

The role of the mother-in-law and social norms in the demand for maternal health services: Evidence from a field experiment in India

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Abstract

This paper investigates the impact of differentiated health messaging and social learning on antenatal care (ANC) visits for pregnant women co-residing with their mothers-in-law in traditional multigenerational households, characterized by low female agency, high conformity to gender norms, and collective health decision-making. In a field experiment conducted in the Indian state of Madhya Pradesh, we varied the delivery of health information on the importance of ANC visits and mother-in-law support along two dimensions: at the household level, delivered solely to the pregnant woman or jointly with their mother-in-law, and at the village level, delivered to groups comprising of only pregnant women or jointly with their mothers-in-law. We measure outcomes at two points in time: one and a half months after the information delivery (midline), and post-birth (endline). We find that information delivery increases knowledge across all treatments, with sustained effects over time. Information to the pregnant woman alone, excluding the mother-in-law and peers, results in an increase in ANC visits in the short term. Similarly, providing information to both the pregnant woman and her mother-in-law in the absence of peers (non-group setting) also increases ANC visits. In the groups, peer effects and norms dominate, with no increases in ANC visits observed, and with the lowest effects observed in the groups with mothers-in-law. Finally, we also see that pregnant women who received our health intervention were more likely to report fewer post-delivery complications for themselves and the infant. This study makes three important contributions: 1) we demonstrate the pivotal role of the mother-in-law in health decision-making, 2) highlighting that women’s groups may not necessarily enhance agency and access, and 3) emphasizing that improved access to preventative care enhances health-seeking behavior and outcomes in the medium term.

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1 Introduction

Maternal mortality is a leading cause of the daily death of almost 810 otherwise healthy women of childbearing age worldwide according to a report published by the World Health Organization in 2017. In recent years, India has made considerable progress in its maternal mortality rate. However, it still remains very high at 113 per 100,000 live births in 2016-2018.¹ In addition, significant disparities in deaths persist in the country, with a large proportion of deaths concentrated in the rural regions of poorer states (National Family Health Survey (NFHS) 2015-16). There are three leading causes of maternal mortality globally and in India: postpartum hemorrhage, sepsis, and hypertensive disorders such as preeclampsia and eclampsia. A number of studies in the health literature have shown that these conditions are easily preventable with adequate antenatal care (Meh et al. 2021; Dowswell et al. 2015; Kassebaum et al. 2016; Montgomery et al. 2014; Gupta et al. 2010; Carroli et al. 2001). In India, antenatal care is made accessible by the government that provides it free of cost. Despite this, antenatal visits remain extremely low. In this paper, we ask two questions: Is it possible to increase health-seeking behaviour, in particular the number of antenatal visits, by providing health training to other members of the household besides the pregnant woman, such as the mother-in-law? In a context where social norms play an important role, does take-up of health seeking behaviour differ when training is provided individually (in private) or in groups (in public)?

There are two distinct motivations for why we study the two questions on the role of the mother-in-law, and social norms together. First, the NFHS 2015-16 data shows that from the sample of women who did not receive any antenatal care, about 40 percent said it was because their families did not think it was necessary.² While research on household decision-making has predominantly focused on spousal relationships, the patrilocal structure of Indian society provides an opportunity to study the setting in which other household

¹For the sake of comparison, the maternal mortality rate in France is 8 per 100,000 deaths in 2017, and in the United States, it is 17 per 100,000 deaths in 2018.

²In contrast, a lower proportion of 21.75 percent of the women thought it was too costly to go for antenatal check-ups even though it is provided free of cost.

members, particularly a woman’s mother-in-law plays an important role in making health, mobility and resource decisions for the young woman (Allendorf 2017; Varghese and Roy 2019; Anukriti et al. 2020; Khanna and Pandey 2020). Second, social learning or learning alongside peers, can be of particular importance in low and middle income countries where people can have limited access to health information and rely heavily on social norms for decision making (Chandrasekhar et al. 2018; Bursztyn et al. 2019; Bursztyn et al. 2018; Karing 2018). These networks can thus be a crucial factor in either upholding the social norms or bringing about behaviour change.

