

**INFLUENCE OF ANNUAL WORLD KIDNEY DAY AWARENESS EVENT ON THE HEALTH
BEHAVIOR OF RESIDENTS IN ENUGU METROPOLIS**

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REG NUMBER: GOU/U22/MAS/479

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JUNE 2026

ABSTRACT

This study examined the influence of the annual World Kidney Day awareness event on the health behaviour of residents in Enugu Metropolis. The study specifically investigated residents' exposure to World Kidney Day campaigns, their knowledge of kidney disease causes and preventive measures, attitudes toward campaign messages, the influence of the campaigns on preventive practices and disease detection, and the factors affecting campaign effectiveness. The study adopted the survey research design. The population comprised residents of Enugu Metropolis aged 18–65 years, with a target population of 470,621. Using Australian calculator, a sample size of 384 respondents was determined, while 320 valid copies of the questionnaire were analyzed. Data were collected using a structured questionnaire and analyzed using mean scores and standard deviation. The study was anchored on the Health Belief Model, which explains how health beliefs influence preventive behaviours. The findings revealed that residents of Enugu Metropolis are exposed to World Kidney Day awareness campaigns to a high extent through radio, television, social media, and interpersonal communication. The study also found that residents possess considerable knowledge of kidney disease causes and preventive measures. Furthermore, respondents demonstrated positive attitudes toward kidney health messages and reported engaging in preventive practices such as regular medical check-ups, blood pressure monitoring, healthy dieting, and kidney screening. However, factors such as poor dissemination of information, language barriers, cultural beliefs, and limited media access were identified as constraints affecting campaign effectiveness. The study concluded that the annual World Kidney Day awareness event significantly influences residents' health behaviour by improving awareness, knowledge, and preventive health practices. The study recommended intensified health campaigns, community-based screening programmes, and the use of indigenous languages to improve public understanding and participation in kidney disease prevention.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Health communication has increasingly become a strategic instrument for influencing public knowledge, attitudes, and practices regarding disease prevention and management. Across the world, structured awareness campaigns are organized to address non-communicable diseases that often progress silently until severe complications arise. Chronic kidney disease (CKD) is one such condition, characterized by a gradual and irreversible decline in kidney function. The kidneys are vital organs responsible for filtering metabolic waste, regulating blood pressure, balancing electrolytes, and maintaining fluid equilibrium in the body. When kidney function deteriorates, toxins accumulate in the bloodstream, leading to systemic complications and, in advanced stages, kidney failure. Because early stages of kidney disease frequently present minimal symptoms, many individuals remain unaware of their health status. This underscores the importance of organized public awareness initiatives aimed at promoting early detection and preventive health behavior.

World Kidney Day is an annual global health awareness campaign that promotes awareness of the importance of kidney health and mitigates the disease burden associated with kidney diseases. The campaign focuses on preventing disease by promoting e

arly screening, the identification of risk factors, and lifestyle modification. The campaign aims to inform the population by using the media, hospital outreach, community seminars, and free screening exercises of the risk factors including hypertension, diabetes, obesity, and overuse of pharmaceuticals. Okpongkpong et al. (2025) state that information sources are important in creating public awareness and encouraging people to take proactive health actions. Consistent distribution of campaign messages on trusted platforms, increases public engagement and encourages behavioral responsiveness. This means that the dissemination of Wkd messages becomes a key variable in the comprehension of Wkd messages and their potential effect on residents' health practices.

Exposure in health communication describes the extent to which people are exposed to campaign messages, whether through radio, television, social media, a health care setting, or through personal interactions. The frequency of exposure and the intensity of messages have an impact on message retention and message comprehension. The proportion of young adults in Southeastern Nigeria who were newly diagnosed with chronic kidney disease had a relatively low awareness of the disease, indicating low exposure to health promotion interventions. Chronic kidney disease awareness was relatively low in the young adult population before diagnosis (Okolie, 2024), suggesting low exposure to preventive health information. This means that inadequate health message engagement can play a role in delayed health-seeking. However, in metropolitan areas such as Enugu where media access is relatively high, exposure patterns may differ based on socioeconomic and education differences. Therefore, the level of exposure needs to be measured to assess the effectiveness of the kidney health campaign.

