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Mousumi Dutta, Saswata Ghosh, and Zakir Husain

International Growth Centre

Saas, bahu, and ASHA

Information diffusion and behavioural change in rural Bihar

In brief

- Bihar has a persistently poor record concerning Maternal and Child Health (MCH) targets.
- The National Health Mission and Health and Nutrition Strategy of JEEViKA, Government of Bihar, have attempted to improve MCH outcomes by increasing awareness of desired targets.
- Our study shows that Accredited Social Health Activist (ASHA) workers have enhanced awareness of MCH issues, leading to substantial behavioural change. This has led to an improvement in MCH outcomes in Bihar.
- The ASHA workers have been most successful in generating effective outcomes among less educated women from poor households, and among disadvantaged groups (Scheduled Castes and Other Backward Castes). Their outreach activities among more educated women from affluent households are limited.
- We found that family members, particularly mothers-in-law (*saas*), mediated the interaction between ASHAs and women of childbearing age. The former is, thus, able to control the flow of information from the ASHA to target women and facilitate or obstruct the process of adoption of desirable reproductive and dietary practices.

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Overview of the research

"The spread of education and alleviation of poverty will increase awareness and act as major drivers to improve MCH outcomes through behavioural change."

Improving MCH outcomes is one of the major challenges facing South Asian countries, including India. Indicators like infant, child and maternal mortality are particularly high among low-income households, with less educated family members (Choudhury 2015; Jeong et al. 2020; Prakash, Swain, and Seth 1991; Ronsmans and Graham 2006; Vanemen 2020). It is expected that the spread of education and alleviation of poverty will increase awareness and act as major drivers to improve MCH outcomes through behavioural change (El-Saharty et al. 2016).

In India, the National Rural Health Mission (renamed National Health Mission in 2013) has attempted such behavioural change at the community level through ASHA workers. In Bihar, the efforts of ASHA to spread information about recommended MCH practices and to motivate adoption of such practices have been supplemented by the Health and Nutrition Strategy. This strategy targets Self Help Group members under JEEViKA. Community Mobilisers (CMs) work to spread awareness among JEEViKA members through monthly meetings. These two strategies have led to an improvement in MCH outcomes. This is evident from an analysis of data from the fourth and fifth rounds of National Family Health Surveys, and is further confirmed by results from our primary survey.

These attempts at behavioural change have created networks of information dissemination within the community; they have also generated exogenous peer effects. Our study seeks to examine whether ASHAs have been successful in reaching out to rural households and motivating them to adopt recommended MCH practices. The study examined the following research questions:

- What are the adoption levels of MCH practices like availing Ante Natal Care (ANC) services, seeking protection against anaemia and neonatal tetanus, institutional delivery, utilising Post Natal Care (PNC) services, exclusive breastfeeding of children between 0-5 years, and complementary feeding of children aged 6-36 months?

- Who has motivated such changes?
- What are the characteristics of networks formed to disseminate information about MCH practices?

To seek the answers to these questions, a primary survey of 2250 women aged 15-42 years, with one child below 37 months, was conducted in six districts of Bihar. The districts covered were Begusarai, Katiahar, Muzzafarpur, Nalanda, Purba Champaran, and Saharsha. The survey was supplemented by Focus Group Discussions, and mapping of information networks.

A comparison of the data from the fourth and fifth rounds of National Family Health Survey revealed that MCH outcomes have improved in Bihar in recent years (Table 1). Results from our survey (Table 1) also reveals high adoption rates of such practices, baring adoption of modern contraception rates, availing at least four ANC check-ups, and availing full ANC services.