In order to understand the importance of targeting crucial health information to different household members and to explore how social norms can affect simple health-seeking behaviours of young married women in rural India, we conduct a randomized controlled trial in 249 villages in the central Indian state of Madhya Pradesh, where maternal mortality rate is as high as 173 per 100,000 deaths (2019-2020). The study covers 1989 households in 3 districts in Madhya Pradesh. To elicit the mother-in-law’s central role in decision making for the pregnant women, we consider two treatments randomized at the individual level: 1) where the maternal health information is given to only the pregnant woman (‘Only DIL’ treatment), and 2) where the information is given to both the pregnant woman and the mother-in-law (‘Both DIL MIL’ treatment). At the village level, we then experimentally vary whether this information is provided individually at the household (information is private, ‘Individual’ treatment) or whether it is provided in groups (information is public, ‘Group’ treatment). Given the cross randomization, we are able to identify the effects of the training within a group of only pregnant women, and a group of pregnant women and their mothers-in-law in a village. The information treatment provides training on two important maternal health practices: benefits of going for regular antenatal check-ups, and taking iron folic acid supplements to reduce the risk of anemia during pregnancy. We study the impact of the treatment on two important distinctions in the type of information provided. Previous pilot work as well as the series of questions we ask in this study show that women either underestimate or have incorrect prior beliefs about the benefits of antenatal visits, while

the consumption of iron folic acid tablets is associated with strong cultural beliefs that they cause harm to the mother and baby through side effects. We thus investigate if our health intervention has differential impacts based on whether information is associated with strong beliefs or not. Further, to ensure that the mother-in-law did not accidentally receive the treatment in the ‘Only DIL’ arm, we also provide a placebo health training on COVID-19 related health information to the mother-in-law while the pregnant woman was receiving the training. This is done at the individual and group level. Lastly, since information effects may taper over time, we play a recorded message to the participants during the midline as a reminder of the health message. The study collects outcomes at two points in time: through a midline survey for all participants approximately a month and a half after the initial intervention to measure short-term effects, and an endline survey after the participants have given birth to measure longer-term outcomes.

In order for the health information intervention to improve health-seeking behaviour, we first study whether our treatment improved knowledge. We find important and positive effects of the health intervention on antenatal care knowledge for both the pregnant woman and the mother-in-law for all treatment arms as compared to the pure control group. The increase in knowledge is significant only for the index on antenatal care for which individuals have uncertain priors, in comparison to iron tablets for which there exist strong negative priors. Lastly, there are no significant differences across treatments suggesting that knowledge increases even when the training is only given to the pregnant woman.

Corresponding to this effect, we find increases in the number of antenatal visits in the short term, and here is important heterogeneity within the the group and individual settings. In the individual setting, also training the mother-in-law leads to a higher number of visits than only training the pregnant woman. The reverse is true for the group setting - training both does worse in terms of number of visits as compared to training just the pregnant woman, suggesting that mothers-in-law might be more willing to change behaviour when information provided and actions taken are private. The treatment effects are not significantly different in the long term, suggesting either that young women take time to communicate

with their mothers-in-law when they are trained alone, or that social image concerns of receiving information publicly by the mother-in-law diminish over time. Interestingly, we find no significant differences in effects of any treatment on the consumption of iron folic acid tablets, showing that changing behaviour associated with strong priors requires more than just the provision of new information.

Having studied our main effects on preventative health outcomes, we then look at whether our health intervention had an impact on health-information seeking outcomes. At the end of the intervention, the participants received a flyer inviting them to attend a training in the district hospital. The treatment effects on the probability to sign the flyer to show the intention of coming, and the self-reported visit to the district hospital confirm the patterns seen for the preventative health outcomes. The effects for signing the flyer are significant and in the upward direction for the pregnant woman in the case where training is provided in private individually versus in groups.

Next, we test whether going for antenatal visits is associated with reduced complications during delivery. Women in the ‘Individual’ treatment arm are 4.4 percentage points less likely to report post-delivery complications over a mean of 9 percent in the group treatment. They are also less likely to report having a sick baby after delivery as compared to the ‘Group’ treatment, but this is not significant. Further, the ‘Group + Both DIL and MIL’ treatment does worse in these outcomes versus the ‘Group + Only DIL’ treatment, where as there is no significant difference between the ‘Individual + Both DIL and MIL’ the ‘Individual + Only DIL’ treatments. It is important to note that these results closely follow the patterns of the results on the number of antenatal visits immediately following the intervention, and thus demonstrate that there is indeed a positive relationship between timely preventative health measures and postpartum health of both the mother and the baby.

