

NARAC Meeting/Get-together

Date: 10 April 2023

St. Martinus Parish, Kaiser-Otto Platz 12, Goch

Topic: **Kidney Health plus**

Presented by:

Sr. Mary Ogoke, DDL (MA Health Management)

Outline



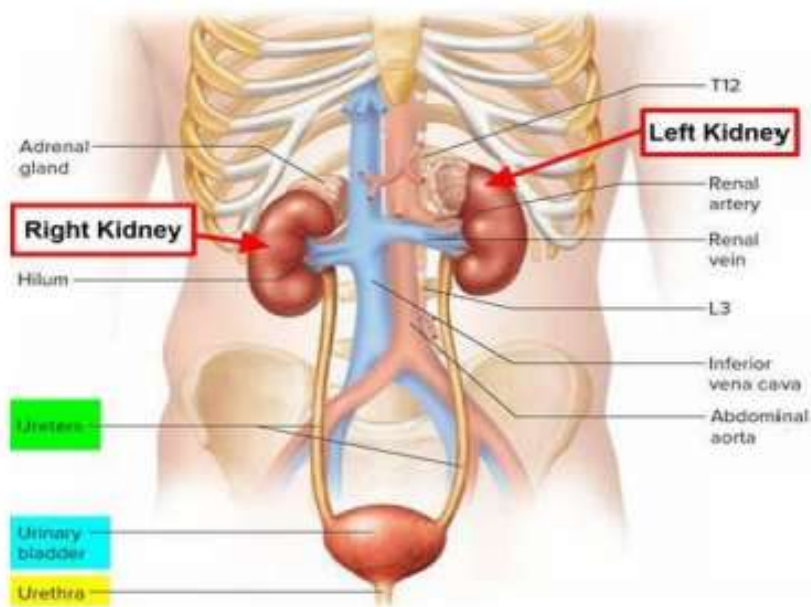
1. Goal
2. The Kidney
3. Prevalence
4. Kidney disease
Acute and Chronic kidney disease
5. Findings
6. Prevention of KD
7. Challenges of End stage KD
8. Access to Dialysis in Nigerian
9. Steps to reverse CKD



GOAL

- ❖ The purpose of this Presentation is to raise awareness of the reality of kidney disease
- ❖ To achieve a sustainable good health through prevention of kidney disease
- ❖ And to improve quality of life for people with kidney diseases

The Kidneys

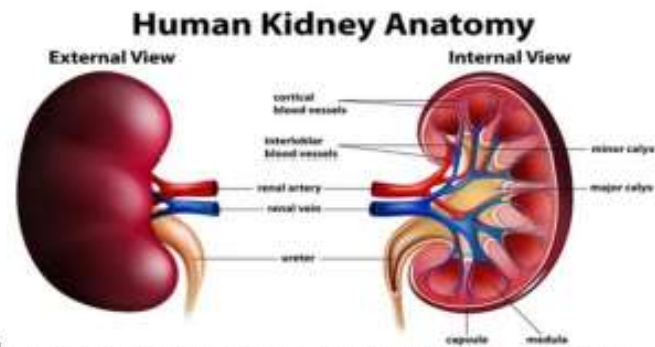


The Keys Functions Of The Kidneys



- ❖ Every 30 minutes the kidneys filter all the blood in the body
- To remove toxins and excess water from the blood system

- To control blood chemical balance
- To control blood pressure (Salt & Water)
- To produce red blood cells
- To keep the bones healthy



- The kidneys are complicated and amazing organs that do many essential tasks to maintain health. They are so important that one can not live healthy without functioning kidneys
- A person can lose up to 90% of kidney-function before experiencing any symptom

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Prevalence (Global)



- Over 850 million persons Worldwide have some form of Kidney disease (International society of Nephrology - ISN)
- 90% of people with Chronic Kidney disease (CKD) did not know until it was advance
- Worldwide, between 8 and 15% of individuals have kidney failure
- Kidney disease is a significant global health problem and has been described as a public health issue. It is the most neglected global disease ranging increasingly between 10% and 20% of the adult population globally (Luyckx et al 2017, 71 / cf. Yusuf et al 2019, 1)
- There is a global estimation of 1.23 million mortality rate due to (CKD). It has also been rated as the 12th leading cause of death globally, an increase from the 17th in 1990 (Metrics and Evaluation 2017)
- It is linked to high health care costs, poor quality of life, with serious adverse health outcomes
- It carries significant disparities of burdens, ranging from Prevention, detection, and treatment (cf. Nefrol, 2019; Crews et al 2019)

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Prevalence (Africa)



- In sub-Saharan Africa the prevalence of CKD was two-fold higher than North Africa
- About 36 million Nigerians are suffering from kidney diseases at different stages with incidence of 100 per 1 million population (cf. Ladi-Akinyemi/Ajayi 2017, 166) (218.5 million Population 2022)
- It is generally more among high-risk populations like people with hypertension, diabetes, HIV than in general populations (cf. Peralta et al. 2009)

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Kidney Disease



What is kidney disease?

