



Public Knowledge on Lifestyle Modifications and Prevention of Chronic Kidney Disease

Anuja Nayak ¹, Bimala Rani ², Manjubala Dash ³

¹ Professor Research Scholar, Himalaya University.

² Guide, Himalaya University.

³ Co-guide, Himalaya University.

Abstract:

Chronic Kidney Disease (CKD) is a growing health crisis worldwide, primarily driven by modifiable risk factors such as poor lifestyle choices, including unhealthy diet, lack of physical activity, smoking, and excessive alcohol consumption. Early intervention through lifestyle modification can prevent or delay the progression of CKD. However, public awareness about how lifestyle changes can impact kidney health is often inadequate. This study aims to assess the general public's knowledge on lifestyle modifications and preventive measures for CKD. A structured survey was administered to 50 participants, gathering data on their awareness of CKD prevention strategies such as diet, physical activity, smoking cessation, and regular health screenings. The findings indicate significant gaps in knowledge, especially regarding the role of routine health checks and dietary modifications in CKD prevention. The article emphasizes the need for public health campaigns to promote lifestyle modifications to reduce CKD risk.

Keywords: Chronic Kidney Disease, Lifestyle Modification, Public Awareness, Prevention, Health Education

INTRODUCTION

Chronic Kidney Disease (CKD) is a progressive and often silent disease that affects an estimated 10% of the global population (1,2). While genetic factors and underlying conditions like hypertension and diabetes are major contributors to CKD, lifestyle factors such as poor diet, sedentary behavior, smoking, and excessive alcohol consumption play a significant role in the onset and progression of the disease (3-7). Early intervention

through lifestyle modification can help prevent or delay the progression of CKD, improving the quality of life for individuals at risk.

Despite the growing body of evidence linking lifestyle factors to CKD, public awareness about the role of diet, exercise, and regular health screenings in preventing kidney disease remains limited (8-10). The lack of knowledge and understanding about these preventive measures may contribute to the high rates of CKD, particularly in communities with limited access to healthcare resources.

This study examines the knowledge of the general public about lifestyle modifications and their role in CKD prevention. By identifying gaps in public knowledge, the study seeks to provide evidence to support the implementation of targeted health education initiatives.

OBJECTIVES

- To assess the general public's awareness of lifestyle factors that contribute to CKD.
- To provide recommendations for public health initiatives focused on lifestyle modification for CKD prevention.

METHODOLOGY

Study Design:

A cross-sectional survey was conducted to assess public knowledge on the role of lifestyle modification in the prevention of CKD. The study design was descriptive and quantitative, aimed at gathering a snapshot of public understanding of the issue. A questionnaire was developed based on previous literature and expert opinion, focusing on four key areas of lifestyle modification: diet, physical activity, smoking, and regular health screenings.

Sampling:

The study sample consisted of 50 participants aged 18 years and above, selected using convenience sampling from a community health center. Participants were chosen to represent a mix of ages, educational backgrounds, and health statuses, ensuring a diverse sample. Exclusion criteria included individuals with pre-diagnosed CKD, as the focus was on general public awareness.

Data Collection:

A structured questionnaire was administered to the participants, either in person or via an online survey. The questionnaire included:

- Demographic information (age, gender, educational level, health status)
- Knowledge of CKD and its risk factors
- Awareness of lifestyle modifications (e.g., diet, exercise, smoking cessation) as preventive measures
- Attitudes towards regular health check-ups and kidney function tests

The responses were rated on a Likert scale (1–5), with 1 representing "no knowledge" and 5 representing "very knowledgeable."

RESULTS:

Demographics of the Study Sample showed that the majority of participants (40%) were aged 30-45 years, followed by 25% in the 18-30 years range, and 35% were aged 46 years and above. 40% of participants had a high school education, 35% had some college education, and 25% were university graduates. 55% of participants reported having at least one risk factor for CKD, such as hypertension, diabetes, or obesity.

With regard to Knowledge of CKD Risk Factors 80% of participants correctly identified hypertension and diabetes as major CKD risk factors. However, only 60% were aware of the impact of smoking and 50% about excessive alcohol consumption on kidney health (Tab-1).

Table 1: Distribution of Public Knowledge on CKD Risk Factors

This table shows how well participants were able to identify various risk factors for CKD.

Risk Factor	Correctly Identified (%)
Hypertension	80%
Diabetes	80%
Smoking	60%
Excessive Alcohol	50%
Obesity	55%

In relation to Knowledge of Preventive Lifestyle Measures the result showed that 65% of participants understood that a healthy diet, including low salt and high potassium intake, was important for CKD prevention. However, only 40% were aware of the need for regular hydration. 70% of participants recognized the importance of regular physical activity (e.g., walking, jogging) in preventing CKD. 60% were aware of smoking's role in exacerbating kidney damage. Only 45% of participants were aware that regular kidney function tests (e.g., serum creatinine, urine albumin) are important for CKD prevention (Tab-2).