After having established the different treatment effects, we then explore mechanisms that could help explain the results. First, we find suggestive evidence that improved communication between the pregnant woman and the mother-in-law could explain the increase in number of antenatal visits in the individual treatment. To do this we collected data on the

probability of talking with the counterpart, the probability of the pregnant woman leading the conversation, and the nature and topic of discussion. We find a higher probability of discussion in the ‘Individual’ treatment, with the mother-in-law taking the lead in approaching the pregnant woman to talk. There are significant effects for speaking about the importance of antenatal care, but no significant treatment differences for the topic of iron folic acid tablets, thus suggesting that change in communication might explain part of the increase in preventative health seeking behaviour. Next, while we do not find differences in the likelihood to approach people outside the household at endline, the topic of conversations focuses on being accompanied by the mother-in-law in the individual treatment, and on the possibility of going for visits alone in the group treatment. While we do not know from the data the reasons behind the difference in conversation probability, this once again suggests that there is an association between improved communication and the number of antenatal visits, as induced by the health intervention.

Given the growing evidence on the importance of conformity (e.g., Bursztyn and Jensen, 2015 and 2017), we follow Banerjee et al. (2019) to test whether the impact of our treatment differs based on the respondent’s own assessment of their degree of conformism to other people’s views, or traditions and customs. We find significant and positive effects of our ‘Individual’ treatment as compared to the ‘Group’ treatment in the subgroup of women who are less conforming, less traditional and have a less restrictive relationship with their mother-in-law in the short term. In the long term, it is the group setting that does better than the individual setting within these subgroups. This indicates that the group setting might heighten the social norm pertaining to the roles of the two women in household decision for pregnant women reducing visits in the short run, while common knowledge of information diffusion for less conforming women might increase visits in the long run. The last tests we perform are the differential impact of treatments depending upon the baseline levels of antenatal visits and of antenatal care knowledge. We find no significant effect of our treatments on women who had no visits at all at baseline, and the treatments increase the number of antenatal visits for women who did have some knowledge before the intervention.

Taken together, these results point to the importance of identifying the impact of the mother-in-law in maternal health decisions, as well as how this impact changes based on whether the decisions are made in a private or group environment. Additionally, it also shows that if even simple but crucial maternal health information is provided to the right people in the right setting, it can help to decrease post-delivery complications in a significant way.

This study makes four contributions. First, to our knowledge, this is the first field experiment designed to test the impact of the relationship between the daughter-in-law and mother-in-law on women’s health decisions. Existing descriptive and quasi-experimental studies have shown that the intergenerational dynamic can play out in two ways. The co-residence with the mother-in-law can have positive effects on better sharing of household work (Khanna and Pandey 2021), improved iron supplementation during pregnancy (Varghese and Roy 2019), improved mental health effects during the postpartum period in the presence of better relationship (Gausia et al. 2009, Chandran et al. 2002), and increased likelihood to use antenatal care (Allendorf 2010). On the other hand, the mother-in-law could also limit the mobility and access to peer networks of young women, impact their reproductive-health seeking behaviour (Anukriti et al. 2022), or lead to power struggle over finances (Gram et al. 2018). These studies are based on correlations or quasi-experimental analysis (Khanna and Pandey 2021, Anukriti et al. 2022), and there is no consensus on the direction and impact of the relationship on decision making. In contrast, our study experimentally varies whether health training is provided to the mother-in-law or not, along with the pregnant woman to identify her role in decision making. Our findings show that immediately after the intervention, the mother-in-law has contrasting effects on preventative health seeking behaviour, based on whether the environment is that of public or private provision of information, and these effects are persistent for the post-delivery health outcomes. This is also one of the first experimental studies to examine the effect of the mother-in-law’s decisions in an individual versus group environment.

Second, this study contributes to the large literature on intrahousehold decision making

in economics, which has largely focused on spousal bargaining within a nuclear family structure. In fact, even within studies on spousal bargaining, limited attention has been given to understanding health decision making with the exception of fertility decisions (Ashraf 2017, Ashraf et al. 2020) and contraception adoption (Ashraf 2014). Intrahousehold decision making across generations within a nonnuclear family structure has received limited attention. This relationship is of particular importance in developing countries where multiple generations reside in the same household, and that follow patrilocality i.e. where women move into the husband’s homes after marriage. This study contributes to this literature in a significant way by extending the existing empirical evidence of household decision making to include intergenerational decision making, especially pertaining to health decisions.

