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## **Urological diseases in Poland - epidemiology, awareness of risk factors and prevention methods**

### **Streszczenie w języku angielskim**

**Introduction:** There is a year-on-year increase in the incidence of urological diseases worldwide. Urological diseases include disorders of the urinary tract and male genital organs. A significant number of urological diseases are cancers of the genitourinary system, including cancers of the kidney, bladder and prostate. An aging population, increasing life expectancy, and the prevalence of lifestyle behaviors that can lead to the development of urological diseases (e.g. smoking) mean that an increase in the incidence of urological diseases will be observed in future years. The increasing global burden of urological disease will lead to increased utilization of urological care. Nationwide data registries provide the opportunity to characterize patients admitted to urology departments more accurately. Prevention is of particular importance in urological care. Prevention of UTIs includes both primary prevention, aimed at reducing the risk of disease, and secondary prevention, aimed at early disease detection and treatment implementation. Learning about societal attitudes towards the prevention of urological diseases can provide data indicating the education and information needs of the public regarding urological diseases.

**Objective:** This study aimed to provide epidemiological characteristics of adults hospitalized in urological departments in Poland as well as to assess the awareness of risk factors for urogenital cancers and methods of their prevention among adult Poles.

**Material and methods:** The research project consisted of two parts: an epidemiological characterization of patients admitted to urology wards based on data from the Nationwide Hospital Prevalence Register and an epidemiological cross-sectional study conducted on a representative sample of adult Polish residents. Data on all patients admitted to urology wards in 2022 in Poland were obtained from the hospital prevalence register maintained by the National Institute of Public Health PZH-PIB as part of the 'Nationwide Hospital Prevalence Survey'. A nationwide cross-sectional survey was conducted to assess knowledge and social attitudes toward genitourinary tract cancers and behavior related to performing a general urine analysis. Data were collected from 1-4 March 2024 using computer-assisted web interviewing

(CAWI). The research tool was a proprietary survey questionnaire. Data were analyzed using statistical procedures available in IBM SPSS Statistics version 29.

**Results:** In 2022, a total of 214 063 hospitalizations in urology wards (for adults) were reported, of which 72% of patients were male. In 2022, the number of hospital admissions in urology wards per 100,000 adult population in Poland was 651.3. Differences were observed in the number of hospital admissions per 100,000 adult population in individual provinces. The largest group of urology patients was aged 60-69 years (31.3%). A quarter of hospital admissions (24.6%) were single-day (<24h) admissions. Most patients were admitted to urology wards for urogenital diseases (59%) or cancer (36%), and 5% of patients were admitted for other conditions. Among the 2 165 adult Polish residents, irrespective of the type of cancer analyzed (kidney, bladder, or prostate cancer), genetic predisposition (occurrence of cancer in related family members) was the most frequently declared risk factor for urogenital cancer. Smoking was correctly identified as a risk factor for kidney cancer by 40.6% of respondents, and only 35.3% of respondents identified smoking as a risk factor for bladder cancer. Those with a diagnosis of chronic disease and those with higher education were more likely to correctly indicate risk factors for urogenital cancer ( $p<0.05$ ). Women were more likely to correctly indicate risk factors for kidney cancer compared to men ( $p<0.05$ ). A second cross-sectional study showed ( $n=1113$ ) that 46.3% of adults in Poland had a urine test in the past 12 months. One-fifth (20.7%) of respondents had a urine test more than one year ago, but no more than two years ago. In addition, 26.7% had a urine test 2-3 years ago. Among respondents without urological diseases in the last 6 months, female gender (OR=1.33; 1.02-1.74;  $p<0.05$ ), age 60 years and older ( $p<0.05$ ) and being married (OR=1.45; 1.09-1.94;  $p<0.05$ ) were significantly associated with having a general urine test in the last 12 months.

**Conclusions:** This study presented the current state of urological care in Poland, with particular emphasis on hospital-based urological care and urological prevention. The level of public awareness of urogenital tract cancer risk factors among adults in Poland is insufficient. Socio-demographic differences were observed in the frequency of general urinalysis, especially by gender and age.