

Title: Knowledge of pulse oximetry and integrated management of childhood illnesses among health care workers at primary health facilities in Nigeria: a cross-sectional survey

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Introduction

Integrated Management of Childhood Illnesses (IMCI) aims to reduce preventable childhood mortality and promote healthy growth in children under five. Oxygen saturation (SpO₂) is Nigeria's fifth vital sign, with ongoing efforts to integrate pulse oximetry into IMCI training. We therefore assessed knowledge of health care workers (HCWs) at PHCs about pulse oximetry and IMCI to identify training and knowledge gap and improve adherence to the protocols.

Methods

Data was collected from 243 consenting HCWs in 39 PHCs across Oyo, Lagos, Jigawa, Kano, and Rivers States using a self-administered questionnaire from national and WHO guidelines. Data was obtained on HCWs' socio-demographic details, training experience, and pulse oximetry and IMCI knowledge. We report on the findings using descriptive statistics.

Results

Among respondents, 60.9% were community health workers (CHWs), 22.6% nurses, and 9.5% doctors. Most were female (79.4%) and government-employed (75.2%). Among CHWs, 75.7% reported they know a pulse oximeter compared to 95.6% of doctors and 96.0% of nurses. Knowledge of normal range of SpO₂ was lower among CHWs (39.3%), but 35.4% of all cadres answered correctly on when oxygen therapy should be commenced. Only 36.7% of CHWs had received training on pulse oximetry, with most receiving this in-service (73.2%).

For IMCI danger signs, convulsions, lethargy, and loss of consciousness were widely recognized, but vomiting everything and being unable to eat/drink was lower. Less than 10% knew all four symptoms HCWs should ask caregivers of children aged 2-59 months. When asked about malaria treatment, 21.8% and 31.8% of nurses and CHWs respectively indicated both antimalaria and antibiotic (bad) compared to 8.7% among doctors. For pneumonia, 41.8% of CHWs indicated both antibiotic and cough syrup (bad) compared to 27.3% and 8.7% among nurses and doctors, respectively.

Conclusion

We identified poor knowledge of key IMCI signs and symptoms across all HCWs, and variable knowledge of pulse oximetry.