- A damage in functions of the Kidney has occurred.
- A trait of such shows that the Kidneys can no longer maximally filter blood the way they should

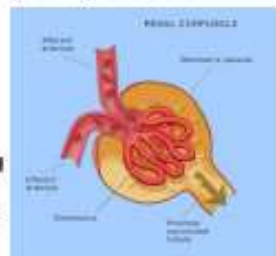
- Glomerular filtration rate 15-60ml/min

- Kidney diseases can be:

❖ Acute

❖ Chronic (a progressive loss of kidney function caused by long standing disease)

- Acute and chronic Kidney diseases have become common conditions that are increasingly affecting individuals and emerging public health challenges



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Acute and Chronic Kidney diseases (CKD)



Acute KD

- Kidney diseases can be acute, in the form of a loss of kidney function within seven days
- Abrupt loss of kidney function:
 - heart attack, illegal drug use, infections, nerve damage, Glomerulonephritis, kidney stones
- If a kidney failure is caused by acute kidney disease, it may be reversed

CKD

- A progressive loss of kidney function, within a time frame of more than 3 months caused by other long-standing diseases.
- This is often associated with prolonged hospital stays and increase mortality (cf. Chawla et al 2011, 1361; cf. Siew/Davenport 2014, 46ff)
- The risk for chronic kidney disease and end-stage renal disease may increase due to acute kidney injury (cf. Coca et al 2012)
- When a kidney failure is caused by chronic kidney disease (CKD), it is often irreversible

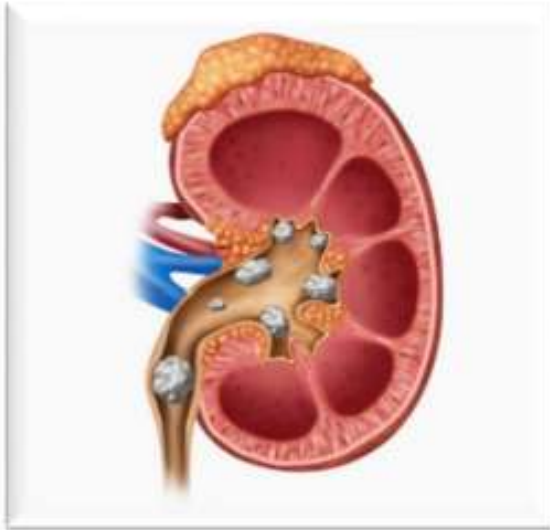
Kidney Stone



- One of the factors that can lead to AKD is kidney stone
- Kidney stone or calculi are solid collections of normal components which have precipitated out of the urine to form crystals. They are mostly calcium-based
- Possible causal influences of kidney stone include: diet, fluid intake, heredity and medical problems
- Symptoms
 - Range from asymptomatic to intermit pain if in the kidney without obstruction
 - Severe pain, nausea, vomiting , Urinary tract infections, blood in the Urine
- ❖ Possible locations: Kidney, ureter and the bladder



Kidney Stones



Diagnoses: Non-contrast CT scan, Ultrasound, CT (best fast info size, location)

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Treatment



- Many stones pass out without intervention
- Ureteral stent between kidney and bladder
- Extracorporeal shock wave Lithotripsy (ESWL) Sound waves to break up stones from outside the body

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Chronic Kidney Disease



- Chronic kidney disease (CKD) can be defined as abnormalities of kidney structure or function, present for > 3 months, with health implications
- A person can lose up to 90% of kidney-function before experiencing any symptom
- Awareness of CKD was higher among people with advanced kidney damage



Chronic Kidney Disease (CKD)



- Whereas in the USA 24.3% awareness of CKD exist, in Nigeria only <3.0% are aware of this challenging health condition

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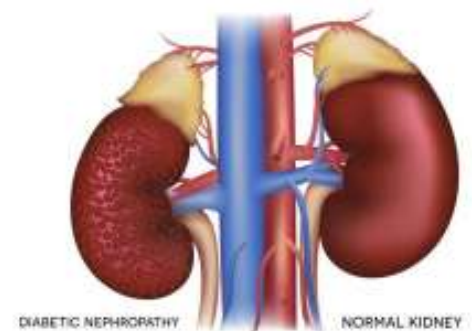
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Most Common Causes of CKD