Third, we contribute to the growing literature on social norms, signaling, and peer effects in economics. Previous literature has documented the effect of social norms in education settings (Bursztyn et al., 2019; Bursztyn et al., 2017; Bursztyn and Jensen, 2015), as well as the rigidity of traditional social norms due to social image concerns (Haenni and Lichand, 2021). Building on the seminal social signaling model by Bénabou and Tirole (2006) and Bénabou and Tirole (2011), recent empirical literature has shown that individuals in limited information settings are concerned with signaling and their utility often depends on the expectations that others form about their type based on actions they or members of their network take (Bursztyn et al. (2019), Karing (2018)). Chandrasekhar et al. (2018) and Banerjee et al. (2018) also provide evidence on how social stigma of seeking information can inhibit social learning. We contribute to this literature by experimentally varying whether the knowledge of information delivery is made public or private. In line with the literature, we find that in the presence of social image concerns, information provision in a group or public setting inhibits the adoption of maternal health seeking behaviour. Further, new information does not lead to a change in behaviour if the behaviour is associated with traditional beliefs.

Lastly, we contribute to the literature on health information campaigns. Lack of information on health risks and benefits is an essential factor behind the underinvestment in preventative healthcare. Few studies have shown the causal link between simple information,

reducing risky health behaviors, and remedial health seeking (Dupas, 2011; Jalan and Somnathan, 2008; Madajewicz et al., 2007). However, information matters in different ways to different individuals. The information has the desired impact if targeted to the right person (Kremer and Miguel (2007)), or when differences in incentives within the household or different levels of say in household decision-making are considered (Ashraf (2017), Björkman et al. (2017)). Lastly, the effectiveness of information can be drastically different depending on whether learning from others is possible (Leonard et al. (2009), Kremer and Miguel (2007)). We contribute to this literature by (1) providing information about a preventative health behaviour like antenatal visits, which can have high-stakes negative consequences, (2) by targeting the information to specific members in the household to understand the degree to which "whom" the information is given to can have an impact on health behaviors and (3) by letting participants know that other individuals like them have also been given the same information, we study the effect of social learning and norms on health-seeking behavior.

The rest of the paper is structured as follows. In section 2, we describe the context of the study. Section 3 details the experimental design, along with sample characteristics and balance checks. In section 4, we provide the empirical specification. Section 5 discusses the main results of the study, and section 6 describes the potential mechanisms. In section 7, we explore heterogeneity in our results. Finally, we present the robustness checks in section 8 and section 9 concludes.

2 Background and Setting

This section provides the context of antenatal care in India, with current trends across the country and in the target state of Madhya Pradesh in particular.

2.1 Antenatal care in India

Antenatal care is defined as care provided by a skilled health professional focused on the mother and the baby throughout pregnancy. The typical components of antenatal care in

India include identifying risk factors, management of pregnancy-related health conditions and health education. The government of India defines complete antenatal care as at least 4 antenatal visits with the first visit being in the first trimester, three tetanus typhoid injections, and a minimum of 100 iron folic acid tablets taken throughout the pregnancy. All antenatal visits in India are provided free of cost through either the Auxiliary Nurse-Midwife (ANM) or the Primary Health Center (PHC). In addition, considering the distance to health centers from remote areas, a Village Health and Nutrition Day is organized once every month in every village to provide maternal and child healthcare services within the village. Lastly, under the Pradhan Mantri Surakshit Matritva Abhiyan, quality antenatal care is provided to women free of cost in their second and third trimesters of pregnancy at designated private health facilities.

Obstetric hemorrhage, pregnancy-related infection, and improper monitoring and underestimating the importance of warning signs hypertensive disorders are the main drivers of maternal deaths in India (Meh et al. (2021), Kassebaum et al. (2016), Montgomery et al. (2014), Gupta et al. (2010)). Regular antenatal check-ups allow for the opportunity to diagnose these disorders and provide treatment promptly. In addition, pre-existing conditions like anemia which worsen during pregnancy and exacerbate postpartum bleeding increase the proportion of hemorrhage-related deaths in poorer states and rural areas. The prevalence of iron deficiency anemia in pregnant Indian women is among the highest in the world and untreated anemia can have significantly adverse birth outcomes for mothers and newborns (Tandon et al. 2018). Indian women, particularly in rural areas, are unable to meet the iron demands of pregnancy through diet alone. As a result, along with communication of nutritional requirements, the World Health Organization recommends all pregnant women be given 30-60 mg of elemental iron per day along with 2.8 mg of folic acid. Thus, an important component of antenatal care visits in India is the provision of iron folic acid supplements free of cost to all pregnant women.

