Drug Encounters in a Kidney Hospital: A One Year Review.

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Evidence based medicine has identified newer drugs that have better safety profile for renal patients

Current Tx recommendations stress:

- the importance of therapies to improve the morbidity and mortality of these patients
- therapies that delay the progression of kidney disease.
- This is best served if and when the prescribing physicians are abreast with current standard guidelines and medications.
Objectives

- To determine the prescribing pattern among doctors in Kidney Care Centre Ondo.
- To determine if prescribers are compliant to current pharmacological trends in renal care.
Methodology

- 3,545 patient encounters were reviewed retrospectively for a 1-year period at the Centre between March 2014 and February 2015.
- Prescriptions containing only galenicals and written by non-doctors were excluded.
- Serum creatinine and glomerular filtration rates were obtained from patients case notes.
Methodology (ctd)

- We determined prescribing pattern using prescribers indicator
- We determined prescribers adherence to current guidelines by comparative analysis
- Data was analysed using SPSS version 17.
Profile of prescribers at KCC

- Consultants ------------ 2
- Medical Officers-------- 6
- Corp doctors------------ 5
- House Officers---------- 4
KIDNEY CARE CENTRE
ONDO

Prescription Form

Hosp. No. 001053

NAME (Surname first): Olaoye, Toyin
AGE 54 yrs SEX M PHONE NUMBER 07033119714

- iv Mannitol 207. 250 ml drip/hr
- 1V Cannulaw 1 ml x 1
- iv Arthamath 160mg stat then 50mg daily x 2/day
- Tab Amiodarone 600mg daily x 3/4

Debayo
Name of Doctor

Keehnje
Code No

8 5/3/14
Signature/Date

Fakungbe
Pharmacist

Pharmacists

REMARKS
Operational Definition

- **Drug encounter** refers to each prescription written by a prescriber to a patient in a health facility.

- Range for average drug encounter = 1.6-1.9

- **Drug use indicator** is a measure to determine the behaviour of a prescriber.

Prescribing Indicators

- Average no of drugs per encounter = \( \left( \frac{\text{total number of drugs prescribed}}{\text{total number of encounters surveyed}} \right) \).
- % of drugs prescribed by generic name = \( \left( \frac{\text{no of drugs prescribed by generic name}}{\text{total no of drugs prescribed}} \right) \times 100 \).
- % of encounters with a drug class prescribed = \( \left( \frac{\text{no of patient encounters during which the drug class was prescribed}}{\text{total no of encounters surveyed}} \right) \times 100 \).
- % of encounters with an injection prescribed = \( \left( \frac{\text{no of patient encounters during which an injection was prescribed}}{\text{total no of encounters surveyed}} \right) \times 100 \).

RESULTS
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients $(n)$</td>
<td>374</td>
</tr>
<tr>
<td>Male $(n, %)$</td>
<td>255 (60.2%)</td>
</tr>
<tr>
<td>Female $(n, %)$</td>
<td>149 (39.8%)</td>
</tr>
<tr>
<td>Age (range) in years</td>
<td>49.3 (16-88)</td>
</tr>
<tr>
<td>e-GFR</td>
<td>36.3ml/min/1.73m²</td>
</tr>
</tbody>
</table>
Diagnosis of patients studied

- CKD: 32%
- HYPERTENSION: 17%
- OTHERS: 35%
- DM: 5%
- DM NEPHROPATHY: 4%
- AKI: 2%
- ACKD: 5%
Results (ctd)

- Average drug encounter at KCC Ondo was 1.67
- This compared favourably with WHO standard.
## Standard Clinical Guidelines

<table>
<thead>
<tr>
<th>GUIDELINES</th>
<th>1st choice</th>
<th>2nd</th>
<th>3rd</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>JNC 7</strong></td>
<td>Diuretics</td>
<td>CCBs</td>
<td>ACE Inhibitors</td>
</tr>
<tr>
<td><strong>KCC</strong></td>
<td><strong>Diuretics (63.1%)</strong></td>
<td><strong>CCBs (11.6%)</strong></td>
<td><strong>ACE-Is (10.0%)</strong></td>
</tr>
<tr>
<td><strong>ADA 2013</strong></td>
<td>Biguanides (exclude CKD pts)</td>
<td>Thiazolidinediones</td>
<td>Sulphonylureas</td>
</tr>
<tr>
<td><strong>KCC</strong></td>
<td><strong>DPP4-Is (37.9%)</strong></td>
<td><strong>Insulins (29.8%)</strong></td>
<td><strong>Sulphonyl..(17.4%)</strong></td>
</tr>
<tr>
<td><strong>KDIGO 2012(ANEMIA)</strong></td>
<td>Ferrous salts, Folic acid, IV iron</td>
<td>ESAs</td>
<td>Red cell transfusion</td>
</tr>
<tr>
<td><strong>KCC</strong></td>
<td><strong>Ferrous salts, Folic acid, IV iron (55.2%)</strong></td>
<td><strong>ESAs (44.8%)</strong></td>
<td>____</td>
</tr>
</tbody>
</table>
## Results and Discussions

<table>
<thead>
<tr>
<th>DRUG CLASS</th>
<th>PERCENTAGE</th>
<th>SUBCLASS</th>
<th>DRUG NAME</th>
<th>NEWER TRENDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTIHYPERTENSIVES</td>
<td>45.8%</td>
<td>DIURETICS 63.1%</td>
<td>Furosemide 63.1%</td>
<td>Torsemide 2.82% Metolazone, Indapamide, Chlorthalidone- NIL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hydrochlothiazide 27.0%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACE INHIBITORS 10.0%</td>
<td>Lisinopril- 98.7%</td>
<td>Ramipril- 1.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ARBs 3.7%</td>
<td>Valsartan-90.0%</td>
<td>Telmisartan- NIL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Losrtan-10.0%</td>
<td></td>
</tr>
<tr>
<td>ANTIANEMIAS</td>
<td>22.4%</td>
<td>FERROUS SALTS, FOLIC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACID, ORAL IRON- 55.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EPOETIN-44.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGENT SPECIFIC:</td>
<td>13.8%</td>
<td>5-NIRTOIMIDAZOLES 31.2%</td>
<td>Metronidazole- 31.2%</td>
<td>Moxifloxacin Meropenenem</td>
</tr>
<tr>
<td>ANTIBIOTICS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VACCINES</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Pneumooccal, Menigococcal, Hepatitis B</td>
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<td></td>
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</table>
Conclusion

- Doctors at KCC practised within the limits of WHO recommendations
- However, due to a numbers of factors, they prescribed more of older generations
- There was an adherence to standard guidelines
Recommendations

- Continuing Medical Educational for doctors on prescription writing and rational drug use
- There should be regular inter-departmental interactive sessions between Pharmacists and doctors at all levels
- There should be feedback control systems and immediate review of prescriptions and patients case notes by the hospital pharmacist.
ANY QUESTIONS?

THANK YOU

ANY QUESTIONS?

¿Tiene alguna pregunta?