

# **The Impact of Maternal Employment on Child Survival—the Case of India**

## **Extended abstract**

### **INTRODUCTION**

In developing countries, a handful of empirical findings point to a lower survival rate among children of working mothers compared to children of non-working mothers (Basu and Basu 1991; Kishor and Parasuraman 1998), yet the reason(s) behind this differential are not thoroughly investigated. In fact, economic activity of the mother can generate earnings, increase her autonomy, and her power in decision-making, all are outcomes that are expected to improve child survival. The negative association between maternal employment and child survival is usually attributed to the reduction in the amount of time working mothers spend in childcare (Desai and Jain 1994). According to this explanation, children of working mothers receive less attention and less care, which lead to their lower survival rates. This paper aims at re-examining the relation between maternal employment and child survival in India—one of the largest countries with a relatively high level of infant and child mortality. It examines the nature of the relationship between maternal employment and child mortality and investigates under which conditions a negative relationship between the two might exist.

### **DATA AND METHODS**

Data for this study come from India's National Family Health Surveys: NFHS-1 1992-93, NFSH-2 1998-99, and NFHS-3 2005-06. For the purpose of this study, I utilize data about mother's socioeconomic status, employment status, household characteristics, and birth history in addition to data about children survival. The analysis is limited to women who had at least one birth in the five years preceding the interview date.

The analysis compares between children of working mothers and children of non-working mothers in chances of survival to age five. First, I compare between working mothers, as one group, and non-working mothers. However, working mothers vary in many work-related aspects like type of employer (family member, someone else, or self-employed); work location (at home or away from home); continuity of employment (seasonal, all year, or occasional); and type of payment (cash only, cash and in kind, in kind only, or unpaid work), which most of are highly related to occupation. Therefore, I treat working mothers in each occupational category as a different treatment group, which is separately compared to non-working mothers.

The main concern in the comparison between working and non-working mothers is that the two groups might differ in some characteristics, observed or unobserved, which may be the true reason behind inequalities in child survival to age five. Therefore, the two groups are balanced using propensity score

(PS) matching. In addition, to address possible biases from unobserved covariates, the comparison will be aided by sensitivity analysis. While matching on the PS targets bias which results from observed variables only, sensitivity analysis estimates the extent to which our conclusions are sensitive to biases from unobserved variables (Rosenbaum 2010). The propensity score, i.e. the probability of being a working mother given background controls, is estimated by a logistic model. The controls are the variables which either affect selection into the treatment (that is determinants of maternal employment) or variables that affect child survival. They include mother's age, educational level, religion, caste, household wealth, type of residence (urban vs. rural), region (North, Central, East, Northeast, West, and South), state, and sampling cluster. Working and non-working mothers are matched on the estimated PS.

Comparison between the treatment and control groups in child survival is achieved through Cox proportional hazard models, where the unit of analysis is a birth during the five years preceding the survey. For each birth, the survey provides date of birth (in months) and date of death for those who died during the study period. Because of the clear difference between rural and urban areas in both maternal employment rates and occupational composition, the analysis is stratified by type of residence, rural versus urban.

## **RESULTS**

The following are preliminary results based on NFHS-3 2005-06. In urban areas, the results show that, in the unmatched samples, the risk of dying in the first five years is significantly 1.38 times higher for children of working mothers compared to children of non-working mothers. The same comparison over the matched samples yields an estimated hazard ration of 1.17 but statistically insignificant.

When considering type of occupation, the results show that, in the pre-matched sample, the increased risk of mortality among children of working mothers is not observed in every occupational category. In fact, children of professional workers have less than half the risk of dying before age five compared to children of non-working mothers. Increased risk of mortality in the pre-matched samples is seen only among children of agricultural workers, children of services workers, and children of skilled and unskilled manual workers. In the matched samples, compared to non-working mothers, increased risk of dying is found only among children of agricultural workers.

In rural areas, the results do not show any significant effect of mother's employment on child survival.

## **DISCUSSION**

The finding that mother's employment is negatively associated with child survival only in urban areas was not reported by previous studies (A. M. Basu and K. Basu 1991; Guillot and Allendorf 2010; Kishor and Parasuraman 1998). Actually, previous studies did not examine urban and rural areas

separately, which could explain why they missed this distinction. Also, contrary to previous findings, preliminary results show that maternal employment may cause increased risk of child mortality only among children of agricultural workers (in urban areas). The absence of significant effect in rural areas is requires a further investigation.

## REFERENCES

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