The other variable of this study is knowledge. Knowing about kidney disease means understanding its causes, symptoms, risk factors, and prevention. Empirical research has shown that knowledge is a good predictor of preventive behaviour. Awareness of the risk factors for kidney disease is crucial to early detection and preventative health care, according to Okpongkpong et al. (2024). Without awareness of the disease or cues to their distress, people will not be likely to participate in screening or engage in protective behaviors. The goals of a health campaign are therefore twofold: to educate and to help fill in gaps in education that could hinder prompt medical response. The more one knows, the more one needs to think to ensure one makes proper health choices. Health behavior in this study is the dependent variable, which is defined as action(s) that individuals take to maintain, achieve, or restore their health. For kidney disease, these activities involve frequent blood pressure checks, blood glucose checks, restricting salt intake, drinking lots of water, and regular medical evaluations. Media-based health campaigns have been shown to have the ability to affect such behavior. Odekwu and Kenechukwu (2023) established that structured radio health messages had a positive impact on awareness and behavioral response for those who listened to health messages. When messages are accessible and credible, this means that the messages can affect public health outcomes when targeted communications. It will take time and repetition to make them change.

In public health research, there are numerous examples of how knowledge impacts practice. Tony-Igwe et al. (2024) reported that having prior knowledge has a positive impact on health-related practices of the residents of Enugu Metropolis. In the same vein, Chisom et al. (2025) confirmed that knowledge creation leads to better adherence to

to recommended preventive measures. The results suggest that awareness of risk and impact of kidney disease leads to an increase in the willingness to take measures that prevent kidney disease. But knowledge does not always precede behaviour, as there are other factors that can moderate the behavioural outcome, including economic capacity, cultural beliefs, and perceived susceptibility. So the combination of knowledge and practice testing can provide a more comprehensive picture of the impact of a campaign.

The primary health care system is also a reinforcement system contributing to the effectiveness of the awareness campaign. The primary health care facilities are the key to prevention and management of chronic kidney disease in Nigeria (Uzoma, 2024). Complementary screening and counseling services by healthcare institutions can be offered in addition to campaign messages. This makes the information in the campaign more believable and creates a real opportunity to take behavioral action. These interventions, however, may face limitations in terms of infrastructure, funding, and a lack of follow-up mechanisms for sustainability of the interventions. Awareness-raising and health service delivery thus need to go hand in hand to create a synergy that is likely to be measurable.

Audience characteristics also influence the meaning of campaign messages and their activation. Health information is received and used differently based on factors like education, income, media literacy, and trust in information sources. Ntegwung and Battala (2025) have pointed out that the messages of a health campaign are largely effective when the messages are perceived and framed by the recipients. Similarly, Onwe et al. (2022) pointed out the need to assess public education campaigns to determine their

r real impact on the public's awareness and preventive steps. These qualifying factors indicate that effects of a campaign can not be taken for granted, but should be explored through empirical research in particular sociocultural contexts.

Considering the nature of the World Kidney Day initiative, the study context of Enugu Metropolis, which has several occupational activities and a high degree of urbanisation, is relevant. The lifestyle changes that come with urbanization, such as a different diet or lack of physical activity, can also increase risk for kidney-related disease. Meanwhile, more media coverage in the metropolis could result in more exposure to campaign messages. Although World Kidney Day and other kidney awareness campaigns and health education programs are conducted every year, it is unclear whether they make a significant impact on the knowledge, detection, or preventive health behaviors of residents. Thus, assessing the level of exposure, knowledge, behaviour and influencing factors of the residents of Enugu Metropolis is crucial to the effectiveness of the kidney health promotion measures in the area.

1.2 Statement of Problem

The global and Nigerian situation of chronic kidney disease (CKD) has become a public health threat, and the disease can be insidious as it may be chronic, without warning signs or symptoms until it reaches advanced stages. Many people did not know their kidney status, their risk factors, or preventive measures for their kidney disease and were diagnosed late, resulting in high morbidity. The annual World Kidney Day awareness event was organised for people to be aware of kidney disease, and early detection and prevention of the disease but it was observed anecdotally that kidney disease aw

areness and preventive practice among the inhabitants of Enugu Metropolis was still poor. Low uptake of screening and lack of awareness of risk factors suggested a potential gap between campaigning and community health behaviours.

