ASSESSING THE IMPACT OF MALE INVOLVEMENT IN CHILD HEALTH

Introduction

The role of male involvement within families has been an important area of interest in health and development studies. While male participation in maternal and reproductive health, particularly in relation to contraceptive use and family planning, has been shown to have positive effects, the influence of male involvement on child health outcomes remains underexplored. Previous research suggests that men who accompany their wives to antenatal visits are often exposed to crucial health information, which may sensitize them to matters of maternal and child health. Thus, this paper hypothesizes that men involved in their wives' pregnancy and antenatal care may also be more likely to participate in child care activities, potentially improving child health outcomes.

There are two primary reasons why male involvement may positively influence child health outcomes. First, in resource-poor settings, the socio-economic status of households is a key determinant of child health. Fathers' increased engagement in child care may lead to the allocation of greater household resources towards child health needs, such as medical care, nutrition, and hygiene. Second, many factors typically associated with improved child health, such as vaccination, sanitation, and dietary diversity, only partially explain variations in child anthropometry. The involvement of fathers may serve as the missing link, contributing to improved care-seeking behavior and overall health management.

Given this, the inquiry investigates whether male involvement in safe motherhood, as a proxy for overall father involvement, positively impacts child health outcomes, particularly in areas with limited predictors like treatment for diarrhea, acute respiratory illness (ARI), and fever. Should this involvement prove beneficial, it would provide a strong case for father-targeted interventions aimed at improving child health outcomes.

Methods

Data Source and Study Population

This study utilizes data from the fifth round of the National Family Health Survey (NFHS-5, 2019-21). The study population varies depending on the outcome variable to ensure adequate sample size. In total, the study analyzes children under the age of five for whom complete information regarding age, gender, maternal and paternal characteristics, and household details is available. Specifically, the study includes 107,103 children with complete data on food consumption in the past week, and 184,452 children with complete data on diarrhea, ARI, and fever in the past two weeks.

Outcome Variables

The study investigates six primary child health outcomes. The first three outcomes are related to the treatment received for diarrhea, ARI, and fever within the past two weeks. Children whose parents reported the child having diarrhea were asked if they sought any form of treatment; those who did not seek treatment were assigned a value of 1 for the variable "child did not receive treatment for diarrhea," and 0 otherwise. Similarly, the outcomes for ARI and fever are assigned 1 if the child did not receive treatment and 0 otherwise.

The fourth outcome variable assesses whether the child consumed foods rich in protein and vitamins (such as meat, eggs, green leafy vegetables, fruits, and milk products) in the past week. Children who consumed any of these food groups were given a value of 1, while those who did not were assigned a value of 0. The final outcome examines whether the child is currently underweight, based on the NFHS criteria.

Predictor Variables

The study utilises one predictor variable, which is male involvement in antenatal care of the mother. The predictor variable assesses whether the father was present in the antenatal visit of the latest child. Fathers who accompanied the mother to the antenatal care centre were assigned a value of 1 for the variable "was (name's) father present during (any of) your antenatal visits", while those who did not were assigned a value of 0.

Control Variables

The analysis controls for a variety of household-level characteristics, including wealth quintile, religion, caste, place of residence, and state. Child-specific variables such as age, gender, and underweight status are also included. Maternal factors, including mother's age, age at first birth, total children ever born, and education level, are considered to account for their influence on child health outcomes.

Results

We found that after controlling for the household; child and maternal characteristics; fathers involvement in safe motherhood; has positive effect on child health. With fathers involvement; the child is more likely to eat foods rich in protein and vegetables (OR: 1.1; 95% CI: 1.01-1.1). We also found that with paternal involvement the child received advice or treatment for diarrhoea (OR: 1.1; 95% CI: 1.0-1.2). Similarly, paternal involvement was associated with a decreased likelihood of not receiving advice or treatment for fever symptoms (OR: 1; 95% CI: 0.9-1.1), and for ARI symptoms (OR: 0.8; 95% CI: 0.7-1.0). However, it is also found out that even with male involvement had negligible effects on the child being underweight (OR: 1.0; 95% CI: 1.0-1.1). Our analysis found that with male involvement, the child is more likely to receive either ORS or RHF for diarrhoea (OR: 1.5; 95% CI: 1.4-1.7), in both urban (OR: 1.3; 95% CI: 1.0-1.7), and rural areas. (OR: 1.5; 95% CI: 1.4-1.7). ORS and RHF being the most basic and immediate treatment for Diarrhoea, we wanted to know the impacts of male involvement in children receiving them. Without timely treatment, children can die from diarrhoea. Our findings emphasize that there is a substantial impact on children receiving ORS and RHF when there is male involvement.