- Diabetes
- High blood pressure
- Renal nephritis which has not been well controlled
- Cardiovascular diseases and infectious diseases leading to nephropathies
- Prostrate diseases
- Complications arising from pregnancy are said to increase the risk of kidney disease in women
- HIV and Hepatitis patients are also affected by CKD and also access dialysis treatment in Nigeria facilities



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Most Common Causes of CKD



- Smoking, unprescribed drugs, herbal medicines and bleaching creams
- Everything one puts on your skin is absorbed through the bloodstream into the vital organs like: kidney, liver, hearts, bone marrow
- Once one crosses 40 years, it is advisable to always go for simple examinations such as blood pressure, blood sugar, urine tests for protein and infections



Chronic Kidney Disease (CKD)

- The synergetic relation of hypertension and Obesity

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Findings



- ❖ According to (Coronary Artery Risk Development in Young Adults (CARDIA) – ages between 38–50) conducted in USA
- Difference in genetic factors between black and white participants
- Blacks have elevated creatinine compared to white participants
- In comparison to other races, the Africans had increased prevalence of end-stage renal disease
- The occurrences and progressions of kidney disease to end-stage renal disease (ESRD) affect black Americans outstandingly more than white Americans
- It was also observed that the effect was more pronounced in men than in women
- The increased risk of early kidney dysfunction in a young healthy population may be associated with Genetic factors particularly common to African ancestry

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Findings



- A systematic review on chronic kidney disease in Nigeria disclosed the following varying ratios of male to female

➤ 1 : 1.9

➤ 0.8 : 1

➤ 1 : 1.6

➤ 1 : 2

➤ 1 : 1.8

➤ 1 : 1.4

(cf. Chukwonye et al 2018, 1).

Findings: Problem of Data documentation



- The 2019 World Kidney Day Editorial - burden, access, and disparities in kidney disease concluded there was varied limitations and inconsistency in data collection reflecting the full burden of kidney disease
 - The report noted that several countries have “national data collection systems, particularly for end stage renal disease (ESRD)” (Nefrol, 2019)
 - A meta-analysis of 90 studies on CKD burden conducted across Africa showed very few (only 3%) with robust data
 - 45% of 185 hypertensive Patients in Maiduguri with mean age of 44,6 years have kidney impairment(cf. Nwankwo et al 2005,1
- More data documentations are needed in Nigeria to address the issues kidney disease

Prevention of Kidney Diseases



- Acute kidney injury and chronic kidney diseases can be prevented, if the risk factors and early stage of kidney diseases were to be identified early enough to slow down any adverse effects ((cf. Luyckx et al 2018, 416)
- One of the systematic approaches to prevent CKD is on three levels: **Primary, secondary and tertiary**
- ✓ **Primary prevention:** This is the most effective method to prevent the disease from being triggered off at all by preventing exposure to risk factors
- ✓ **The secondary prevention** helps to curb the severity of the kidney diseases. The prevention of diabetes kidney disease (DKD) can be achieved through intensive glycemic control and blood pressure management. DKD treatment aims to reduce albuminuria and improve kidney function.
- ✓ **Tertiary prevention** seeks to minimize disability by providing medical care and rehabilitation dialysis and renal transplantation (cf. ibid.11)

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Primary Prevention: Risk Factors



- In Nigeria, other causes of kidney disease include high cholesterol, kidney infections, kidney stones, polycystic kidney disease
- In addition, abuse of analgesics and use of pesticides have been linked to the development of kidney disease
- Older people, individuals who smoke and are obese have a greater likelihood of developing CKD
- Family history of hypertension and family history of renal disease
- Low-income occupation, use of traditional medication (cf. Chukwonye et al 2018)

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Other Non-medical Reasons why people develop kidney disease



- Work place
- The food eat
- How much exercise they do?
- Is there available medical care system?
- Environmental pollution, unsafe drinking ist water
- The prevalence of CKD in a high-risk subpopulation of “~100 per 1000 adult” was estimated to be 10% and more than 50% (Eckhardt et al 2013, 164)

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Secondary Prevention



- CKD is the most common cause of end-stage renal diseases in patients with type 2 diabetes mellitus
- ❖ Intensive glycemc control
- ❖ Blood pressure management
- To reduce albuminuria and improve kidney function
- Prevention of the progression of CKD to end stage renal disease (ESRD)
- Preventing hypertension and Diabetes is far safer and less costly than dialysis or Kidney transplantation, which, may be needed eventually when preventive measures were not observed. (Yusuf et al 2019, 1)

