

LUTS POLAND: The first population-based study of prevalence, bother, and treatment-related behaviour for lower urinary tract symptoms and overactive bladder in Eastern Europe

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Investigators have conducted numerous large-scale epidemiological analyses of lower urinary tract symptoms (LUTS), including overactive bladder (OAB), at the population level in many parts of the world. Nevertheless, reliable population-level data on LUTS and OAB from Central and Eastern Europe have been lacking. Even in large-scale European epidemiological studies of LUTS and OAB, Central and Eastern European countries have been overlooked [1]. Until now, no large, population-representative study in any country of this region has reliably evaluated the prevalence, bother, and behaviour related to treatment for all LUTS and OAB using validated instruments and the definitions approved by the International Continence Society (ICS) [2]. These absent data are necessary to promote health, increase awareness, and reduce the burden of disease. Population estimates attract interdisciplinary frame-

works for national health improvement programs instituted with appropriate allocation of resources by governments and healthcare systems. Because some cultural norms, such as lifestyle factors, may affect health and health-related behaviour, population-level data for LUTS and OAB may vary between countries and regions because Slavic people, Poles, and other Central-Eastern Europeans are culturally different from other European people, particularly Germanic and Romance populations. Furthermore, mostly as a consequence of War World II, Poland possesses a somewhat unique set of demographics with supra-ethnic uniformity (i.e. $\geq 99\%$ of residents of Caucasian race and $\geq 95\%$ of residents of Polish identity). Therefore, there is justification for comparing Polish population estimates with parameters from less homogeneous populations. Additionally, a relatively large number of people live

in rural Polish regions, and the currently available data on LUTS and OAB may not transfer fully to Polish society because no population-based analyses of LUTS or OAB have distinguished outcomes for urban and rural areas. Consequently, our understanding of LUTS and OAB is extremely limited at the population level in Central and Eastern Europe.

To overcome the aforesaid problems, we introduced the LUTS POLAND study, the first population-representative analysis that delivered reliable epidemiological data for prevalence, bother, and behaviour related to treatment for LUTS and OAB in Poland. The study is considerable in its scope because Poland is the third largest country in Eastern Europe, after Russia and Ukraine, and the largest country in Central Europe. Poland is also the farthest east member of the European Union. Here, we present an overview of all papers published within LUTS POLAND.

The LUTS POLAND study included 6005 participants representative for age, sex, and place of residence [3]. We found that LUTS were highly prevalent, with more women affected than men (overall 69.8%; women 72.6%; men 66.2%). Similarly, the prevalence of OAB was greater in women (39.5%) than in men (26.8%). LUTS and OAB were often bothersome among men and women. We did not find differences in LUTS and OAB prevalence and bother between urban and rural areas.

Only one-third of participants who reported having LUTS or OAB were seeking treatment, and most of these persons received treatment [4, 5]. Importantly, there was no difference in treatment seeking and receiving between urban and rural participants. Most respondents who received treatment were satisfied, but only 50% of all participants continued their treatment; discontinuation of treatment was statistically more prevalent for women than for men. Nocturia was the most prevalent symptom; 73.7% of all participants reported ≥ 1 nocturia episode, and 36.1% reported ≥ 2 nocturia episodes [6]. Notably, we found a statistically significant correlation between the frequency of nocturia and intensification of its bother. Women were more often affected than men, and the prevalence of nocturia increased with age. Conversely, urinary incontinence was the most bothersome symptom, with stress urinary incontinence being the most common type of urinary incontinence in women, and urgency urinary incontinence being the most prevalent in men [7]. Most respondents who reported urinary incontinence declared a significant negative effect of incontinence on their quality of life; however, only about one-third (29.2–38.1%)

of these individuals sought treatment, most of whom received treatment. Urban and rural residents did not differ in the degrees of treatment seeking and treatment receiving.

Because of the large sample size, we were able to perform further analyses on population subsets, particularly cardiology [8] and neurogenic [9] patients. For both these groups of patients, we found that LUTS and OAB had higher prevalence compared with the general population, with no difference between men and women. However, treatment seeking for LUTS and OAB was low in these exclusive cohorts. Special attention was also given to older adults, as the literature lacked a single population-level reference document with reliable estimates for LUTS and OAB among this group, obtained using ICS-endorsed definitions and validated questionnaires [10].

In conclusion, LUTS and OAB in Poland are highly prevalent and bothersome, and they have negative effects on quality of life. Because our findings, derived from a representative pool of a uniform population, agree with epidemiologic studies of LUTS and OAB conducted in other regions of the world, we should admit that LUTS and OAB affect people worldwide. More importantly, it seems that LUTS and OAB may be largely independent of environmental or genetic influences. Furthermore, as the scale of seeking treatment for LUTS and OAB in Poland is low, Poles may be inadequately informed about the multiple effects of LUTS and OAB, and the available treatment options.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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ETHICS APPROVAL STATEMENT

The research Ethics Committee of Jagiellonian University Medical College, Krakow, Poland approved the study (1072.6120.160.2019); in addition, the study was registered with ClinicalTrials.gov (NCT04121936, accessed on 24 November 2021). The study complied with Good Clinical Practice and was conducted in accordance with the Declaration of Helsinki.

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