Although there are many benefits of prenatal care, and it is provided free of cost, take-up remains surprisingly very low. Based on the most recent national-level data from the

NFHS-5 (2019-20), 58.1 percent of women had gone for 4 or more antenatal visits and 44.1 percent had consumed iron tablets for at least 100 days. Descriptive studies using nationally representative samples from different waves of the NFHS data shed some light on the key enablers and barriers to seeking preventative health care during pregnancy in India. Belonging to a wealthier household, certain castes, a woman’s autonomy and decision making power and residence in a southern Indian state were strongly associated with higher checkups. On the other hand, residence in northern regions of the country, little or no primary education and lack of exposure to information through mass media, and lower decision making autonomy in the household were associated with low visits (Downe et al. 2016, Hamal et al., 2020, Mondal et al. 2020, Ogbo et al. 2019; Munuswamy et al., 2013).

2.2 Context of Madhya Pradesh

In this study, we focus on the state of Madhya Pradesh which has the third highest maternal mortality rate in the country of 173 deaths per 100,000 live births (2019-2020). Madhya Pradesh is a large state in central India with approximately 40 percent of its population living in poverty. The state is administratively divided into 52 districts with 51,527 villages. We choose to conduct the study in three districts in the state - Sagar, Panna, and Chhattarpur. Besides being some of the low performing districts on maternal health indicators in the state, these districts were chosen due to the presence of our implementing partner NGO, Noora Health in these districts. Table 1 shows health indicators for Madhya Pradesh, and our chosen districts. Less than 30 percent of the women in rural Madhya Pradesh between the ages of 15 and 49 have more than 10 years of schooling. A little more than half of the state’s pregnant women reported going for antenatal care visits and these numbers are particularly lower for the districts in the study sample. Table 1 also shows that more than half the pregnant women in our sample are anaemic but the consumption of iron and folic acid tablets in pregnancy remains extremely low.

3 Experimental Design

The goal of the experiment is to study and compare the effects of providing health information about the benefits and risks of antenatal visits and the importance of taking iron tablets during pregnancy to pregnant women and their mothers-in-law. Further, we also explore the role of social norms in health-seeking behaviour by varying whether treatment is provided in groups or individually at the participants' homes. In this section, we detail the experimental design including the timeline and the treatment arms.

3.1 Village selection

The study took place in three districts in Madhya Pradesh - Sagar, Chhattarpur and Panna. In order to choose the study sites, we started with an initial list of villages from the 2011 district-wise census data for the three districts. From this list, we pre-selected 618 villages based on the following criteria: between 300 and 700 households per village, a maximum distance of 10 kilometers from either a public health center or sub-health center, and presence of public transport in the form of a bus or cycle-rickshaw in the village.^{3 4}

A scouting survey was conducted in these 618 villages. The purpose of the survey was to collect the roster of pregnant women in the village at the time of the survey from the community health worker. We also collected updated data on the village characteristics such as the number of households and distance to the nearest health center. Finally, we dropped villages with less than 5 pregnant women. This led to a final list of 502 villages.

³Our experimental design required a sufficient number of pregnant women in the village in order to be able to study group interactions. We restricted the number of households per village to be between 300 and 700 for two reasons. First, in very small villages (<300 households), we ran the risk of finding very few pregnant women. Second, very large villages are sometimes divided into hamlets that could be far away from each other. As two of our treatment arms involved group meetings, long travel distances within the village could deter participation in the study.

⁴Even though according to the NFHS 2015-16, distance to the health center was not stated as a primary reason for not going for antenatal visits, we selected villages with adequate access to health centers so as to clearly identify our treatment effects.

