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Overview

• Chronic kidney disease (CKD)
• CKD in Nigeria
• Study area
• Study objectives
• Data collection
• Methods
• The impact of CKD awareness and diagnosed cases between 2006 and 2009
• Conclusion
**Chronic kidney disease (CKD)**

- This is a gradual loss of kidney function, usually taking months, or even years.
- The increased severity of CKD is divided into five stages.
- The fifth stage is categorised as a total or near-total loss of kidney function, which results in a patient needing dialysis or a kidney transplant.
- The stages of CKD are determined by a measurement of the kidney’s function known as glomerular filtration rate (GFR) (*emedicinehealth, 2008*)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>GFR mL/min/1.73m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Slight kidney damage with normal or increased filtration</td>
<td>More than 90</td>
</tr>
<tr>
<td>2</td>
<td>Mild decrease in kidney function</td>
<td>60-89</td>
</tr>
<tr>
<td>3</td>
<td>Moderate decrease in kidney function</td>
<td>30-59</td>
</tr>
<tr>
<td>4</td>
<td>Severe decrease in kidney function</td>
<td>15-29</td>
</tr>
<tr>
<td>5</td>
<td>Kidney failure requiring dialysis or transplantation</td>
<td>Less than 15</td>
</tr>
</tbody>
</table>

Chronic kidney disease (CKD)

- One in ten adults has some form of kidney disease
- Approximately 500 million persons worldwide (World Kidney Day, 2008)
- Prevalent in people from the African, and Asian decent as opposed to other ethnic groups (Nwankwo et al, 2007; Kramer, 2006; US Renal Data System, 2005).
- Financial provision for CKD management in the developed countries
- Impact on morbidity, mortality, and life expectancy of the population in developing countries (Arogundade & Barsoum, 2008).
CKD in Nigeria

- Nigeria does not have a reliable register or database to show the current impact of CKD on its population.
- An increase in the number of people that have been diagnosed with Kidney disease (Alebiosu & Ayodele, 2005).
- CKD prevalence is among patients aged between 20 and 50 years.
- The way forward is to focus on improving on the early detection of CKD in patents.
• Edo State shares boundaries with Delta state on the South, Ondo state on the West, Kogi state on the Northeast

• Benin City is the state’s capital

• Consist of 18 geo-political units known as local government areas (LGA) with each L.G.A having an estimate of 10 wards.
Study Objectives

• To identify the geographical distribution of CKD across Edo State
• To evaluate the impact of the awareness of CKD within the state by examining the prevalence of CKD cases within Edo state between 2006 and 2009
Data collection

- CKD dataset provided by the University of Benin Teaching Hospital (UBTH)

- Base map data layers was provided by the Regional Centre for Training in Aerospace Surveys (RECTAS)
Study Population

• CKD patient in Edo State that were diagnosed from 2006 to the 14th of October 2009
• A total of 357 CKD cases from 2006 - 2009
• Excluded cases
Methods

• Use of SPSS and Microsoft Excel programmes for quantitative analysis of CKD dataset
• Geocoding of data using EXPERTGPS and Google Earth™
• Use of ArcGIS to identify areas with high and low prevalence of CKD
Descriptive statistics of data and profile of CKD patients in Edo State

• Association between the males (229) and females (128) diagnosed with CKD differed significantly with a one degree of freedom = 1.00, p<0.001

• The mean age of the patients was 45.04±17.45 years, p<0.05

• Occupational structure of the CKD patients
• Stage of CKD at point of diagnosis

• Risk factors present among CKD cases
Geocoding of dataset from UBTH using Google Earth™
The impact of CKD awareness between 2006 and 2009

• How aware are the health services to CKD?
The prevalence of CKD in Edo State from 2006 to October 2009

- Spatial distribution of CKD cases within the L.G.As
Spatial distribution of CKD cases within the wards
• Proportion of early stage CKD with stage 5 CKD between 2006 and 2009

![Proportion of early stage and late stage CKD cases](chart.png)
Conclusion

• CKD diagnosis in urban and rural areas

• How effective has been the CKD awareness programmes within the state?
THANK YOU