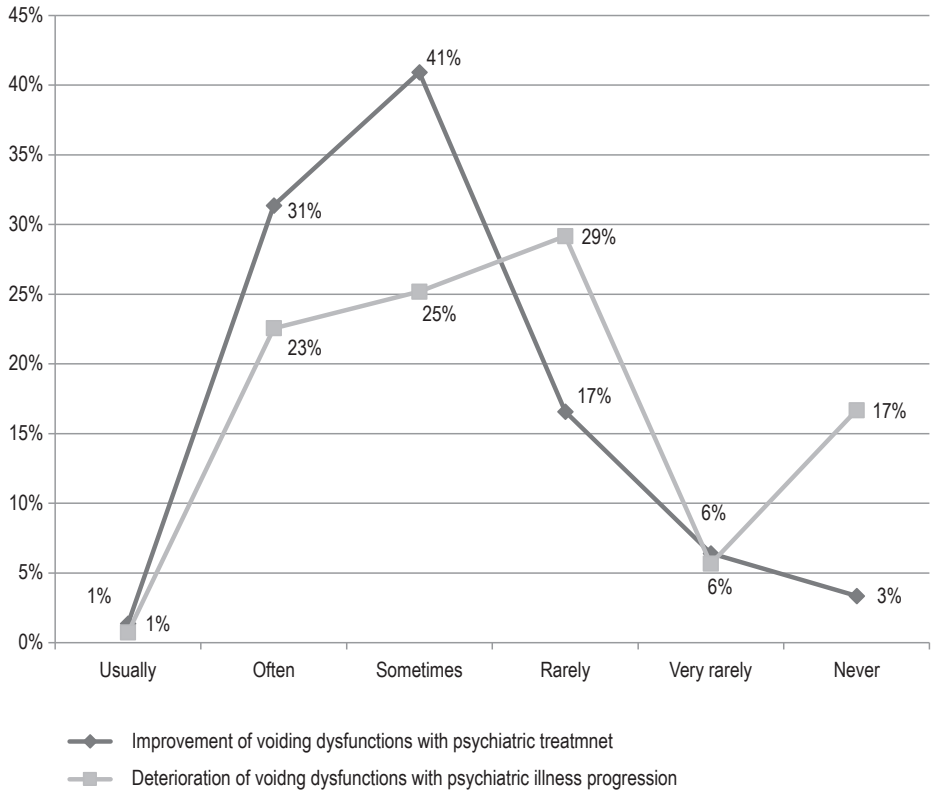

Figure 3.Distribution **of answers to the questions: "How often does your psychiatric treatment (psychotherapy and/or pharmacotherapy) improve voiding dysfunctions?" and "How often do you observe deterioration of voiding dysfunctions with psychiatric illness progression?"**

Discussion

LUTS and OAB have been shown to affect many aspects of personal life, including social, physical, psychological and emotional well-being, work productivity, and sexual health [13, 14]. A nested case-control analysis of the EPIC study, a large population-based telephone survey in Canada, Germany, Italy, Sweden, and the United Kingdom, reported the substantial impact of OAB alone and OAB with additional LUTS on work productivity, sexuality, and overall health [14]. The Epidemiology of LUTS (EpiLUTS) study, a cross-sectional, population-representative, internet-

based survey conducted in Sweden, the United States, and the United Kingdom also reported that HRQoL is significantly affected by LUTS [15–17]. In fact, the influence of severe LUTS on many aspects of HRQoL may be similar to that of chronic conditions such as hypertension, diabetes, angina, and gout [18]. Thus, understanding the impact of LUTS is important for improvement of clinical practice and estimation of public health burden.

Multiple studies have demonstrated a significant correlation between voiding dysfunctions and psychiatric disorders estimating LUTS as a prevalent condition in psychiatric patients. Our survey suggests that urological symptoms are most frequently seen by psychiatrists in patients with anxiety disorders, dementia and depression. These results are concurrent with patient-based studies [5, 19].

In our study majority of examined psychiatrists are aware of the existence of some micturition disturbances in psychiatric disorders. Sex group analysis revealed that male physicians are more willing to ask their patients about urological symptoms. This correlation was particularly evident in doctors with work seniority greater than 20 years. We can speculate that this observation may be associated with own personal experience of LUTS in male physicians older than 50 years of age.