These awareness programs were put into effect; But, but little empirical data was available on how many local people came across World Kidney Day messages and whether this exposure was a factor leading to their understanding and preventive practices related to kidney health in Enugu Metropolis. Other researchers had studied awareness of kidney-related illnesses in various situations, yet hardly any had taken a look at the role of the regular yearly World Kidney Day observance on the residents' health behaviour in this particular place. This discrepancy called for a thorough study to find out if the campaigns really succeeded in increasing knowledge, motivating early detection, and encouraging precautionary steps among the people.

1.3 Objectives of the Study

The main objective of this study was to examine the influence of the annual World Kidney Day awareness event on the health behaviour of residents in Enugu Metropolis.

Specifically, the study sought to:

1. Determine the extent to which residents of Enugu Metropolis were exposed to World Kidney Day awareness campaigns.
2. Examine the extent to which residents of Enugu Metropolis were knowledgeable about the causes of kidney disease and its preventive measures.
3. Examine the attitude of residents of Enugu Metropolis toward World Kidney Day

y awareness campaign messages.

4. Assess the extent to which World Kidney Day awareness campaigns influence kidney disease detection and preventive practices among residents of Enugu Metropolis.
5. Identify the factors affecting the influence of World Kidney Day campaign messages on residents of Enugu Metropolis.

1.4 Research Questions

This study was guided by the following research questions:

1. To what extent were residents of Enugu Metropolis exposed to World Kidney Day awareness campaigns?
2. To what extent were residents of Enugu Metropolis knowledgeable about the causes of kidney disease and its preventive measures?
3. What was the attitude of residents of Enugu Metropolis toward World Kidney Day awareness campaign messages?
4. To what extent did World Kidney Day awareness campaigns influence kidney disease detection and preventive practices among residents of Enugu Metropolis?
5. What were the factors affecting the influence of World Kidney Day campaign messages on residents of Enugu Metropolis?

1.5 Research Hypotheses

The following null hypotheses guided the study:

- **H₀₁:** There is no significant difference in the mean ratings of residents on the extent of exposure to World Kidney Day awareness campaigns in Enugu Metropolis.
- **H₀₂:** There is no significant difference in the mean ratings of residents on the extent of knowledge regarding the causes of kidney disease and its preventive measures in Enugu Metropolis.
- **H₀₃:** There is no significant difference in the mean ratings of residents on residents' attitude toward World Kidney Day awareness campaign messages in Enugu Metropolis.
- **H₀₄:** There is no significant difference in the mean ratings of residents on the extent to which World Kidney Day awareness campaigns influenced kidney disease detection and preventive practices in Enugu Metropolis.
- **H₀₅:** There is no significant difference in the mean ratings of residents on the factors affecting the influence of World Kidney Day campaign messages in Enugu Metropolis.

1.6 Scope of the Study

This research aimed at a specific geographical location, namely Enugu Metropolis in Enugu State, Nigeria. It was about people living in the metropolitan area of the city who could have been the ones receiving the messages of World Kidney Day awareness.

The issue was mostly the people's awareness of World Kidney Day campaigns, their understanding of the causes of kidney diseases and ways of preventing them, as well as their views on the messages of the kidney health campaign, detection of and preventive measures against kidney diseases, and the main reasons why the campaign messages were or were not effective.

On an interpretative level, it investigated residents' perceptions, attitudes, and knowledge about kidney health promotion messages and their preventive health behaviors (self-reporting). The data was collected through a survey questionnaire which was administered to a sample of respondents in Enugu Metropolis.

1.7 Significance of Study

Conceptually, it extends health communication theories by showing how well-planned awareness campaigns can change people's health behaviours in a Nigerian local setting. It strengthens the connection between knowledge and behaviour as demonstrated in studies on preventive health communication.

For implementation, the results will guide public health experts, authorities, and NGOs in identifying whether the World Kidney Day campaigns have been effective. The research will present knowledge-based suggestions on how to enhance message development, use of channels, and methods of mobilizing the community.

From a learning perspective, it will be a source of information for students and researchers of health communication, public health promotion, and evaluation of media campaigns in Nigeria.