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Strategic Prevention for CKD



- Global Public health leaders and expert physicians have to develop strategies to delay and avert CKD
 - ✓ Awareness, early detection and effective treatment
 - ✓ Detecting those at risk of CKD
 - ✓ Preventing the onset of CKD by altering lifestyle
 - ✓ Detecting those with early stage CKD
 - ✓ Preventing Progression by intervention
 - ✓ Developing and applying diagnostic guideline including albuminuria and estimate GFR as well as therapeutic guideline
 - ✓ Awareness of general public policy makers and health care workers
 - ✓ Creating funds and facilities for global assistance

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Knowledge and risk Factors



- Unfortunately, Nigeria is one among other countries, that has not made any determined attempt to come out with a health system structure, that facilitates and integrates the care of kidney diseases into the national and international noncommunicable disease strategies (cf. Bello et al 2017)

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Challenges of End Stage Kidney Disease



- In Nigeria, 18.000 Need Dialysis Yearly
- Huge cost due to lack of nephrologists in Nigeria
- Only 160 Nephrologist, less than one per 1 million population
- There are only 80 dialysis centres , with only 25% functioning dialysis machines
- Lack of dialysis nurses and specialised technicians to repair machines that are prone to breakdowns due to frequent power fluctuations and Interruptions

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Access to Dialysis



- The number of women on dialysis is lower than the number of men. At least three major reasons are recognised so far
- ✓ CKD progression is slower in women compared to men
- ✓ Psycho-socio- economic barriers such as lower disease awareness leads to late or no start of dialysis among women
- ✓ Uneven access to care is a major issue in countries with no universal access to healthcare

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Access to Dialysis



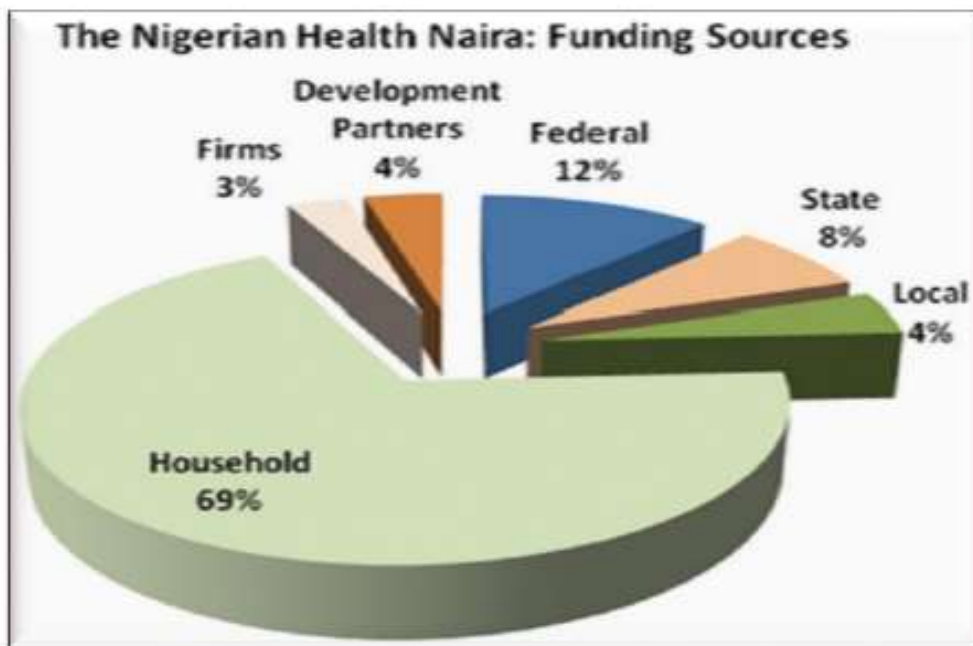
- The cost of dialysis is about N36,000 per session and the patients need about 3 sessions per week which is more than N100,000 per week and about N432,000 per month
- 98% out-of-pocket (OOP) payment for dialysis
- Not many Nigerians can afford this and National Health Insurance Scheme (NHIS) covers just three sessions of the dialysis

Economic Burden



- Both acute kidney injury and chronic kidney diseases are associated with adverse health outcomes, high health care cost and poor quality of life (cf. Luyckx et al 2018, 416ff).
- Over 90% of the Nigerian population have no health insurance
- The burden of out-of-pocket pay (OOP) as the principal means of accessing health care services makes treatment impossible for poor patients especially the patients in the end stage Chronic Kidney Diseases who need Dialysis and kidney transplantation