Examined psychiatrists estimated the prevalence of urological symptoms in their patients as "10–30%". However, in a group of doctors who "usually" and "often" ask their patients about voiding problems this prevalence was estimated as "30–50%". The latter interval seems to correlate better with data from patient-based surveys. Recently published study of almost 4,000 patients of a day psychiatric hospital stressed that up to 50% of them may suffer from LUTS [20]. Looking at the problem from a different angle, the EpiLUTS study reported high level of anxiety and depression in LUTS patients, with one third (36%) of studied men and over a half (53.3%) of studied women meeting criteria for clinical anxiety assessed using the Hospital Anxiety and Depression Scale (HADS), score ≥ 8, and 30% of men and 38% of women meeting self-reported criteria for clinical depression (HADS ≥ 8) [21]. Thus, a bidirectional nature of this relationship seems therefore very likely. Of note, it is well known that prevalence of LUTS varies in different psychiatric disorders which are also characterized by different numbers of incidence and prevalence. Nevertheless, presented results may indicate underestimation of voiding dysfunctions by psychiatrists.

Our results may suggest insufficient perception of LUTS by Polish psychiatrists in their day-to-day clinical practice and a potential effect on patients' prognosis. Obtained results indicate that more than 80% of examined physicians do not see correlation between voiding dysfunctions and suicidal thoughts. However, in a subgroup of psychiatrists who "usually" and "often" ask patients about micturition disturbances, almost 60% of respondents confirmed this correlation. Observations of psychiatrists who "usually" and "often" ask patients about micturition disturbances are in line with

the outcomes of the National Health and Nutrition Examination Survey which examined almost 3,000 men [22]. Data from this cross-sectional study showed that men with more sever LUTS were more likely to have depression and suicidal ideation. Moreover, men with greater depression scores (the Patient Health Questionnaire-9 (PHQ-9) score ≥ 5, and ≥ 10 were used as a threshold for identifying the outcome of moderate and major depression, respectively) were more likely to suffer from LUTS. The Boston Area Community Health survey (BACH), a community-based epidemiologic survey, found that LUTS were significantly associated with depression, and that depression increased the odds of LUTS [23].

It seems possible that asked psychiatrists are not enough aware of effects of psychiatric treatment (psychotherapy/pharmacotherapy) on LUTS improvement. Majority of respondents only "sometimes" notice this correlation. However, this is not consistent with the results of studies conducted among patients [24]. For instance, administration of serotonin and norepinephrine reuptake inhibitors led to significant improvements of symptoms in adult female patients with OAB compared with the placebo group [25]. Looking at this correlation from the opposite side, LUTS treatment-related modulation of the psychiatric symptoms has also been documented. In a study performed by Staskin et al. [26], the proportion of men with the Beck Depression Inventory-II score > 12 (indicating depression) after treatment with oxybutynin for OAB significantly decreased (from 23.9% to 17.9%, $p = 0.0055$) after 6-month treatment period. Furthermore, data interpolation from presented studies was seen in our survey. In a group of psychiatrists who "usually" and "often" ask their patients about voiding problems almost 90% of respondents "often" see improvement of LUTS along with psychiatric treatment.

In our study, examined psychiatrists admitted that they "rarely" notice deterioration of urological symptoms with progression of psychiatric illness. However, this interdependence has been well documented. A large cohort study carried out on 1,980 Chinese men aged 65 to 92 years, showed a significant association between moderate-to-severe LUTS and clinically relevant depressive disorders [27]. Importantly, a dose–response relationship was observed between mounting LUTS severity and increasing risk of clinically relevant depressive symptoms. Further corroborating data came from the Androx Vienna Municipality Study, which found a significant association between LUTS worsening and depression exacerbation in a homogenous cohort of 673 men [28].

In a study conducted with an unselected group of 1,375 adults from Sweden, major depression was associated with a six-fold increase of nocturia in men, and a three-fold increase in women, after accounting for age and somatic health [29]. Higher rates of nocturia was proposed as a risk factor of severe depression. Similar results were presented by the BACH study, which investigated the association of nocturia with QoL and depressive symptoms in 5,203 men and women [30]. The risk of depressive

symptoms in men with nocturia was 2.79, whereas in women 1.80. A prospective cohort Tampere Aging Male Urologic Study from Finland assessed the effects of depressive symptoms on the incidence of nocturia in 1,580, 50–70-years old men followed for 5 years [31]. The results showed that the individuals with depressive symptoms at study entry were at 2.8 times higher risk for moderate or severe nocturia than those without depressive symptoms. Importantly, a dose-response relationship was found between the severity of depressive symptoms at baseline and the incidence of moderate or severe nocturia.