I.8 Operatuonal Definition of Terms

1. **Exposure:** The extent to which people in the community come across and interact with World Kidney Day messages via different forms of media and community platforms.
2. **Health Behavior:** Any movement by community members targeting kidney disease detection, prevention, or treatment, including screening as well as the adoption of a healthy lifestyle and modification of habits.
3. **Kidney Disease Detection Practices:** Measures like checking blood pressure, blood sugar testing, doctor visits, etc. that help in recognizing a potential kidney problem at the earliest stage.
4. **Knowledge:** The level of awareness about kidney diseases for causes symptoms risk factors, and preventive measures of the residents.
5. **Preventive Practices:** Changes in lifestyle and health-related actions aimed at eliminating or minimizing the chances of getting a kidney disease.
6. **Residents of Enugu Metropolis:** People living within the metropolis limits of Enugu who make up the study sample.
7. **World Kidney Day Awareness Campaigns:** Officially organized communication and publicity events held yearly for spreading information about healthy kidneys and prevention of kidney diseases.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter provides a review of literature pertinent to the study. It explores the conceptual underpinning of the key variables, the theoretical underpinning for research, empirical studies in related areas, and a summary of the review and identification of the research gap.

2.1 Conceptual Review

The conceptual review emphasizes the key concepts underlying this study. The concepts are based on key variables of the research such as World Kidney Day awareness campaigns, exposure to health campaign messages, knowledge of kidney disease, health behavior, and factors influencing the effectiveness of health campaigns.

2.1.1 World Kidney Day

World Kidney Day is a global health awareness campaign aimed at raising awareness about the importance of kidney health and reducing the burden of kidney disease globally. The campaign is observed every year and it is a way of educating the community

es on the causes, prevention, and early detection of kidney-related diseases. Kidney disease is considered a “silent killer” because its signs and symptoms do not occur until the disease progresses to later stages, when treatment is more difficult, more costly, and may be more complex. This has made awareness programmes a priority for global health organisations, focusing on early diagnosis and preventive practices. World Kidney Day was established to enhance awareness of kidney diseases and to promote action for kidney health, says Ahim et al. (2025). Likewise, Francis et al. (2024) stress the importance of raising public awareness as one of the most effective ways of reducing the global burden of chronic kidney disease.

World Kidney Day traces its roots back to the united efforts of international nephrology organisations who realised that a worldwide forum was needed to tackle the issues of kidney health. This initiative aimed to engage health care practitioners, policy makers and the public in kidney health education and disease prevention. It has grown into one of the world's most well-known health awareness days about kidney disease over the years. Since the beginning, the campaign has expanded tremendously with many countries and health institutions from all over the world involved (Ahim et al. 2025). Similarly, World Kidney Day is noted to be an important global movement that can help in bridging the gap in kidney health education and enhance health literacy among populations, according to Langham et al., (2022).

The main aim of World Kidney Day is to raise awareness and involve the community in early detection and prevention of kidney disease by educating and informing people about kidney disease. Kidney failure is the most common complication of chronic kid

ney disease; early diagnosis is important to avoid these complications. World Kidney Day public health campaigns focus on regular screening, lifestyle changes, and awareness of risk factors including hypertension or diabetes. According to Waith et al (2025), commemorative events like World Kidney Day offer good platforms for early screening and education. Likewise, Francis et al. (2024) pointed out the importance of early detection strategies encouraged during such campaigns to prevent the morbidity and mortality associated with kidney diseases.

One of the key aspects of World Kidney Day is the focus on collaboration and advocacy efforts worldwide. The campaign aims to foster policy action to enhance kidney health services and access to treatment by governments and other NGOs, as well as healthcare providers. The campaign aims to raise awareness about the importance of kidney disease as a public health problem, to shape health policy and promote investment in prevention programmes. Bayazit et al. (2026) note that World Kidney Day is an opportunity for people involved with nephrology and related fields to raise awareness about better kidney care and safeguarding the environment. Likewise, Priyadarshani et al. (2023) state that the world's efforts towards raising awareness about kidney disease are vital to combat the rising prevalence of chronic kidney disease.

World Kidney Day is packed with different forms of educational seminars, free medical screenings, media campaigns, and community education. These activities aim to provide people with hands-on experience of kidney health and also to motivate them to take preventive steps. This event is recognized each year when hospitals, research institutions, and community organisations join forces to disseminate information through t

traditional and digital media. Based on Ahim et al. (2025), these activities form a very important element of increasing public awareness about kidney disease and the risk factors that are tied to it. Besides that, Langham et al. (2022) point out that such activities will not only bring the potential of improving kidney health literacy but also help individuals in making their health-related decisions.

