Hindu-Muslim Differentials in Infant and Child Survival in India: Some unexpected findings

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Much political and intellectual energy has been expended in India (and by outside researchers interested in India) on the higher fertility of Muslims than Hindus in the country. There have been numerous attempts to explain the long-standing finding that Muslim women have more children than Hindu women, even after controlling for a range of socioeconomic variables. And several public pronouncements by political leaders as well as private discourses by citizens use the higher fertility of Muslims as one more alarming piece of evidence of their social backwardness and their potential to eventually outnumber the Hindu population.

By this reckoning alone, given the much-explored demographic relationship between fertility and child survival, one would expect infant and child mortality to be higher among Muslims than Hindus in India. This expectation is buttressed by the fact that Muslim women also display so many of the other features of high mortality situations – relatively low levels of education, greater conservatism in medical matters, higher levels of poverty.

And yet, the National Family Health Survey finds that infant and child mortality rates in India are significantly lower among Muslims. This seems to occur across the board – whether one is looking at different states, urban and rural areas separately, over time, and indeed in diasporic populations of Hindu or Muslim origin in Europe. For example, the infant mortality rate for Muslims in the second NFHS is 59, compared to 77 for Hindus. Similarly one to four year mortality rates for Hindus and Muslims are 32 and 25 respectively, leading to a gap of 25 points in the overall child mortality rate for the two groups. And in a study of women from the Indian sub-continent in the UK, the mean birthweight of Muslim infants was 3195 grams, compared to 3078 for Hindus.

These results are intriguing not only because they fly against the expectations based on religious differentials in biodemographic factors like parity and birth-spacing. They are surprising because, at least in the binary tables, they do not correlate particularly strongly with many of the other proximate determinants of infant and child mortality; determinants like ante-natal care, delivery conditions, exposure to infections and treatment of illness.

The present paper therefore attempts to probe more deeply into this puzzle of better Muslim child survival levels by analyzing the data from the second round of the Indian National Family Health Survey. In addition, we look for hints in the qualitative literature on religious differences in norms and practices related to childbearing and childrearing, as well in more distant or indirect possible correlates of child survival such as women's time-use patterns.

Our goal is to both identify 'good' practices that might have a bearing on child survival in hostile environments, as well as to publicize a positive demographic feature in a group whose demography is typically described only in terms of its supposedly stubbornly high fertility.

Analysis is based on data drawn from the National Family Health Survey of 1998-1999 (NFHS II), in which over 90,000 ever-married women aged 15-49 were interviewed. Survey information includes complete fertility histories (including number of live births, birth intervals, and the time and incidence of child deaths) as well as bio-demographic characteristics and health seeking behaviors. The survey also contains information on household socio-economic and environmental conditions. The NFHS II survey adopted a multi-stage stratified cluster sampling design. The primary sampling unit (PSU) is either a village or portion of a village in rural areas.

We propose to test several hypotheses about Muslim-Hindu differences in child survival, including statistical artifact (the two groups differ in patterns of age reporting, including heaping around the critical ages used to define various mortality measures), minority status, (the mortality among Muslims depends on their representation within the community), clustering within households or communities, and social buffering effects.

We will construct a multi-level event-history data set based on child years as units of analysis. Using this data set, we will apply discrete-time logistic regression to estimate Muslim-Hindu differences in children's annual survivorship. Fixed-effects methods will be used to examine the potential influences of stable but unmeasured characteristics of families and communities.

Dependent variables will include neonatal mortality, infant mortality, and early childhood mortality. Independent variables will include mother's health and health-seeking behaviors (e.g. BMI and feeding practices within the past 24 hours), mother's food consumption, child's health (including diarrhea or fever within past 2 weeks), and child's dietary intake. We expect that diagnosing and receiving medical treatment for diarrhea/fever/cough will be important predictors in the decreased child mortality rate among Muslim women. In addition, we are able to control for numerous socioeconomic and community variables that are likely to play a role in observed differences in child survival.