Many investigators also linked depression with OAB [32, 33]. A new onset or worsening and escalation of OAB symptoms in men and women with depression progress has been well investigated by multiple studies [34–39]. Similarly, in our study in a group of psychiatrists who "usually" and "often" ask their patients about micturition disturbances, more than 70% of respondents estimated possible deterioration of urological symptoms with progression of psychiatric illness as an "often" finding.

Majority of respondents admitted that "less than 10%" of their patients report urological problems by themselves. Obtained results are concurrent with other studies [40]. Shaw et al. [41] reported that one of the barriers to seeking help among people with urinary symptoms is a lack of knowledge about the condition and the available treatments. The subjects frequently considered urinary symptoms to be a normal part of aging or childbirth, or they felt that these types of symptoms were inappropriate for medical intervention. Furthermore, LUTS are often not reported, because sufferers feel embarrassed. Wolters et al. [42] showed that the advice of one's social network and information from the media were clearly associated with the decision to seek primary medical care in men with LUTS. Good communication is important to reduce patients' anxieties and fulfill their expectations. However, potentially embarrassing symptoms associated with social stigmas and lower self-esteem can impede history taking. Furthermore, doctors should be aware that the physical symptoms of lower urinary tract pathology are subjective and perception of their severity is influenced by many physical and sociocultural factors.

Survey on perception of urological symptoms by psychiatrists have never been conducted before. Nevertheless, similar studies have been performed among other specialists. Nguyen et al. [43] investigated family physicians' knowledge of, attitudes toward, and understanding of urinary incontinence as well as their perceptions of barriers to continence care in northern Alberta (Canada). Almost 55% of the respondents reported that they proactively discussed urinary incontinence with most or all of the patients they suspected had incontinence problems; almost 30% indicated that they proactively discussed urinary incontinence with some of their patients, and the remaining part indicated that they did not discuss urinary incontinence with anyone unless the patients raised the issue themselves. Majority of respondents believed that despite

high-quality primary healthcare and a personal commitment, it was not a priority focus for their practice partnerships or networks. In terms of the highest ranked areas for improvement in urinary incontinence management, increased awareness and understanding among physicians was ranked first by 28.5% of respondents. Interestingly, this survey revealed that general practitioners were not able to identify depression or other mental disorders as risk factors for LUTS.

Another study investigated barriers to care for LUTS, identifying time limits for counseling and discomfort with diagnosis and treatment as the significant obstacles [44]. Nevertheless, the most common barrier was the lack of an accessible algorithm for LUTS diagnosis and treatment. Authors concluded that attention to physicians' education and implementation of a screening tool algorithm for treatment may improve LUTS identification.

Recently, Siu et al. [45] performed a qualitative research approach by conducting semi-structured individual interviews with 30 private practice primary care physicians in Hong Kong [45]. This study revealed a general lack of knowledge about OAB among primary care doctors. Furthermore, he investigated the prescribing behavior of the respondents and revealed that majority of physicians used medications only to satisfy patients' demands.

As presented above, the perception of LUTS by different physicians is usually limited, to make things worse, discrepancies in patient and physician perception of patient's QoL have been documented as well. Current data stress that physicians' perception related to the influence of urinary symptoms on patients' QoL is frequently limited, even by urologists. Rodríguez et al. [46] investigated the relationship between physician-assessed QoL parameters obtained from patient interview and patient self-report questionnaires by using the short form of the Urogenital Distress Inventory. They concluded that because of interviewer bias, physician's assessment of QoL tends to underestimate a patient's bother from urinary symptoms. Patient reports and physician assessments often do not correlate well. Further studies confirm that physicians often differ from patients in the assessment of patients' QoL related to LUTS [47]. This is most likely due to a difference in patient–physician perception of "significant" LUTS.

The study demonstrated the importance of patient self-assessed QOL in routine clinical practice and the needs of physicians' education in perception of LUTS with possible positive impact on patients' management and prognosis. LUTS evaluation should be part of a multidimensional assessment of psychiatric patients.

Conclusions

This survey showed that the perception of LUTS by psychiatrists may be limited. Therefore, it is necessary to adequately inform and educate psychiatrists regarding the impact of urological symptoms on patients' health and QoL. Psychiatrists'

awareness regarding LUTS in patients with mental health problems and proper management may significantly improve the patient's treatment outcomes and their quality of life.

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