# Impact of Household Structure and women's cash earning on child immunization in India

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## Introduction:

Household provide two key resources to child, money and time. The household acts as a context for the child as well as a mediator that provides the support associated with positive child well being (Thopson et. al. 1996). Household are not homogenous in terms of their discharge of duties and there are significant variations between households, within households as well as between different settings with respect to how households use time and resources for children's well being.

## Rationale behind the study:

The measure of child immunization against several childhood diseases provide an opportunity to directly measure how household resources are used for children's health and is a useful indicator of intra-household resource allocation (Gage et al 1997; Gage 1997; Amin et al 1992; Valadez & Weld 1992). Among the extended family households in sub-Saharan Africa, there is a belief that kin residing together in very close proximity to each other have the ability to meet many of the social and economic needs of family members, including children. In modified extended family, where other family members reside, there may be the older women provide housekeeping and child-care services (Desai, 1992). This is because co-residence implies an exchange between family members with respect to production, consumption and child-rearing functions. Gage et al (1997) observed in Nigeria, that lateral extended families are associated with an environment in which childhood immunization services were used more effectively. Children in extended families are therefore not worse off than those in nuclear families in terms of full immunization. It has also observed that in the prenatal attitudes are more dominant in joint and extended families than in nuclear ones because in such families children are considered as asset in terms of family labour (Davis, 1956). And it had observed that the most of the tribes in India specially the agrarian ones predominantly reside in joint families. However, there are many tribes in different parts of the country who maintain nuclear families. Among the Savara tribe working in the tea gardens of Assam, 87 percent belong to nuclear families (Gurumurthy, 1990). The Zemi's of Nagaland have 55 percent of nuclear type of families (Bhowmick, et al, 1971). The prevalence of higher percentage of nuclear families was found among Lambadis and Chenchus of Andhra Pradesh, Vakkaligas and Saligabus of Karnataka (Census of India 1961; Nag 1954).

However, several studies show that presence of father has a positive impact on the family and child health care services. It had observed from previous researches that in single parent female headed households, women are less favourable market conditions; children are often poorer regarding their health and educational conditions (Louat et al 1993). The effect of a father's absence is to substantially lower children's economic status as well as to increase the likelihood of poverty as well as its duration and severity. It is may be because women in general, spend longer hours on the combination of income- generating activities and domestic duties that can affect child well being also (Schiller, 1996). So, two parent households are believed to be the ideal setting for children. The presence of a partner or spouse is believed to increase the family time devoted to child- rearing functions as well as resources necessary for optimal child well being out comes (Amato 1987; McLanahan & Sandefur 1994; McLanahan & Booth 1989). Work in some developing country contexts has also emphasized that the two parent household may result in more favourable out comes for children (Llayd & Gage- Brandon 1993).

With this background, this paper try to understand the impact of household structure and engagement of mother to earning of cash on child health care attitude in India and how spatially it is distributed in the states and cultural setting.

## Data and methodology:

The NFHS-3 survey had conducted in all the 29 states of India in 2005-06. it covers - Household and housing characteristics, orphanhood, child labour, birth registration, tuberculosis; Individual characteristics; Fertility and contraception; Maternal health; Child immunization, child health care, feeding practices; Nutrition; Sexual behaviour; HIV related knowledge, stigma, behaviour; Women's and men's employment and women's status; Domestic Violence.

The extracted data from third round of National Family Health Survey for India and selected states (Punjab, Orissa, West Bengal, Assam, Manipur, Sikkim, Tripura, Goa, Maharashtra, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu) had used for the Study.