Engaging the media is one of the important components of creating awareness during World Kidney Day. Radio, television, newspapers, social media, and community meetings are the vehicles through which messages on kidney diseases are being promoted. The main objective is to disseminate the information to the masses and to ensure the exclusion of no one, mostly the people of lower and higher socio-economic classes. Proper communication through the media can help convey medical information that may be complicated in a very clear and understandable manner. As Waith et al. (2025) have mentioned, awareness-raising campaigns are an indispensable component of World Kidney Day, which is really significant for spreading preventive health messages to the community. In a similar way, the authors of Francis et al. (2024) discuss how public education campaigns are one of the key factors in solving the global burden of chronic kidney disease.

World Kidney Day also aims to close the gap in the level of kidney health education and literacy among various populations. Poor access to health information in many developing countries leads to poor diagnosis and preventive measures. The campaign focus is thus on community-based education programmes that focus on vulnerable groups. According to Langham et al. (2022), increasing kidney health literacy is one of the

the main strategies to address the global burden of kidney disease. Similarly, Bayazit et al. (2026) state that when educational activities are carried out during World Kidney Day, communities gain knowledge on the prevention of diseases.

World Kidney Day campaigns are gaining momentum in Nigeria and other developing countries because of the surge in the occurrence of kidney-related diseases. Kidney disease is becoming a major epidemic in many African nations as a result of urbanization, lifestyle changes, and poor access to healthcare services. Public health agencies thus take advantage of the occasion of World Kidney Day to organize free health screening and public awareness programs. According to Ahim et al. (2025), awareness programmes are especially useful in areas with relatively low health literacy. Same thing, Francis et al. (2024) also believe that global health initiatives must be aligned with community needs to be effective in driving disease prevention.

Sensitizing people to a healthy lifestyle is one way in which World Kidney Day works as a major tool in the promotion of preventive health care. Different communication channels are used for the campaign to disseminate the right information on kidney diseases and the factors causing them, and very importantly to motivate people to take proactive steps in health, which include regular health tests and making healthy lifestyle choices. During the whole campaign period, the main messages on changing lifestyles to lower the risk of kidney damage revolve around reduction of salt intake, maintaining healthy body weight, staying away from over-use of medicines, and regularly checking blood pressure. Waith et al. (2025) emphasize that awareness creation through campaigns is a very effective way of influencing positive health changes through early d

etection and prevention of diseases. Dr. Priyadarshani et al. (2023) also emphasize that the truth is that preventive education is a crucial step in the global fight against the increase in chronic kidney diseases.

To wrap up, World Kidney Day is an international occasion for making people aware of kidney-related conditions, promoting early detection of such health issues, and pushing for healthy and preventive lifestyles. The campaign is a collective effort by all parties involved, like health workers, government officials, and local communities, to eliminate kidney disease as a public health problem. Through education, advocacy, and community involvement, the campaign will inform people about kidney health and reduce disease transmission. As noted by Ahim et al. (2025), strong communication strategies and community involvement are the key factors for the success of World Kidney Day. A critical analysis of the exposure of residents to the World Kidney Day campaign would give insight into the effect of the campaign on the knowledge and behaviour of the population in Enugu Metropolis for the present study.

2.1.2 Health Awareness Campaigns

Health awareness campaigns are communication campaigns that are organized in order to educate the public about diseases, health risks, and preventive measures. The purpose of such campaigns is to increase public awareness and change attitudes or behaviors related to health using a systematic way to provide information. Community education programs, mass media outreach, awareness-building campaigns, and other digital platforms are frequently utilized to communicate with large numbers of people.

The goal is to educate people on health risks and to promote behaviors that will lead to

o good health. Tam et al. (2024) define health awareness campaigns as "strategic communications designed to enhance the public's knowledge of health challenges and to motivate behavioral shifts. Alhomoud et al. (2025) also note that raising awareness is critical in educating communities on disease prevention, and correct health practices.