3.2 Phase-wise data collection

The entire study was conducted in five phases. The final list of 502 villages was randomized into the phases, with phase 1 and 2 consisting of 101 villages and the remaining phases consisting of 100 villages. In each phase, we conducted a baseline survey, the intervention, a midline and an endline survey. In this section, we describe the entire process for each phase:

3.2.1 Baseline

The first step was to conduct a baseline survey with all the pregnant women below 7 months of gestational age, and their mothers-in-law in the villages. Teams of data collectors visited each village and updated the pregnancy roster collected during the scouting survey: women who had already delivered or were above the 7 month threshold were dropped, and newly pregnant women were added to the roster. The baseline survey collected information about demographics, pregnancy and fertility history, knowledge about preventative health measures during pregnancy (particularly, antenatal visits and iron tablet consumption for anemia), beliefs in social norms. The survey also asked a number of questions to elicit the relationship between the pregnant woman and her mother-in-law. Given the sensitive nature of the questions asked, we sent teams of two data collectors to each household who simultaneously interviewed the pregnant woman and her mother-in-law in order to ensure privacy.

For each phase, we conducted the randomization after the completion of the baseline survey. Only villages with at least 5 women pregnant at less than 7 months of gestational age at baseline were retained for the next steps. We call these the ‘study villages’. Table 2 shows the phase-wise number of villages selected as ‘study villages’.⁵

The randomization into treatments of these study villages within each phase took place in two steps:

⁵We have also completed the baseline for Phase 5, and the midline is ongoing. While this phase will not be part of the thesis chapter, the total sample size for the study will be 307 villages and 2409 households including phase 5 (58 villages and 420 households).

- **Village level randomization:** In a first step, the villages were randomized into three groups: the ‘Group’ Treatment, the ‘Individual’ treatment and the Control group. We detail the treatment arms in the sections below. We stratified over district, the number of pregnant women in the village, total number of households in the village, and distance to the nearest hospital/clinic.
- **Household level randomization:** In a second step we then proceed to randomize households in the ‘Group’ treatment and ‘Individual’ treatment into two groups: the ‘Only Daughter-in-law (DIL)’ treatment and the ‘Both DIL and Mother-in-law (MIL)’ treatment.

3.2.2 Intervention

The main intervention aimed at delivering maternal health training according to two cross-randomized treatment arms. In each village, our intervention varied who received the maternal health training (the pregnant woman alone, or both the pregnant woman and her mother-in-law). Further, we also varied whether participants in a village would receive the training in groups or individually.

During the maternal health training, the participants were informed about the benefits of antenatal visits and the risks of not going for them, the risk of anemia during pregnancy, the common misconceptions about iron tablets used to deal with anemia, the number of recommended antenatal visits (4) and the places where these visits can be undertaken. In addition, the pregnant women were also encouraged to talk to their mothers-in-law about this information and ask her for support during the pregnancy. The treatment arm involving the mothers-in-law used a counseling style training which asked questions and encouraged discussion between both the pregnant women and her mother-in-law. All trainers followed a script validated by health professionals from our partner organization. This ensured consistency across the treatment groups. Prior to the actual intervention, we piloted the training scripts in order to make it easily understandable and engaging in the local language. Appendix ?? provides the english versions of all the scripts used for the training. Below, we

explain how the intervention was conducted for each treatment arm:

- **Control group:** The control group was a pure control group, they did not receive any intervention.⁶
- **Individual + Only DIL:** In this treatment arm, only the pregnant woman was provided the health training at her home. Two trainers visited the household. The pregnant woman received the maternal health training. The mother-in-law, on the other hand, received a placebo training on Covid-related safety measures. This was done in order to ensure that the mother-in-law did not intervene while the main intervention was ongoing, or did not accidentally hear the maternal health training. At the end of the intervention, a comprehension survey was conducted for the pregnant woman to gauge her understanding of the intervention. Finally, the woman received two flyers. The first flyer had a phone number on which the participant could give a missed call if they wished to enrol in Noora Health’s free WhatsApp health messaging service in order to receive more information about good health practices during pregnancy. The second flyer was an invitation to Noora Health’s free in-person training in district hospitals on healthy behaviour during pregnancy. If the pregnant woman was interested in attending the training, she was asked to return the flyer with her signature. She was also encouraged to discuss this with her MIL if she wanted and also get her signature on the same flyer. The enumerators were instructed to collect the flyers, with or without signatures, at the end of the day.
- **Individual + Both DIL and MIL:** In this treatment, both the pregnant woman and her mother-in-law were provided the maternal health training. Two trainers visited these households and invited the pregnant woman and her mother-in-law to sit together for the intervention. The script was modified to resemble a counseling session encouraging questions and discussion, although the information remained the same

⁶Some pure control villages were contaminated after the midline survey was conducted, and thus will be dropped from the results for the endline survey. This is further explained in the section on the midline survey. In Appendix ??, we also explain the next steps and ongoing work to address this issue.

as above. This time, the comprehension survey was conducted for both the DIL and MIL. The household received one flyer of each type with the same instructions. The enumerators were instructed to collect the second flyer, with or without signatures, at the end of the day.