Sources Of Health Funding in Nigeria



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8 Steps to reverse CKD



1. Great Doctor (one who listens)
2. Control: Blood pressure 1/3 and Diabetes 44% causes all new cases
3. Monitor your Blood work (get a copy as a guide to way forward)
4. Modify your Diet : 4 Main easiest elements to control are: Protein, Sodium, Potassium and phosphate. Animal proteins are hard to digest
5. Beware of Supplement as Pain killer
6. Be active: up to 6000 steps a day /least or 30 min physical activities
7. Loose weight. Obesity and heart disease are major factors in Kidney failure
8. Manage Stress- find things you like doing. Don't let life get you down

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Health Seeking Behaviour



- The key to good health according to medical experts lies in a balanced life

These include:

- Appropriate eating habits, healthy diet, fruits and vegetables everyday
- Five light quality meals to complete and spread daily calorie intakes (avoid fried snacks or sweets)
- Healthier Fats of vegetable origin (except palm oil) Avoid fats of animal origin (Saturated)
- Sufficient rest
- Regular exercise:- healthy body weight and a normal body mass index (BMI)

Goal: Blood pressure below 130/80mmHg
Follow a healthy diet and balanced life style

What To Do

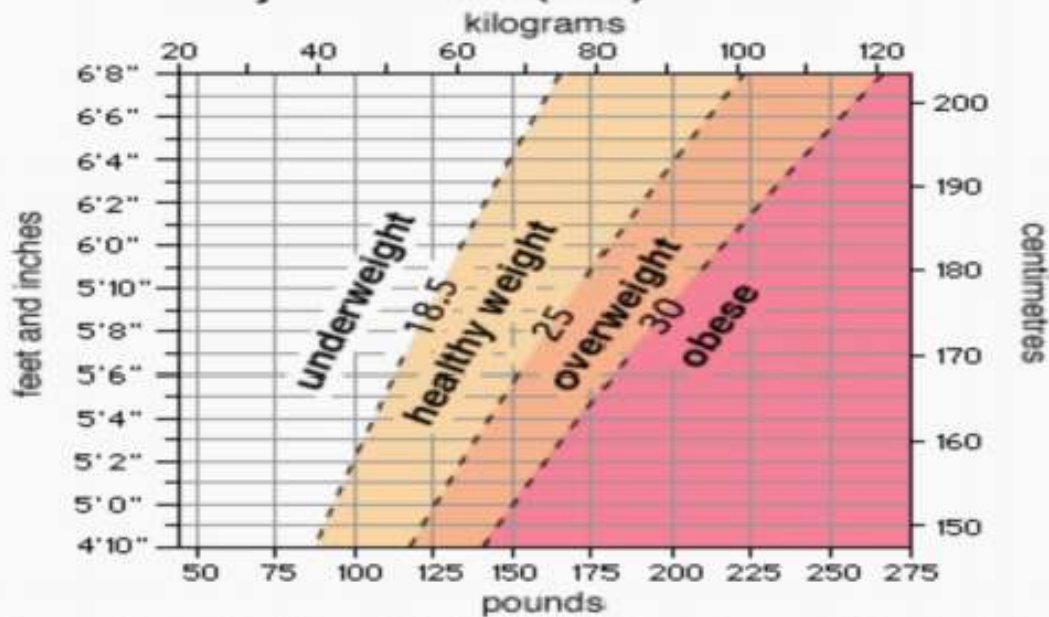


- Identify risk factors
- Drink enough water
- Avoid excess salt (sodium)
- No Smoking
- Reduce Caffeine (Stimulant)
- Modify medication
- Avoid excess alcohol (risk of stroke by hypertensive Patients)
- Modify and correct diet (Reduce food with high protein content)
- Diet full of Vitamins and minerals rich in iron, Vit B12, Vit B6, folic acid

EATING FOR HEALTHY KIDNEY



Body Mass Index (BMI) for adults




Source: National Institutes of Health/National Heart, Lung, and Blood Institute

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Resources

- Edward D. Siew (2014): The growth of acute kidney injury: a rising tide or just closer attention to detail? <https://doi.org/10.1038/ki.2014.293>
- A guide for people who have, or know someone, with chronic kidney disease, and to aid in the decision about which treatment best fits into your life. <https://www.metabolismassociates.com/wp-content/uploads/2010/05/Kidney-Decision-Aid.pdf>



The End

And The Beginning