

Investigating the effect of epidemiologic and demographic factors on the formation of stones in the kidney and urinary tract in a case-control study

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Abstract

Introduction: The process which leads to the formation of urinary stones is complex and multifactorial and still not recognized well. The objective of this study was to investigate the effect of epidemiologic and demographic factors on the formation of stones in the kidney and urinary tract.

Materials and Methods: In a case-control study, 127 newly diagnosed patients with urinary stones using ultrasound were compared with the same number of healthy participants in the same age and gender. Patients diagnosed with diabetes and acute or chronic renal failure were excluded from the study. Controls were selected from those who had no trace of renal stone in ultrasound imaging. Data were obtained using demographic and anthropometry questionnaires which were distributed between patients and controls. The face and content validities of the questionnaire were confirmed by related experts. Chi-square and logistic regression tests were used to analyze the data.

Findings: The ratio of males to females in kidney and urinary tract stones was 2.43. In addition, the highest prevalence of stones was observed in males between the age of 20 to 40 years, and in females in the same age group. A positive correlation was seen between body

mass index and the formation of kidney and urinary tract stones in overweight (OR = 2.87: 95% CI, 1.67, 4.93) and obese (OR= 3.00: 95% CI 1.23, 7.31) patients. No significant relationship was seen between other demographic data and the risk of kidney and urinary tract stones formation.

Conclusion: The results of this study showed that the increase in BMI is correlated with the formation of kidney and urinary tract stones. Thereby, going on a suitable diet and physical activity are recommended.

Keywords: Epidemiologic, demographic, body mass, kidney stones, urinary tract.

Professional Biography

Ehsan shabani has completed his MSc at the age of 32 years from Faculty of Health, Ilam University of Medical Sciences, Ilam, Iran. He is as a teacher in university of medical sciences. He has published several papers in reputed journals.

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