NURSING CARE FOR LASSA FEVER PATIENTS: THE USE OF NATIONAL EARLY WARNING SCORE 2 AS A PROGNOSTIC INSTRUMENT

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INTRODUCTION

• Lassa fever was listed by World Health Organisation in 2016 as one of the top emerging infectious diseases

• Till date it remains one of the important causes of morbidity and mortality in Nigeria

• Standard nursing care is necessary for Lassa fever patients to improve outcomes

• National Early Warning Score 2 (NEWS2) from the Royal College of Physician, a guide used by medical services to quickly determine the degree of illness of a patient
INTRODUCTION(CONTD)

• NEWS2 is based on six physiological parameters
• Respiration rate
• Oxygen saturation
• Systolic blood pressure
• Pulse rate
• Level of consciousness or confusional state
• Temperature
AIM

- To assess the clinical risk of a patient and the appropriate response needed to keep the patient alive
- To prognosticate outcome:
  - Discharge
  - Transfer to another ward
  - Death
  - Length of stay on admission using the admitting NEWS2
METHODOLOGY

• Prospective Hospital based survey of 46 patients admitted in the Infection Control Centre of the FMC, Owo

• NEWS2 Clinical Risk-Response aggregates are:
  • 0-4 low risk- ward based response
  • Score of 3 in any individual parameter – low to medium - Urgent ward based response
  • Score 5-6 medium risk- Key Threshold for urgent response
  • Score 7 and above Urgent or Emergency response
# NEWS SCORE CARD

**National Early Warning Score (NEWS2)**

<table>
<thead>
<tr>
<th>Physiological parameter</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>Score</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiration rate (per minute)</td>
<td>≤8</td>
<td>9–11</td>
<td>12–20</td>
<td></td>
<td>21–24</td>
<td>≥25</td>
<td></td>
</tr>
<tr>
<td>SpO₂ Scale 1 (%)</td>
<td>≤91</td>
<td>92–93</td>
<td>94–95</td>
<td>≥96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SpO₂ Scale 2 (%)</td>
<td>≤83</td>
<td>84–85</td>
<td>86–87</td>
<td>≥93 on air</td>
<td>93–94 on oxygen</td>
<td>95–96 on oxygen</td>
<td>≥97 on oxygen</td>
</tr>
<tr>
<td>Air or oxygen?</td>
<td>Oxygen</td>
<td>Air</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic blood pressure (mmHg)</td>
<td>≤90</td>
<td>91–100</td>
<td>101–110</td>
<td>111–219</td>
<td></td>
<td>≥220</td>
<td></td>
</tr>
<tr>
<td>Pulse (per minute)</td>
<td>≤40</td>
<td>41–50</td>
<td>51–90</td>
<td>91–110</td>
<td>111–130</td>
<td>≥131</td>
<td></td>
</tr>
<tr>
<td>Consciousness</td>
<td>Alert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CVPU</td>
<td></td>
</tr>
<tr>
<td>Temperature (°C)</td>
<td>≤35.0</td>
<td>35.1–36.0</td>
<td>36.1–38.0</td>
<td>38.1–39.0</td>
<td></td>
<td>≥39.1</td>
<td></td>
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</tbody>
</table>
# NEWS THRESHOLD AND TRIGGERS

<table>
<thead>
<tr>
<th>NEW score</th>
<th>Clinical risk</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate score 0–4</td>
<td>Low</td>
<td>Ward-based response</td>
</tr>
<tr>
<td>Red score</td>
<td>Low–medium</td>
<td>Urgent ward-based response*</td>
</tr>
<tr>
<td>Score of 3 in any individual parameter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggregate score 5–6</td>
<td>Medium</td>
<td>Key threshold for urgent response*</td>
</tr>
<tr>
<td>Aggregate score 7 or more</td>
<td>High</td>
<td>Urgent or emergency response**</td>
</tr>
</tbody>
</table>

*Urgent ward-based response* indicates immediate action required.
**Urgent or emergency response** indicates immediate and intensive action required.
# CLINICAL RESPONSE TO NEWS TRIGGERS

<table>
<thead>
<tr>
<th>NEW score</th>
<th>Frequency of monitoring</th>
<th>Clinical response</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Minimum 12 hourly</td>
<td>• Continue routine NEWS monitoring</td>
</tr>
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</table>
| **Total 1–4** | Minimum 4–6 hourly | • Inform registered nurse, who must assess the patient  
• Registered nurse decides whether increased frequency of monitoring and/or escalation of care is required |
| **3 in single parameter** | Minimum 1 hourly | • Registered nurse to inform medical team caring for the patient, who will review and decide whether escalation of care is necessary |
| **Total 5 or more**  <br>Urgent response threshold | Minimum 1 hourly | • Registered nurse to immediately inform the medical team caring for the patient  
• Registered nurse to request urgent assessment by a clinician or team with core competencies in the care of acutely ill patients  
• Provide clinical care in an environment with monitoring facilities |
| **Total 7 or more**  <br>Emergency response threshold | Continuous monitoring of vital signs | • Registered nurse to immediately inform the medical team caring for the patient – this should be at least at specialist registrar level  
• Emergency assessment by a team with critical care competencies, including practitioner(s) with advanced airway management skills  
• Consider transfer of care to a level 2 or 3 clinical care facility, i.e., higher-dependency unit or ICU  
• Clinical care in an environment with monitoring facilities |
FINDINGS/RESULTS

• The NEWS2 at admission has no effect on the length of hospital stay (P>0.05)
• 30(65.2%) of the patients had 1-4 at admission 7(15.2%) had 5-6
• 9(19.6%) had 7 and above.
• The NEWS2 at admission has effect on the prognosis (P<0.05)
• 32(69.5%) patients were discharged
• 11(23.9%) were transferred to another ward
• 3(6.5%) died.
CONCLUSION/RECOMMENDATION

• NEWS2 can be used to prognosticate course and outcome

• NEWS2 is not effective for determining the length of hospital stay.

• Using NEWS should be a national drive across the whole of health care system so that conversations about patients will be uniform and all clinicians will be “on the same page”

• NEWS2 is an appropriate instrument for national usage in all Lassa fever treatment facilities.