There are a number of different types of health awareness campaigns, depending on the purpose and intended audience. Some campaigns are disease prevention, others are adherence to treatment or lifestyle change. Target groups can also include adolescents, pregnant women, or those with chronic diseases. Health campaigns can actually be tailored to the health needs of specific communities, particularly by public health institutions. Gupta et al. (2024) concluded that awareness campaigns are vital resources to tackle public health issues as they convey knowledge to a range of groups in an accessible way. Likewise, Chik (2025) states that an effective campaign can make a major difference in raising awareness about health promotion programs.

The use of mass media channels is extensive in the dissemination of messages for health awareness campaigns. Radio, TV, newspapers, and the internet allow us to communicate with many people in an effective and timely manner. Social media has emerged as a vital medium for raising awareness about health in recent years, with its extensive user base and ability to engage users in an interactive manner. Ghahramani et al. (2022) point out that social media is an effective tool for health promotion campaigns. Similarly, Kite et al. (2023) call attention to the potential of digital platforms to directly reach audiences and to allow for the quick dissemination of health information b

y public health organizations.

Another vital strategy employed in health awareness campaigns is community-based communication. Health educators also use media as well as organizing seminars, workshops, and outreach to communities. These activities enable people to engage directly with health care providers and get customized health information. Engaging with the community is especially crucial in areas where digital media access could be low. Gupta et al (2024) note that involving community members in health awareness campaigns helps make the campaigns more effective. Likewise, Alhomoud et al. (2025) state that direct public engagement has a reinforcing effect that aids in a better understanding of health messages.

In public health research, there is a consensus on the importance of the role of health awareness campaigns in disease prevention. Campaigns educate people on the risk factors of disease and on preventive actions, thus helping people to make healthy choices. Behaviors that can be promoted with awareness campaigns can include regular health checkups, eating a balanced diet, exercising, and refraining from harmful activities. According to Tam et al. (2024), health awareness campaigns have become an important part of public awareness regarding the prevention of disease. Likewise, Chik (2025) reports that education and behavioral instructions are more effective when delivered together in a campaign in order to bring about long-term health outcomes.

The other major aspect of health awareness campaigns is to enhance public health literacy. Health literacy is defined as the capacity of people to access, understand, and use health information to make health decisions. Poor access to health care in many d

developing countries is caused by a lack of health literacy, leading to poor health outcomes and delayed care seeking. To tackle this, awareness campaigns for health information are provided in a simplified and accessible way. Ghahramani et al. (2022) stress that health promotion campaigns can play a major role in enhancing the health literacy of a population. Similarly, Lee et al. (2023) suggest that awareness of health enhances health decision-making among individuals.

The use of digital technology has greatly revolutionized the delivery of health awareness campaigns. Using digital channels like online websites, mobile apps, and social media platforms presents new ways of communicating health messages to different people. Actually, digital campaigns can be highly interactive, enable the instant exchange of opinions, and reach much wider audiences with health information. Based on Kite et al. (2023), digital communication tools have not only expanded the reach of public health campaigns but also increased the level of engagement of the campaign audiences. In the same way, Faus et al. (2022) argue that social network sites are great platforms for raising health awareness and changing behaviors.

There are still some elements, such as the quality of the message, the audience features, and the media accessibility, that can impact the effectiveness of health campaigns. Campaigns that do not work are those that are not properly designed or those that fail to attract public attention or convey health messages. So cultural, social, and educational differences among target groups should be the basis for developing health communication strategies. As Gupta et al. (2024) state, the planning and evaluation of campaigns are essential for achieving success. In the same vein, Chik (2025) emphasizes

zes the importance of tailoring health communications to the characteristics and preferences of different communities.

Health awareness campaigns in developing countries have a key role since medical systems might even be collapsing. Besides, low health literacy combined with underdeveloped health care infrastructures generates challenges for disease prevention and control. That is why awareness campaigns can be the vehicle through which people receive information and get educated about illness symptoms and the importance of seeking medical care early. Acknowledging the pivotal role of public health campaigns in reducing health disparities among low-resource communities, Tam et al. (2024) have emphasized this in their very recent paper. In the same way, Alhomoud et al. (2025) stress that educating people through awareness campaigns is the first step that leads to behavior changes and better health outcomes.

The study sets the goal of using health awareness campaigns as a channel for disseminating information to the public on the occasion of World Kidney Day. The focus of these campaigns is to inform the public about kidney disease and encourage them to take preventive measures, including the promotion of early screening and the adoption of a healthy lifestyle. These campaigns can be effective if the public has enough exposure to them, and if the people can comprehend the information given and put it into practice. According to Tam et al. (2024), awareness campaigns need to be maintained to improve long-term health behavior changes. Likewise, Ghahramani et al. (2022) point out that the need for consistent health communication is critical for the promotion of disease prevention and improvement of public health outcomes.