**Dependant variable:** NFHS-3 collected information on vaccination coverage for all living children born in the five years preceding the survey. In the survey mothers were asked whether they had a vaccination card for each child born since 2000 or since January 2001. If a card was available, the interviewer was required to carefully copy the day, month and year that each vaccination was received. For vaccinations not recorded on the card, the mother's reported that the vaccination was or was not given was accepted. If the mother could not show a vaccination car, she was asked whether the child had received any vaccines. If any vaccinations had been received, the mother was asked whether the child had received a vaccine, mother was obtained on the number of doses of the vaccine given to the child. In such case, mothers were not asked the doses of vaccines. To distinguished Polio0 from Polio1, mothers were also asked whether the first polio vaccine was given just after birth or later. To understand the coverage of complete vaccination a composite variable had prepared taking into consideration 8 Doses of vaccines for these four vaccines (1 dose of BCG and Measles, 3 doses of DPT and Polio). According to the guidelines developed by the World Health organization, children are considered fully vaccinated when they have received a vaccination against tuberculosis (BCG), three doses of the diphtheria, whooping cough and tetanus (DPT) vaccine, three doses of Polio vaccine and one dose of measles vaccine by the age 12 months. Those children had taken all the eight doses they had considered as received complete schedule of vaccine, those who had taken any of the doses had considered as partially vaccinated and those who had not taken any of these doses considered as not vaccinated. Finally the variable had categorised into two category 0=not completely immunized and 1= completely immunized. For the study purpose we had used data for the women who have children age 12-23 months.

**Independent variables:** the main focus of the study is household structure and cash earning of mother. With other characteristics NFHS-3 provide us information on household structure. This a dichotomous variable (Nuclear and non-nuclear) . NFHS also provide information on type of earning of women, this variable has four category (not paid, paid cash, cash and kind and kind only). For the study purpose we had recoded this variable and made a dichotomous variable which contains two categories (Non-cash earner and cash earner). Besides these we had also used information on the religion of household head (Hindu,

Muslim, Christian and others), ethnicity of the head of the household into four categories (SC, ST, OBC and others), work place of women (home and out of home). A composit variable had prepared using educational level of women and her partner (both illiterate, women more educated, husband more educated, same educational level, both highly educated). Current age of the women had categorised into five categories (15-19, 20-24, 25-29, 30-34 and 35+), another two composite variable birth order of male child and birth order of female child have prepared using birth order of the child and the sex of the child. However, to understand the impact of programme related factors we have prepared some other composite variables like mothers place of receiving ANC care, quality of facility and service, exposure to media and problem to access health facility for her own.

## Result and discussion:

It is observed that irrespective of background characteristics children from non-nuclear families are more vaccinated that the children from nuclear families. The gap between nuclear and non-nuclear households among scheduled tribes also about 10 percent point. However, pattern of complete vaccination is not changing with educational level of parent. This is quite natural when mother is out of home then she can not take care of her child properly and so she fails to get vaccinated of her child but when these women are living in a non-nuclear family then it is observed that the coverage of vaccination is 5.3 percent point higher. We can say that other family members are spending their time with these children. Higher order of birth has a negative impact on the child vaccination but it is also observed that impact of type of family is less in this context. The gender disparity in nuclear families about complete vaccination is 12 percent and in non-nuclear households it is only 7 percent. While the coverage of vaccination is increasing for 7 percent point for male child and 9 percent point for female child when the type of households is changing from nuclear to non-nuclear household.

The results also show that the cash earning of mothers have a positive impact on the complete vaccination of the child. We can argue in this situation that the mothers are earn cash they get exposure to more knowledgeable people and they are more aware about the vaccination of the children. It is observed that the women are not earning cash among them who live in non-nuclear family they are more likely to vaccinate their child than women in the nuclear family. Proportion not vaccinated child decreased from 7.5 percent to 4 percent in this situation. However, women earn cash live in nuclear and non-nuclear family proportion more or less is same (5.8 and 5.9 percent respectively) but the coverage of complete vaccination is increasing almost 9 percent points.

Regression analysis is showing that educational level of the couple, problem to access health facility, exposure to mass media have significant impact on the complete vaccination of the child. Hence, when we are not including household structure and earning of cash in the model other controlling variables also showing their significant impact.

State level analysis is showing in all the states there is a significant change of complete coverage of vaccination with the changing family from nuclear to non-nuclear and women earning cash except Orissa.