Reproductive Health Research
Opportunities and Choices

University of Southampton

Correlates of Infant Mortality in India and sub-Saharan Africa

Background

Although childhood mortality has declined in the past four decades in almost all countries, the declines have been faster and in percentage terms greater, in relatively rich countries. In recent years, the decline in child mortality levels has slowed down and in some countries reversals are recorded. Within regions and countries overall declines in infant mortality mask a stagnant situation for poor subgroups, thus it is important to examine infant mortality differentials within populations. An interesting comparison in this respect exists between the states of India and the countries of sub-Saharan Africa. Infant mortality in India is much lower than in sub-Saharan Africa but just over 30 per cent of African children are malnourished as measured by children's weight-for-age in comparison with 50 per cent in south Asia. Although a secular decline in infant and child mortality has occurred in both continents, differentials exist between and within each of the regions. In some states of India, notably the more northern states, mortality levels for infants and children are higher than in some sub-Saharan countries. Understanding the determinants of infant deaths within families and communities is important for those who work to reduce inequalities in health.

Data and Methods

The 1998/99 National Family Health Survey from 16 states of India and 18 DHS data from sub-Saharan Africa conducted in 1995 or later are used to identify the correlates of infant death in India and sub-Saharan Africa. Regression methods are used to identify a range of demographic and socio-economic factors associated with infant mortality in Africa and India.

Findings

Child-level demographic factors associated with infant deaths were: the sex of the child, birth type (singleton or multiple births), birth order, and preceding birth intervals.

- Evidence from twelve of the 18 African countries shows higher infant mortality for males but the gender differential is not clear in India.
- Multiple births have, on average, eight times the risks of infant death in India compared with singleton births. The corresponding factor for Africa is about four.
- Children born after birth intervals of 23 months or less have about double the risks of dying in both regions compared with children born after intervals of between 24 and 35 months.

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On average, first births have about 50 per cent higher risks of dying than higher-order births but there is wide variation in the relative risks ranging from 1.02 in Assam to 1.94 in Madhya Pradesh.

Maternal age and education were associated with infant deaths.

- For both regions, the risks of dying for infants born to teenage mothers are elevated by about 30 per cent compared with infants born to mothers aged between 20 and 34 years.

- Lower mortality risks are identified for infants of mothers with secondary or higher education

The macro variables that are significant for the African models are: the per cent of the population who is poor, gross national income, the level of under–nutrition among children, urbanisation, and the level of the human development index.

- Children from countries where a larger proportion of the population is classed 'poor' have a higher risks of infant death

- In three of the Indian states and in ten of the African models mortality is significantly higher in rural than in urban areas

- The association between infant death and the human development index (HDI) is very strong and suggests a reduction of 84 per cent in the risks of dying in infancy for every percentage increase in HDI.

For the Indian models, the macro variables that are significant are: the percentage of the population not expected to live beyond 40 years and the ratio of female-to-male literacy.

- A percentage increase in the proportion not expected to live beyond 40 years is associated with a four per cent increase in the risks of dying in infancy

- On average, a one percentage increase in female-to-male literacy is associated with a reduction of about 56 per cent in the risks of dying in infancy

Policy Implication

- The strong similarity between Africa and India in the association between short birth intervals and infant mortality is striking. A strong policy implication is to encourage women to space their births at intervals of at least 24 months

- In the African countries where the human development is relatively high, infant mortality is lower. Governments should be encouraged to invest in social and human welfare to improve child survival rates.

- The strong link between female education and child survival suggests that empowering women through education will improve child survival perhaps through better incomes and good child care practices.

Full reference: Madise, N.J., Matthews, Z. and Whitworth, A. 2003. A tale of two continents: Infant death clustering in India and sub-Saharan Africa. *S^{3}RI Application Working Paper A03/14*.

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