Table 1: Percentage of women adopting desirable practices in Bihar

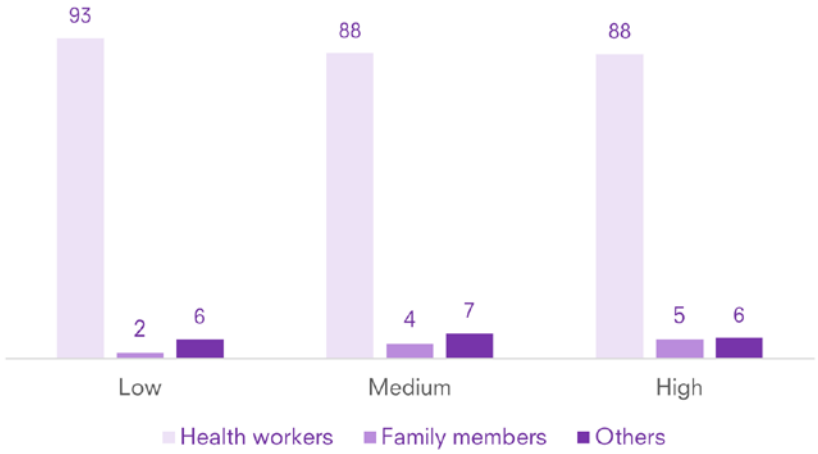
Practices	Survey	Bihar	
		NFHS4	NFHS5
Use of modern contraception methods after marriage	19.82	22.0	44.4
First ANC visit in first trimester of pregnancy	64.49	32.7	52.9
Availed at least four ANC check-ups	43.60	13.0	25.2
Birth protected against neonatal tetanus	90.53	89.1	89.5
100 IFA tablets/syrup for anaemia during pregnancy	75.82	9.4	18.0
Full ANC services	32.62	3.0	NA
Delivery in an institution	80.31	62.6	76.2
Delivery assisted by skilled person	87.07	71.1	79.0
Availed postpartum check-ups within 48 hours of delivery	61.73	41.1	57.3
Breast feeding child at least up to 6 months of birth	87.82	54.1	58.9
Complementary feeding after 6 months of birth	77.20	29.5a	39.0a

We estimated a probit model regressing adoption of a practice by an individual on adoption rates in the village and socio-economic characteristics of the respondent and her family. Results (Table 2) indicate that the coefficient of the village adoption rates are statistically significant at one percent level in all cases. This implies the presence of a peer effect, viz. the behaviour of actors is influenced by others in the community.

Table 2: Summary results for probit models of bandwagon effect			
Variables	**Village mean**	**N**	**Wald χ2**
Uses contraception	3.77***	2250	801.16 (0.00)
ANC visit	2.85***	2250	2475.57(0.00)
ANC check-up	2.73***	2250	3409.49 (0.00)
Availed Tetanus injection	5.44***	2250	157.05 (0.00)
IFA tablets/syrup	1.56***	2250	42.84 (0.00)
Institutional delivery	3.44***	2250	868.40 (0.00)
Assisted delivery	4.35***	2250	520.53 (0.00)
Post-partum check-ups	2.74***	2250	2382.19 (0.00)
Post-partum advice	2.90***	2250	2591.73 (0.00)
Child given Oral Polio Vaccine (OPV) at birth	4.31***	2250	382.84 (0.00)
Exclusive breast feeding	4.79***	2250	457.51 (0.00)
Complementary feeding	3.32***	2250	696.29 (0.00)
Availed full ANC services	3.08***	2250	1668.51 (0.00)

It was also observed that ASHAs were the main motivators underlying the change. Family members, too, had a key role to play. Contrary to studies highlighting the role of the husband in reproductive and health care seeking of women (Balaiah et al. 1999; Becker 1996; Becker and Costenbader 2001; Chattopadhyay 2012; Population Council 2005; Walston 2005), our study identifies that the sister-in-law (*jethani*) and, particularly, the mother-in-law (*saas*) played a more pivotal role than the husband. We also found that ASHAs were more successful in reaching out to women with low levels of education, from less affluent households and belonging to backward social groups. For instance, Figure 1 reveals that while 93% of respondents from the lowest asset tercile group were motivated by ASHAs, this proportion was lower (88%) among women belonging to higher asset groups. Focus Group Discussions (FGDs) revealed antagonism between ASHAs and women from affluent backgrounds and upper caste women; ASHAs reported that the latter believed they knew everything and sought health care from private facilities:

Figure 1: Main motivator, across asset tercile groups



"They have money! What will we explain to people who believe they know all? The upper caste feel that they have money, and so they need not avail of any government facilities. So we visit them just to share the check-up dates"

As a result, ASHAs visited such households only to maintain records.

Analysis of channels capturing the flow of information from ASHAs to the target recipients revealed a hierarchical caste-based network. Interaction is mostly restricted to within the family, with the ASHA or Anganwadi worker or CM being the only non-household member. Within the family, the mother-in-law played a very important role as the gatekeeper through whom ASHA was able to interact with the target women.

"Before taking any decision we need to consult with our guardian — without asking our husband and discussing it with our guardians at home, we cannot take such decisions. Now it is true that our husband is our guardian. But, within the household domain, our guardian is the mother-in-law. We have to inform her and discuss all these issues with her before finalizing anything. … Our husbands are busy with their work, and so they don't have time to guide us or understand what we need. On the other hand, our mothers-in-law mostly stay at home with us and are more aware of the details of our personal life. Further, these are women-related issues; so a female guardian, like my mother-in-law, takes care of these matters".