2.1.3 Knowledge of Kidney Disease

Knowledge of kidney disease is the knowledge people have about the structure and functions of the kidneys, causes of kidney disease and related ailments, symptoms of kidney disease, preventive measures, and treatment options. Public health is an integral part of health knowledge, and is crucial for providing people with the information needed to identify health risks and take action to safeguard their health. For people with kidney disease, knowledge can be of benefit in helping them to understand why it is important to take care of their kidneys and what behaviours minimise the risk of developing renal disease (Borg et al., 2023). Chronic kidney disease has emerged as a significant health problem for millions of people globally (Murray & Vemuri, 2022). Therefore, when people have a good understanding of kidney disease, they can identify early signs and symptoms and start to seek medical care in time. Many people are not aware of the risks of kidney diseases (Tariq et al., 2022).

Health knowledge also includes understanding the importance of the kidneys in regulating the body's balance. The kidney has several important roles including removing waste products from the blood, controlling blood pressure, and regulating the balance of electrolytes in the body (Borg et al., 2023). Knowing these functions will help them value the importance of kidney health. Kidney function is not well understood, resulting in the neglect of behaviors that support kidney health. Hence, knowing about kidney health is the first step to help prevent disease (Murray & Vemuri, 2022). Basic understanding of the role of kidneys also helps the individual know how some lifestyle habits may impact kidney function (Tariq et al., 2022).

Another component of knowledge related to kidney disease is an understanding of the many causes and risk factors of kidney disorders. Chronic kidney disease (Borg et al., 2023) is known to have several medical conditions as precursors, including diabetes and hypertension. Other lifestyle factors like excessive alcohol intake, poor diet, smoking, and obesity also contribute to kidney damage (Pradhan & Dobre, 2023). Other factors such as toxins and pollutants from the environment have also been associated with the onset of kidney disease (Lao et al., 2024). When people know about these risk factors, they can take steps to prevent kidney disease. Therefore, knowing these causes is an integral part of health education programs (Alghamdi et al., 2023).

Renal disease prevalence is also attributed to environmental factors in many countries. Exposure to environmental pollutants like heavy metals and industrial chemicals may cause injury to the kidney tissue and kidney function (Lao et al., 2024). In both developed and developing countries, kidney diseases have been linked to pollution in the environment. Those who know about environmental health risks are more likely to engage in protective behaviors and believe in environmental health policies. Understanding the causes of kidney disease in the environment also empowers the public to advocate for a better environment. It is therefore crucial to raise awareness among the public about these environmental risks for kidney health promotion (Borg et al., 2023).

One of the most significant parts of kidney disease information is to know the signs and symptoms of kidney disease. Kidney disease may have early signs and symptoms such as fatigue, swelling of the legs, changes in the colour of urine, and frequent urination (Pradhan & Dobre, 2023). Many people don't notice these symptoms during the e

early stages of the disease, and they may not be severe. Knowing these warning signs enables people to get early medical diagnosis and treatment. Early detection greatly improves treatment outcomes and slows down the progression of the disease. Therefore, there is a need to create greater awareness around the symptoms of kidney disease, which will help to improve public health outcomes (Murray & Vemuri, 2022).

Awareness is also an important part of kidney disease prevention. The preventive strategies include a healthy diet, adequate water intake, avoiding excess salt, and regular exercise (Pradhan & Dobre, 2023). Prevention of the development of kidney disease is also important to manage the following chronic diseases: diabetes and hypertension. People are more likely to do things that will help keep their kidneys healthy if they have the right information about preventive health behaviors. Preventive knowledge, then, plays an important role in the reduction of the burden of kidney disease in the world. Often, public health education programs focus on the importance of prevention-related health behaviors as an effective strategy for disease control (Alghamdi et al., 2023).

