



St. Jude Global Scholars Projects: Ahmad Moussa Alok



Analysis of Under 5 Mortality in Egypt for Sustainable and Equitable Reduction

This project was designed to address a critical and evolving child health challenge: the slowing decline of under-five mortality (U5M) in Egypt despite decades of progress. The study employed an analytical cross-sectional mixed-methods design to integrate both quantitative and qualitative data to explain not only what children are dying from, but why and how these deaths continue to occur.

The project's impact lies in its comprehensive, evidence-based reframing of the U5M challenge in Egypt. It successfully demonstrated that the majority of under-five deaths are now neonatal and that these deaths are not inevitable. They result from a predictable, preventable cascade where biological vulnerability interacts with systemic delays and structural inequities.

By generating this nuanced understanding, the project has provided a clear, actionable blueprint for policymakers and international partners to redesign child survival programs. The findings have been consolidated into a final report, a policy brief, and an academic paper, and have been shared through stakeholder workshops, laying the groundwork for a strategic shift from a prevention-centered to a responsiveness-centered child health system in Egypt.

Project Details



Location
Egypt



Setting
Country level



Health Condition
General Child Health



Focus Areas
Access, Equity, Quality,
Timeliness



Target Age Group
Birth to 5 years

Systems-Level Change

Participants

100 Health Care Workers

4,280 Caregivers

UN Sustainable Development Goal

Goal 3: Good Health and Well-Being

WHO Health System Building Blocks

Health information systems

Health service delivery

Health workforce



Key Findings

The following are key findings from this Global Scholars Project on Under 5 Mortality in Egypt.

- **Epidemiological Shift Confirmed:** The leading causes of under-five mortality in the sample were Prematurity (33.08%) and Congenital Anomalies (24.36%), marking a definitive shift from the historical dominance of infectious diseases like pneumonia and diarrhea.
- **Neonatal Vulnerability is Paramount:** Nearly two-thirds (64%) of all under-five deaths occurred in the neonatal period (first 28 days of life). Infants who died from prematurity did so at an average age of only 2.02 months, underscoring the critical importance of the first days and weeks of life.
- **Prematurity Pathway:** Prematurity-related mortality was significantly associated with unregistered births, public facility delivery, NICU service deficiency, delayed breastfeeding, and weak post-discharge follow-up. Qualitative data revealed that families are often discharged with fragile infants and minimal guidance, leaving them unprepared to manage complications at home.
- **Congenital Anomalies Pathway:** Mortality from congenital anomalies was significantly associated with consanguinity ($p < 0.05$), delayed newborn exams, and formula usage. Parents frequently reported being unaware of the condition until their child's sudden, critical deterioration, highlighting a systemic failure in early screening, diagnosis, and referral.
- **Pneumonia and Diarrhea Persist as Indicators of System Gaps:** While comprising a smaller share of deaths, pneumonia (16.15%) and diarrhea (10.64%) exposed critical failures in the care pathway. Late arrival at health facilities was significantly associated with pneumonia mortality ($p < 0.001$). Birth attended by a non-professional was associated with a three-fold increase in diarrhea mortality ($p < 0.001$), illustrating how risk is established from the very first moment of life.



Key Findings

- Systemic Delays are the True Killers: The study identified a clear cascade of delays that transform treatable conditions into fatal emergencies:
 1. Delayed Recognition: Parents frequently misread early warning signs like fast breathing or poor feeding, a knowledge gap directly linked to the absence of structured postnatal counseling.
 2. Delayed Access: Barriers to transport (especially at night in rural areas), the cost of care, and the logistical complexity of referrals all contributed to life-threatening delays. Financial difficulty was significantly associated with mortality outcomes ($p=0.038$).
 3. Defective Follow-Up: A staggering 69.23% of deceased infants received no postnatal examination after two months. Once discharged, families were left without monitoring or support, allowing preventable complications to become fatal.
 4. Structural Inequities as Root Causes: Underlying determinants shaped the entire mortality cascade. Poverty, rural residence, and low maternal education were not merely background factors but active drivers of risk. Under-five deaths were disproportionately concentrated in rural households (63% of cases). The evidence shows that survival depends on where a child is born and what resources their family can afford.”



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