

**Evaluating health and education outcomes
in children following death of a mother
in pregnancy or child birth: A
Prospective Cohort Study
Study Proposal**

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Make every mother and child count

Slogan for World Health Day 2005

Introduction

- 529,000 women worldwide die of maternal causes each year
- Child survival directly related to the health and survival of the mother
- Poor health outcomes for the children who survive her
- Affects initiation and continuation of schooling

Pakistan: Country Context

- Low income developing country
- Maternal mortality: 500/100,000 live births
- Lifetime risk of maternal death: 1 in 31
- Under five mortality: 103/1000 live births
- Gender Parity Index: 0.74

Maternal Mortality in 2000: Estimates developed by WHO, UNICEF and UNFPA.

State of the World's Mothers 2004.

The State of the World's Children 2005.

Objectives

- **General:**

- To assess the impact that maternal death has on the survival, health and well being of her children

- **Specific:**

- Mortality
- Malnutrition
- AFA Vaccination
- Episodes of Illness
- School Enrolment rates
- School dropout rates

Methodology

- **Setting: Karachi, Pakistan**
- **Study Design: Prospective Cohort**
- **Sampling Frame:**
 - **Cohort**
 - **Comparison Group**

Methodology (contd....)

- **Sample Size Estimation**

- **Inclusion Criteria**
 - Children under 10
 - Living in a household that includes their biological father
 - Not suffering from any chronic disease at the initiation of the study
 - Informed consent given by a caregiver
 - Residents of Karachi

- **Exclusion Criteria**
 - Children aged more than 10
 - Living within an extended family setting that does not include their biological father
 - Suffering from chronic disease
 - Non-residents of Karachi

Initial Visit

- Informed Consent
- History
- Physical Examination
- Anthropometry

Follow up Visit

- **Frequency**

- **Content:**

- Enquiry about:

- Episodes of illness
 - Hospitalization
 - Vaccination Status
 - Schooling

- **Anthropometry**

- Length/height
 - Weight
 - Head circumference (for children under 3)
 - Triceps skinfold thickness
 - Mid- Upper Arm Circumference (MUAC)

Outcome Variables

- ❑ **Primary Outcome:**

- Incidence of mortality in both groups

- ❑ **Secondary Outcomes:**

- Wasting

- Stunting

- Underweight or low weight-for-age

- Body Mass Index (in children older than 5)

- Mean MUAC

- Mean number of episodes of acute illness

- Mean number of hospitalization episodes

- Percentage of children with AFA vaccination

- Percentage of children attending school

- Percentage of children dropping out of school

- Male: female ratio of school attendance

Study Endpoints

- Mortality
- Child reaching his/her tenth birthday
- At the end of the study period (tentatively five years)

Potential Sources of Bias

- Modified health behaviours
- Improved child care practices
- Children in extended vs. nuclear family units
- Attrition and characteristics of individuals lost to follow up

Data Analysis

- Exploratory data analysis
- Stratification
- Control for confounders

Mothers and children are the foundation of families, communities and societies. When a mother or child dies, that foundation crumbles. If we want to improve the health of future generations, we must start with the health of mothers and children today"

Dr. Lee Jong-wook