Public awareness of kidney disease also contributes to attitudes towards health care and medical screening. People who recognize the significance of kidney well-being are more inclined to be active in health checkup initiatives and seek medical care if they encounter signs and symptoms (Badran et al., 2023). The knowledge builds people's confidence in seeking medical advice and taking treatment. Health Literacy is positively correlated with a positive attitude towards disease prevention and management. Conversely, low levels of knowledge can result in misconceptions and a lack of seeking health care. Enhancing knowledge of the public therefore contributes to the building of

preventive healthcare practices (Xu et al., 2024).

Kidney disease knowledge has also been found to be enhanced after health education interventions. Educational programs include information regarding risk factors, symptoms, treatment options, and prevention strategies (Ladin et al., 2023). These may include seminars, outreach, and media awareness campaigns. Education exposure has a positive impact on the development of kidney health attitudes. Greater knowledge also stimulates people to take up healthy lifestyles that minimize the risk of disease. Thus, health education is a key factor in enhancing awareness of the population on kidney disease (Tariq et al., 2022).

Access to trusted sources of health information, including healthcare providers, educational institutions, and public health campaigns, can have a significant impact on knowledge acquisition. Health literacy is evident in those who have more opportunities to access health information. Apart from the above factors, knowledge acquisition is also affected by the level of education and socio-economic status, and media exposure. Access to health information is limited and results in lower kidney disease awareness and preventive measures in communities with limited access to information (Alghamdi et al., 2023). Enhancing access to reliable health-related information, therefore, aids in filling knowledge gaps in populations. This is crucial to enhance public health efforts to reduce kidney disease prevalence (Borg et al., 2023).

In summary, knowledge of kidney disease is a critical component and important aspect of the promotion of disease prevention and early detection. Having enough knowledge enables people to know the functions of kidneys, risk factors, symptoms, and pre

vention of kidney disease. Health education programs and awareness-building campaigns can have a tremendous impact in raising awareness and promoting positive behavior change (Borg et al., 2023). Better knowledge leads to better acceptance of engaging in health screening and preventive measures. For this study, knowledge about kidney disease among residents will be measured to determine the effectiveness of the campaigns to raise public health awareness around kidney disease. Such campaigns can lead to better health outcomes for the kidneys in a community over time due to increased knowledge (Pradhan & Dobre, 2023).

2.1.4 Health Behavior

Health behavior is defined as behaviors, habits, and decisions made by individuals which may have an impact on their physical, mental, and social health. It includes actions which are conducive to health as well as actions which can make it more likely that a person will get sick. Health behavior refers to behaviors that include maintaining a healthy diet, physical activity, going to health checks, and avoiding harmful behaviors like smoking or drug use (Hayden, 2022). These behaviours have a major impact on the occurrence and management of diseases in individuals or populations. Positive health behaviors help to lower the risk of illness and enhance quality of life. Negative health behaviours, however, contribute to the onset of chronic diseases and other health problems (Aggarwal et al., 2023).

Health behavior is also a reflection of the patterns in which people react to health information and health-related advice. These responses can influence whether or not people choose to use preventive measures or to disregard health guidance. Knowledge, be

liefs, and perceived susceptibility to diseases affect behavioral choices. If a person feels a health threat is a big one, he or she will more likely engage in behaviors that will keep him or her healthy. A key determinant of individual and population health outcomes, health behavior is therefore of great interest (Hayden, 2022). It is important to recognise these behaviour patterns to design effective health promotion strategies (Matthews et al., 2024).

There are three types of health behaviors: preventive, illness, and sick-role behaviors. Preventive health behaviors are those actions that prevent the development of disease, such as vaccination, good nutrition, and regular exercise. Illness behaviors refer to the actions that the person undertakes when he or she is feeling symptoms of illness, such as seeking medical help or taking medicine. Sick-role behaviours encompass behaviours and actions taken by individuals following a diagnosis with a disease or illness such as following medical treatment and/or complying with health care advice (Hayden, 2022). These are the behavioural categories that can help to understand the response to health challenges. Healthcare providers can use this understanding of these patterns to create successful intervention programs (DiMatteo et al., 2025).

Preventive health behaviors significantly contribute to preventing chronic diseases, like kidney disease, diabetes, and hypertension. These actions involve eating a proper diet, exercising, and decreasing salt and water consumption. Other preventive behaviors include checking health indicators like blood pressure and blood sugar. People who always engage in preventive health behaviors tend to have reduced risk of disease and improved overall health outcomes (Matthews et al., 2024). Preventive strategies are th