

22<sup>nd</sup> Edition of International Conference on **Neonatology and Perinatology**  
&  
3<sup>rd</sup> International Conference on **Pediatrics and Pediatric Surgery**

May 07-08, 2018 Frankfurt, Germany

**Neonatal thermal stress: uncovering the hidden cause of death in extremely low-birthweight neonates in low and middle income countries**

**Hippolite O Amadi**

Imperial College London, UK

Successive demographic reports of UNICEF and WHO, since 2007, shows that Nigeria's early neonatal deaths has remained high, at 79%. There was no significant improvement all through the years of MDG as almost 50% of deaths before age of five are currently neonatal. Neonatal mortality rate (NNMR) increases sharply with decreasing birthweight and postnatal age; hence, there is little chance of survival for over 90% of extremely low birthweight (ELBW) neonates at most Nigerian newborn centres. We preliminarily carried out a nationwide investigation and confirmed consistency in excessive long periods of time before most deceased neonates attained thermal stability within acceptable physiological range of 36.5°C–37.4°C. We investigated high climatic ambient temperatures and found adverse correlation with neonatal thermal morbidity. We concluded that such overpowering physiological thermal deficiencies might be responsible for mortalities within first week of life; hence the need for innovation of devices and protocols that could reverse this. We devised the recycled incubator technology to create affordable alternative for incubator intervention. We define the etiology of climate-induced neonatal evening-fever syndrome (EFS) and synthesised a nursery-building pattern that lowers climatic harsh impact on neonates. We innovated the Handy-approach and initial-setpoint-algorithm temperature protocols that enabled patient-specific interactive technique for quick attainment of neonatal normotherm. Comparative studies of the outcome of these innovations against facility-based national averages showed, among others: improved availability and sustainability of functional incubators (average: 18 systems vs. 3); early mortality of ELBW reduced (average: <1% vs. 80%); overall facility-based NNMR reduced (average: 31/1000 vs. 245/1000).

**Biography**

Hippolite O Amadi medical career has lasted three decades, since 1987, cutting across engineering-in-healthcare, orthopaedics and neonatology research. His current global prowess in neonatal innovations has been greatly influenced by his academic exploits, both as a student and later Professor at Imperial College London, UK. His current practice and research-groups span the entire regions of Nigeria, covering 25 tertiary hospitals over two decades; enabling him an unprecedented access to evidence based data on a national representative scale. He has since been a regular in the WHO and World Bank list of global thinkers on African perspective of climate-change impact on neonatal health.

[h.amadi@imperial.ac.uk](mailto:h.amadi@imperial.ac.uk)

**Notes:**