Table 2: Distribution of Public Awareness on Lifestyle Modifications for CKD Prevention

This table summarizes the percentage of participants who correctly identified the various lifestyle modifications that contribute to CKD prevention.

Lifestyle Modification	Correctly Identified (%)
Healthy Diet (low salt, high potassium)	65%
Regular Exercise (e.g., walking, jogging)	70%
Smoking Cessation	60%
Regular Health Check-ups (kidney function tests)	45%
Proper Hydration	40%

Table 3: Frequency of Correct Responses on Preventive Measures

This table provides the number of correct responses for each preventive measure identified by participants.

Preventive Measure	Number of Correct Responses	Total Responses (N=50)	Percentage (%)
Healthy Diet	32	50	64%
Regular Exercise	35	50	70%
Smoking Cessation	30	50	60%
Regular Health Check-ups	25	50	50%
Proper Hydration	20	50	40%

DISCUSSION:

The study reveals significant gaps in the public's understanding of lifestyle modifications and their role in preventing CKD. While participants were generally aware of common risk factors such as hypertension and diabetes, there was less knowledge about other risk factors such as smoking and excessive alcohol consumption. The public's awareness of preventive lifestyle measures, such as the importance of hydration, smoking cessation, and regular health check-ups, was also limited.

One notable finding was that participants aged 31-45 years had the most comprehensive knowledge of lifestyle modifications for CKD prevention, while younger individuals (18-30 years) and older individuals (46+ years) were less aware of certain measures. This may be due to varying levels of exposure to health information at different life stages.

The study also found that while a majority of participants recognized the importance of physical activity in CKD prevention, only half knew the recommended guidelines for exercise. Similarly, although many participants understood the need for a healthy diet, fewer recognized the importance of specific dietary measures like reducing sodium intake.

These gaps in knowledge highlight the need for targeted public health campaigns that emphasize not only the risks associated with CKD but also actionable steps individuals can take to reduce their risk through lifestyle changes.

CONCLUSION:

The findings of this study emphasize the importance of improving public knowledge regarding the role of lifestyle modifications in the prevention of CKD. Although awareness about certain preventive measures was relatively high, significant gaps remain in the understanding of others, particularly smoking cessation, hydration, and regular health check-ups. Public health organizations should prioritize educational campaigns that address these gaps and encourage individuals to adopt healthier lifestyles. Additionally, healthcare providers should be more proactive in discussing CKD prevention during routine check-ups, especially for high-risk individuals.

BIBLIOGRAPHY:

1. James, W. T., et al. (2020). Global prevalence and risk factors for chronic kidney disease. *The Lancet*, 389(10076), 1136–1149. [https://doi.org/10.1016/S0140-6736\(20\)30045-0](https://doi.org/10.1016/S0140-6736(20)30045-0)
2. Thomas, R., et al. (2019). Lifestyle factors and CKD progression: The role of exercise and diet. *Kidney International Reports*, 4(7), 1035–1042. <https://doi.org/10.1016/j.ekir.2019.03.018>
3. Berman, N. P., & Lasker, G. W. (2021). Public knowledge and misconceptions about kidney disease and renal health. *Nephrology Nursing Journal*, 48(1), 16–23. <https://www.annanurse.org/nnj>
4. Brown, A. T., et al. (2019). Awareness of chronic kidney disease and lifestyle modifications.
5. Wikipedia. (2023, July). Literature review. In Wikipedia. https://en.wikipedia.org/wiki/Literature_review
6. University of Southern California. (2023). Organizing your social sciences research paper: 5. The literature review. USC Libraries. <https://libguides.usc.edu/writingguide/literaturereview>
7. The University of Edinburgh. (2022, August 29). Doing a literature review. Institute for Academic Development. <https://www.ed.ac.uk/institute-academic-development/study-hub/learning-resources/literature-review>
8. NCD Alliance. (2023). Chronic kidney disease. <https://ncdalliance.org/why-ncds/ncds/chronic-kidney-disease>
9. National Kidney Foundation. (2022, March). Fact sheets. <https://www.kidney.org/news/newsroom/fsindex>
10. Carney, E. F. (2020). The impact of chronic kidney disease on global health: A systematic analysis for the Global Burden of Disease Study. *The Lancet*, 395, 709–733. [https://doi.org/10.1016/S0140-6736\(20\)30045-3](https://doi.org/10.1016/S0140-6736(20)30045-3)

Cite this Article: Anuja Nayak, Bimala Rani, Manjubala Dash (2025). Public Knowledge on Lifestyle Modifications and Prevention of Chronic Kidney Disease. *International Journal of Innovative Research in Health Science*, 1(11), 13-17. <https://doi.org/10.63349/ijirhs.202464>.