Table 1: Association between male involvement in safe pregnancy and child health outcomes; India; 2019-21

Variables	Protein and vitamin intake of the child	Advice or treatment sought for diarrhoea	Advice or treatment sought for fever symptoms	Advice or treatment sought for ARI symptoms	Child underweight	Given either ORS of RHF for diarrhoea	Given either ORS of RHF for diarrhoea (urban)	Given either ORS or RHF for diarrhoea (rural)
Observations	1,07,103	12,700	22,559	5,115	1,84,452	12,708	2,365	10,317
Was father present at Ante natal care								
No®								
Yes	1.1***	1.1	1	0.8**	1.0**	1.5***	1.3*	1.5***
	(1.0 - 1.1)	(1.0 - 1.2)	(0.9 - 1.1)	(0.7 - 1.0)	(1.0 - 1.1)	(1.4 - 1.7)	(1.0 - 1.7)	(1.4 - 1.7)
Wealth								
Poorest®								
Poorer	1	1.2***	1.2***	1	0.8***	1.1*	1.1	(1.4 - 1.7)
	(0.9 - 1.0)	(1.1 - 1.4)	(1.1 - 1.4)	(0.9 - 1.2)	(0.8 - 0.9)	(1.0 - 1.2)	(0.9 - 1.5)	(1.4 - 1.7)
Middle	1	1.2**	1.4***	1	0.8***	1.1*	1.4**	(1.4 - 1.7)
	(1.0 - 1.1)	(1.0 - 1.4)	(1.3 - 1.6)	(0.8 - 1.2)	(0.7 - 0.8)	(1.0 - 1.3)	(1.1 - 1.9)	(1.4 - 1.7)
Richer	1.1**	1.4***	1.6***	1	0.7***	1.3***	1.6***	(1.4 - 1.7)
	(1.0 - 1.1)	(1.2 - 1.6)	(1.4 - 1.8)	(0.8 - 1.3)	(0.6 - 0.7)	(1.1 - 1.5)	(1.2 - 2.3)	(1.4 - 1.7)
Richest	1.2***	1.5***	1.6***	0.9	0.5***	1.4***	1.8***	(1.4 - 1.7)
	(1.1 - 1.3)	(1.2 - 1.7)	(1.4 - 1.9)	(0.7 - 1.2)	(0.5 - 0.5)	(1.2 - 1.6)	(1.2 - 2.6)	(1.4 - 1.7)
Religion								
Other®								
Hindu	1.1*	1.2**	1.2**	1.2	1.1**	1	1	(1.4 - 1.7)
	(1.0 - 1.1)	(1.0 - 1.4)	(1.0 - 1.3)	(0.9 - 1.5)	(1.0 - 1.1)	(0.9 - 1.2)	(0.8 - 1.4)	(1.4 - 1.7)
Muslim	1	0.9	0.8***	0.9	0.9	0.8*	1.4	(1.4 - 1.7)
	(0.9 - 1.1)	(0.7 - 1.1)	(0.7 - 0.9)	(0.6 - 1.2)	(0.9 - 1.0)	(0.7 - 1.0)	(0.9 - 2.3)	(1.4 - 1.7)
Caste								
Other®								
Scst	1.0**	0.9	1	1	1.2***	1.2***	1.2*	(1.4 - 1.7)
	(1.0 - 1.1)	(0.9 - 1.0)	(0.9 - 1.1)	(0.9 - 1.1)	(1.1 - 1.2)	(1.1 - 1.3)	(1.0 - 1.5)	(1.4 - 1.7)
Place of residence								
Rural®								
Urban	1.1*	1.2***	1.2***	0.8**	0.8***	1.1		
	(1.0 - 1.1)	(1.1 - 1.4)	(1.0 - 1.3)	(0.7 - 1.0)	(0.8 - 0.8)	(1.0 - 1.2)		
Age of child								

