

## ASSESSMENT OF POTENTIAL RISK FACTORS FOR THE DEVELOPMENT OF CHRONIC KIDNEY DISEASE AMONG YOUNG PEOPLE

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**Abstract:** Chronic kidney disease is one of the important medical problems, and lifestyle related factors play a significant role in its development. Identifying risk factors at a young age is important for preventing the disease. Unhealthy diet, inadequate fluid intake, low physical activity, and uncontrolled use of medications may negatively affect kidney health. The aim of the study was to assess potential risk factors for the development of chronic kidney disease among young people. The study included individuals aged 18 to 30 years. Data were collected through an anonymous questionnaire, measurement of body weight and height, and assessment of arterial blood pressure. The collected data were analyzed using statistical methods. Regular consumption of fast food and salty foods, inadequate fluid intake, and low physical activity were identified as common potential risk factors. Some participants had excess body weight, elevated arterial blood pressure, and used pain relievers without medical advice. Several potential risk factors were present simultaneously in some participants. The findings indicate the presence of modifiable risk factors that may affect kidney health among young people. Healthy eating, adequate fluid intake, regular physical activity, and rational use of medications are important components of preventive strategies. Early prevention and regular health monitoring may help reduce the risk of developing chronic kidney disease.

**Keywords:** chronic kidney disease; kidney health; risk factors; young people; prevention; healthy lifestyle.

### Introduction

Chronic kidney disease is a condition characterized by abnormalities in kidney structure or function that persist for at least three months and is considered one of the major medical problems worldwide. Since the early stages of the disease are often asymptomatic, early detection and assessment of risk factors contributing to its development are of great importance. Arterial hypertension, diabetes mellitus, excess body weight, unhealthy diet, and uncontrolled use of certain medications play important roles in the development of chronic kidney disease.

Young people are generally considered to be a group with a relatively low risk of developing chronic kidney disease. However, certain lifestyle and dietary habits

associated with modern living may negatively affect kidney function. In particular, inadequate fluid intake, excessive consumption of foods high in salt, insufficient physical activity, and the use of pain relieving medications without medical advice may represent potential risk factors among young people.

Therefore, identifying potential risk factors associated with chronic kidney disease among young people and assessing their prevalence are important for developing effective preventive measures aimed at preventing the disease and maintaining kidney health. The aim of this study was to identify potential risk factors for the development of chronic kidney disease among young people and assess their prevalence.

### **Materials and methods**

The study included 50 individuals aged 18 to 30 years. The mean age of the participants was  $23.8 \pm 2.9$  years. Of the participants, 29 (58.0%) were female and 21 (42.0%) were male. The study was conducted to identify potential risk factors for the development of chronic kidney disease among the participants. Primary data were collected using an anonymous questionnaire.

The questionnaire included questions regarding the participants' age, sex, height and body weight, daily fluid intake, frequency of consumption of salty foods, consumption of fast food, level of physical activity, arterial blood pressure, use of pain relieving medications, and family history of kidney disease. Body mass index was calculated based on height and body weight. Participants were categorized into groups according to adequate or inadequate daily fluid intake. The frequency of consumption of salty foods and fast food, level of physical activity, and use of pain relieving medications were also assessed separately. Arterial blood pressure was measured at rest.

The collected data were entered into an electronic database using Microsoft Excel and statistically analyzed. Qualitative variables were expressed as absolute numbers and percentages. The prevalence of different risk factors among the participants was compared. A p value of less than 0.05 was considered statistically significant.

### **Results**

According to the study results, inadequate daily fluid intake was identified in 19 participants, accounting for 38% of the study population. Frequent consumption of salty foods was observed in 17 participants (34%), while regular consumption of fast food was reported by 21 participants (42%). A low level of physical activity was observed in 18 participants (36%). Assessment of body mass index showed that 8 participants (16%) were overweight and 4 participants (8%) had obesity. Overall, excess body weight or obesity was observed in 12 participants (24%). Assessment of arterial blood pressure revealed above normal blood pressure values in 7 participants (14%). The use of pain relieving medications was also assessed. Sixteen participants

(32%) reported occasional use of such medications without medical advice, while 6 participants (12%) reported regular use. A family history of kidney disease was reported by 5 participants (10%).

In general, at least one potential risk factor was identified in 32 participants (64%), while 19 participants (38%) had two or more risk factors. The most frequently observed risk factors were regular consumption of fast food, inadequate fluid intake, and low physical activity.

### **Discussion**

The findings indicate the presence of several lifestyle and behavioral factors among young people that may be important in relation to the risk of chronic kidney disease. The identification of at least one potential risk factor in 64% of the 50 participants emphasizes the need to initiate preventive approaches aimed at maintaining kidney health from an early age. In particular, the coexistence of multiple risk factors in the same individual may increase the likelihood of future kidney damage associated with metabolic and cardiovascular disorders. One of the most frequently observed factors in the study was regular consumption of fast food, reported by 42% of participants. Such dietary habits are often associated with high sodium and energy content and an imbalance in nutritional composition. The fact that 34% of participants frequently consumed salty foods also highlights the importance of this issue. Excessive sodium intake may contribute to elevated arterial blood pressure and alterations in fluid balance. Therefore, improving dietary habits represents a simple and practical approach to preventing kidney disease.

The findings related to fluid intake are also noteworthy. Inadequate daily fluid intake was identified in 38% of participants. Insufficient fluid intake may lead to more concentrated urine and may increase the risk of urinary tract and kidney stone related problems in some individuals. However, individual fluid requirements depend on climate, physical activity, and other physiological factors, and therefore a single recommended amount cannot be applied equally to all individuals. A low level of physical activity was observed in 36% of participants. This should not be considered a direct and independent cause of kidney disease; however, a sedentary lifestyle may be associated with excess body weight, elevated arterial blood pressure, and metabolic abnormalities. In our study, excess body weight or obesity was identified in 24% of participants, highlighting the importance of considering the relationship between these factors. Above normal arterial blood pressure was recorded in 14% of participants. The presence of elevated blood pressure even among young individuals emphasizes the importance of regular blood pressure monitoring. Persistent hypertension may damage the small blood vessels of the kidneys and contribute to a gradual decline in kidney function. Therefore, blood pressure control from an early age is important not only for cardiovascular health but also for maintaining kidney health.

The use of pain relieving medications without medical advice was another important finding of the study. Among the participants, 32% reported occasional use of such medications without medical advice, while 12% reported regular use on their own initiative. Long term or high dose use of certain pain relieving medications may negatively affect kidney function. Therefore, strengthening educational measures regarding the rational use of medications may represent an important component of preventive care. A family history of kidney disease was reported by 10% of participants. Although this proportion was relatively small, it highlights the importance of assessing family history. Since some kidney diseases may have a hereditary predisposition, individuals with a relevant family history may benefit from regular medical monitoring. Overall, the findings demonstrate that many factors that may affect kidney health among young people are closely associated with daily lifestyle. In particular, unhealthy dietary habits, inadequate fluid intake, low physical activity, and uncontrolled medication use can be considered modifiable risk factors. These findings emphasize the importance of strengthening preventive measures during young adulthood rather than waiting until the development of clinical disease.

In conclusion, healthy dietary habits, adequate fluid intake, regular physical activity, blood pressure control, and the appropriate use of medications are important preventive measures for maintaining kidney health among young people. Healthy habits established at an early age may contribute to reducing future risks associated with impaired kidney function.

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