Studying the acceptability and usability of two pneumonia diagnostic aids in Ethiopia

In 2016 16% of under-five deaths were due to acute respiratory infections in Ethiopia

We trained health extension workers (HEWs) to use one of two new aids for classifying fast breathing, a symptom of pneumonia

**Philips ChARM**
- Respiratory rate
- 337 under-fives assessed (May–Aug 2018)

**Masimo Rad-G**
- Respiratory rate & oxygen saturation
- 259 under-fives assessed (Sept–Dec 2018)

We observed 260 HEWs in 143 health posts each complete two child consultations with a new device

- **Usability**
  - HEWs correctly adhered to all eight assessment and classification steps:
    - ChARM: 74%
    - Rad-G: 88%
  - HEWs successfully acquired a reading on first attempt:
    - ChARM: 92%
    - Rad-G: 81%
  - HEWs successfully acquired readings within three attempts:
    - ChARM: 99%
    - Rad-G: 92%

We interviewed HEWs, health facility workers and caregivers

- Caregivers were accepting of the devices
- HEWs felt that the devices had encouraged caregivers to visit health posts

Our findings support the usability and acceptability of these devices in this setting. We recommend further studies on performance, cost-effectiveness and implementation of RR and RR-SpO2 devices to inform policy decisions in countries with a high burden of childhood pneumonia.

For further information about our research methods and findings, please see: http://bit.ly/ARIDAresbrief
Studies the acceptability and usability of a pneumonia diagnostic aid in Nepal

**In 2015**

- **15%** of under-five deaths were due to acute respiratory infections in Nepal

**We observed** 130 FCHVs each complete two consultations with this aid

Their adherence to World Health Organization case management guidelines was lower than their adherence to device instructions for use; overall, adherence did not improve over time

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**FCHVs correctly adhered to all eight assessment and classification steps 53% of the time.**

**FCHVs successfully acquired a reading on first attempt 83% of the time.**

**FCHVs successfully acquired a reading within 4.26 mins 53% of the time.**

**FCHVs successfully acquired readings within three attempts 99.6% of the time.**

**We interviewed** FCHVs and caregivers

- Caregivers were accepting of the device
- FCHVs felt the device had made it more likely that caregivers would bring sick children for check-ups

**PHILIPS CHARM**

**Respiratory rate**

- **253** under-fives assessed (Aug-Dec 2018)

Focused training on all pneumonia case management steps is needed for FCHVs with low literacy before new automated devices are introduced.