Above 12 months®								
Up to 6 months	7.3***	1.4***	1.3***	1.6***	0.9***	2.4***	3.2***	2.3***
	(6.9 - 7.8)	(1.2 - 1.6)	(1.1 - 1.4)	(1.2 - 2.0)	(0.9 - 0.9)	(2.1 - 2.7)	(2.2 - 4.5)	(1.9 - 2.6)
7 to 12 months	12.1***	1.3***	1.2***	1.3***	1.2***	2.8***	3.5***	2.7***
	(11.5 - 12.7)	(1.1 - 1.4)	(1.1 - 1.3)	(1.1 - 1.6)	(1.2 - 1.3)	(2.5 - 3.2)	(2.7 - 4.7)	(2.4 - 3.1)
Sex of child								
Male®								
Female	1.0***	1	0.9***	0.9	0.9***	1	0.9	1
	(0.9 - 1.0)	(0.9 - 1.1)	(0.9 - 1.0)	(0.8 - 1.0)	(0.9 - 0.9)	(0.9 - 1.1)	(0.7 - 1.0)	(0.9 - 1.1)
Child underweight								
No®								
Yes	1.0**	1	1	1		1.1	1.2	1
	(1.0 - 1.1)	(0.9 - 1.1)	(0.9 - 1.1)	(0.8 - 1.1)		(1.0 - 1.2)	(0.9 - 1.4)	(0.9 - 1.1)
Age of mother								
15-19®								
20-24	1.3***	1	1.1	0.8	0.9**	1	1	1
	(1.2 - 1.4)	(0.8 - 1.3)	(0.9 - 1.3)	(0.6 - 1.2)	(0.8 - 1.0)	(0.8 - 1.3)	(0.5 - 1.8)	(0.8 - 1.3)
25-29	1.7***	1.1	1.1	0.8	0.9	1.3*	1.2	1.3*
	(1.5 - 1.9)	(0.8 - 1.3)	(0.9 - 1.4)	(0.6 - 1.2)	(0.9 - 1.0)	(1.0 - 1.6)	(0.6 - 2.3)	(1.0 - 1.6)
30-34	2.0***	1	1.2	0.7	0.9**	1.4**	1.4	1.4**
	(1.8 - 2.3)	(0.8 - 1.3)	(0.9 - 1.5)	(0.5 - 1.1)	(0.8 - 1.0)	(1.1 - 1.8)	(0.7 - 2.8)	(1.0 - 1.8)
35-39	2.5***	1	1.2	0.8	0.9**	1.5***	2.0*	1.4**
	(2.2 - 2.9)	(0.7 - 1.4)	(0.9 - 1.5)	(0.5 - 1.2)	(0.8 - 1.0)	(1.1 - 2.1)	(0.9 - 4.5)	(1.0 - 2.0)
40-44	2.6***	1.2	1.2	0.8	0.9**	1.5*	1.3	1.6*
	(2.1 - 3.2)	(0.8 - 2.0)	(0.8 - 1.7)	(0.4 - 1.6)	(0.7 - 1.0)	(1.0 - 2.4)	(0.4 - 3.6)	(0.9 - 2.7)
45-49	3.2***	0.9	1.1	0.7	1	1.6	4.2	1.2
	(2.1 - 4.9)	(0.4 - 1.8)	(0.6 - 2.0)	(0.3 - 2.0)	(0.8 - 1.3)	(0.7 - 3.5)	(0.3 - 53.2)	(0.5 - 2.8)
Age at first birth								
Below 15®								
15-19	0.7***	1.1	0.9	1.9*	1	0.9	1.1	0.9
	(0.5 - 0.9)	(0.7 - 1.6)	(0.6 - 1.3)	(1.0 - 3.6)	(0.8 - 1.1)	(0.6 - 1.4)	(0.4 - 2.8)	(0.6 - 1.4)
20-24	0.6***	1	0.9	2.1**	0.9	0.9	1	0.9
	(0.5 - 0.7)	(0.7 - 1.6)	(0.6 - 1.4)	(1.1 - 4.0)	(0.8 - 1.0)	(0.6 - 1.4)	(0.4 - 2.5)	(0.6 - 1.4)
25-29	0.5***	1	0.8	2.0*	0.9	0.9	0.8	0.9
	(0.4 - 0.6)	(0.6 - 1.6)	(0.5 - 1.3)	(1.0 - 3.9)	(0.8 - 1.1)	(0.6 - 1.4)	(0.3 - 2.2)	(0.6 - 1.5)
30-24	0.4***	0.7	1	2.3**	0.9	0.9	0.8	0.8
	(0.3 - 0.5)	(0.4 - 1.3)	(0.6 - 1.6)	(1.1 - 5.2)	(0.8 - 1.1)	(0.5 - 1.4)	(0.3 - 2.6)	(0.5 - 1.5)