Information diffusion through the monthly meetings of JEEViKA members held under the Health and Nutrition Strategy (HNS) appears to have a limited impact on the uptake of MCH practices. Table 3 presents the summary of the multi-level probit models estimated for adoption rates of different MCH practices. The independent variables comprise a dummy

indicating whether the respondent is a JEEViKA member and control variables (socio-economic characteristics of the respondent and her family). In most cases, the JEEViKA dummy is statistically insignificant, indicating the absence of differences in uptake of MCH practices between JEEViKA members and non-members. Only in the case of availing post-partum check-ups, exclusive breastfeeding of child up to six months, and supplementary feeding thereafter, is there any difference in uptake rates between the two groups.

Table 3: Summary results of multi-level probit models

Variables	**Modern Contraception methods after marriage**	**Whether first ANC visit was in first trimester**	**At least four ANC check-ups**	**Whether given Tetanus Toxoid Injection**
JEEViKA member	0.06	0.11	0.08	-0.05
Control Variables	Yes	Yes	Yes	Yes
Variables	**IFA tablets/ syrup for anaemia**	**Institutional Delivery**	**Delivery assisted by skilled person**	**Availed post-partum check-up within 48 hours**
JEEViKA member	-0.08	-0.06	-0.03	0.07***
Control Variables	Yes	Yes	Yes	Yes
Variables	**Whether given advice on post-partum contraception**	**Whether child was given OPVO**	**Breast feeding up to 6 months of birth**	**Complementary feeding after 6 months**
JEEViKA member	0.12*	0.08	0.25**	0.14*
Control Variables	Yes	Yes	Yes	Yes

The failure to induce behavioural change among members may be attributed to the fact that younger women generally do not attend the meetings. Restrictions on the mobility of women of reproductive age, domestic chores, and the need to look after their children resulted in 31% of members not attending a single meeting in the last six months. Instead, respondents reported, "our *saas* attends JEEViKA meetings". Analysis of the process of information diffusion using social network analysis revealed that the information provided in the HNS meetings is filtered through the mother-in-law. It is possible that the latter may use her role as gatekeeper to distort the information when pass it on to the daughter-in-law, or simply withhold it. This finding is also supported by information obtained during Focus Group Discussions.

Policy motivation for research

The State Health Society observes that although Bihar has achieved "some progress in terms of output indicators, however maternal mortality, child mortality and population growth continue to be a cause of serious concern to the state's development efforts" (State Health Society 2011, 34). A recent study by Ghosh and Husain (2019) has argued that utilisation of maternal health care services is restricted to specific socio-economic groups. For instance, women belonging to rural, non-literate, poor, SC/ST and non-Hindu households are less likely to opt for institutional delivery.

Supply side measures are not enough to meet this challenge; creating demand for the use of MCH services is also necessary to improve MCH outcomes. Policy makers are using ASHA workers as catalytic agents for improving MCH outcomes; simultaneously, microcredit agencies — originally established with the objective of mobilising women from poor households to improve their economic conditions — are also being used as vehicles of change (Kabeer 2017).

Policy recommendations

The observed success of the ASHA workers may be attributed to their strategy of involving mothers-in-law in the discussions and motivating campaigns. This has mixed consequences. In some cases, the mother-in-law has been very supportive and assisted her daughter-in-law to avail of ANC services; but there are also many instances when the message of the ASHA has contested the traditional norms regarding large families. Policy intervention must be directed to address the challenge posed by inter-generational power relations between women, and aim to tackle potential "misalignment of … preferences, and asymmetry of information and bargaining power (within the family)" (Anukriti et al. 2020, 21).

Our study also highlights the role of caste. **ASHAs are able to reach women from socially and economically disadvantaged groups easily, but unable to influence forward caste women who are, in general, more educated and affluent** (Ghosh and Keshri 2020). Other catalytic agents must be used to target the latter.

Finally, **we should recognise that improvement of MCH outcomes is not a matter of merely health and awareness, but incorporates a gamut of issues like economic empowerment, agency in the household domain, access to social support systems, and capability to tap social networks.** Addressing all these issues is a complex task. It calls for the introduction of a multi-pronged strategy, co-operation between multiple stakeholders, including gatekeepers to the household domain. It requires a unique strategy that incorporates the convoluted cultural realities of the caste-ridden patriarchal society of the state.

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