35-39	0.3***	1.3	1.5	2.5	0.9	1.1	0.6	1.7
	(0.2 - 0.4)	(0.6 - 3.2)	(0.8 - 3.1)	(0.8 - 7.8)	(0.7 - 1.2)	(0.5 - 2.4)	(0.1 - 2.4)	(0.5 - 5.2)
40-44	0.2***	0.9	2.2	5.2	0.7	1		0.7
	(0.1 - 0.4)	(0.2 - 5.6)	(0.4 - 12.0)	(0.5 - 55.9)	(0.4 - 1.2)	(0.2 - 5.6)		(0.1 - 4.2)
44-49	0.0***				0.7			
	(0.0 - 0.3)				(0.2 - 2.6)			
Total children ever born								
Up to 2 ®								
3 to 4	0.7***	1	0.9*	1.1	1.1***	1.1	1	1.1
	(0.6 - 0.7)	(0.9 - 1.2)	(0.8 - 1.0)	(0.9 - 1.3)	(1.0 - 1.1)	(1.0 - 1.2)	(0.8 - 1.4)	(1.0 - 1.2)
More than four	0.6***	1.1	0.9	1.1	1.2***	1	0.9	1.1
	(0.5 - 0.6)	(0.9 - 1.4)	(0.7 - 1.1)	(0.8 - 1.5)	(1.1 - 1.3)	(0.8 - 1.3)	(0.5 - 1.5)	(0.9 - 1.4)
Educational level								
No education®								
Primary	1	1	1.1	1	0.9**	0.9	0.7	0.9
	(1.0 - 1.1)	(0.9 - 1.2)	(1.0 - 1.2)	(0.8 - 1.3)	(0.9 - 1.0)	(0.8 - 1.0)	(0.5 - 1.1)	(0.8 - 1.1)
Secondary	1	1	1.1**	1.1	0.8***	1	1	1
	(1.0 - 1.1)	(0.9 - 1.2)	(1.0 - 1.3)	(0.9 - 1.3)	(0.8 - 0.8)	(0.9 - 1.2)	(0.7 - 1.4)	(0.9 - 1.2)
Higher	1.1*	1.1	1	1.1	0.7***	1	1	1
	(1.0 - 1.2)	(0.9 - 1.3)	(0.9 - 1.2)	(0.8 - 1.4)	(0.6 - 0.7)	(0.9 - 1.2)	(0.7 - 1.5)	(0.8 - 1.2)
Constant	0.2***	1.8*	2.0**	0.5	0.5***	1.1	0.9	1.2
	(0.1 - 0.2)	(0.9 - 3.3)	(1.1 - 3.5)	(0.2 - 1.3)	(0.4 - 0.6)	(0.6 - 2.1)	(0.2 - 4.1)	(0.6 - 2.5)

Note: Robust CI in parentheses; *** p<0.01, ** p<0.05, * p<0.1