- **Group + Only DIL:** In this treatment arm, the pregnant woman received the maternal health training in a group setting. In the ‘Group’ treatment villages, all pregnant women and their mothers-in-law were invited to a group meeting in the village. To ensure maximum participation, the meetings were conducted at a time during the day that was most suitable for all the women in the village. The households within this treatment arm were divided into two groups - a group of pregnant women who received the maternal health training, and a group of mothers-in-law who received the placebo training. The participants were explained that the division of groups was done for ease of delivering the training. Questions and discussions were encouraged during the meetings. At the end of the meeting, a comprehension survey was conducted for the pregnant women. They were also given the two flyers with the same instructions as above. These flyers were collected at the end of the day.
- **Group + Both DIL and MIL:** In this treatment arm, both the pregnant women and their mothers-in-law received the maternal health training. As in the previous treatment arm, all the pregnant households in this treatment were invited to the group meeting. In this case, only one group was formed. This consisted of pregnant women and their mothers-in-law. The training was delivered, and questions and discussions were encouraged. At the end, a comprehension survey was conducted with all participants. Each DIL-MIL pair received one copy of each flyer. The invitation flyers were collected at the end of the day.

3.2.3 Identifying effects

The cross-randomized design of the study allows to identify several cross-treatment effects. We hypothesize different effects of our intervention based on the type of information given and an individual’s priors. Previous pilot work has shown that women are either unaware or underestimate both the benefits of antenatal care as well as the risks involved in not having appropriate care during pregnancy. If individuals are uncertain about the benefits of a health practice or have incorrect priors, receiving health information should lead them to update their priors and improve health-seeking behaviour. On the other hand, the consumption of iron folic acid tablets have been associated with the belief that they cause harm to the baby due to their side-effects of nausea and black stools. In this case, if certain health practices are associated with strong priors based on traditional practices or social norms, we expect to see little change in behaviour following the treatment.

First, we consider only the comparison between the ‘Group’ and ‘Individual’ treatment arms. By providing information to individuals alone versus groups, we aim to better understand how the joint provision of information to informal networks outside the household can influence the pregnant woman’s agency, and health seeking behavior. Here, both treatments consist of households that belong to both the ‘Only DIL’ and ‘Both DIL MIL’ treatments. By comparing these two treatments, we identify the effect of providing health training in a group setting versus individually at home, irrespective of the household member receiving the training. The group setting allowed for two things. First, the training encouraged interaction between the group members. Second, it made visible the actions of all members to the entire group. If reputational concerns about adhering to social norms or traditional practices related to health during pregnancy are high, we would expect to see fewer antenatal visits in the ‘Group’ treatment versus the ‘Individual’ treatment.

Next, the comparison of treatment effects across all four treatment arms allows us to quantify the effect of both the group or individual setting, and the recipient of the training. First, consider only the ‘Individual’ treatment arm. If bargaining power within the household favours the mother-in-law and she has incorrect priors about health practices, we expect more

antenatal visits in the ‘Individual + Both DIL and MIL’ treatment versus the ‘Individual + Only DIL’ treatment. Next, we introduce social image concerns in the same comparison of the effect of the recipient of the training by considering only the ‘Group’ treatment. In this case, the direction of the effect could be driven by two factors. First, if reputational concerns related to social norms are higher for the mother-in-law as compared to the pregnant woman, we should see higher take-up of antenatal visits in the ‘Group + Only DIL’ treatment versus the ‘Group + Both DIL and MIL’ treatment. However, if bargaining power dynamics remain unchanged and the group setting does not empower the pregnant woman to relay the information learned during the training in the ‘Group + Only DIL’ treatment, this will pull the effect in the opposite direction.

3.2.4 Midline

One and a half months after the intervention, a midline survey was conducted with both the pregnant woman and her mother-in-law in the study sample villages. The same guidelines were followed as for the baseline to continue to ensure privacy. Once the midline survey was complete, all treatment groups were also made to listen to short audio clips involving a conversation between a community health worker and a doctor. Based on the trimester of pregnancy of the participant, this contained information on the importance of antenatal care visits, healthy diet, warning signs during pregnancy and the importance of institutional birth. In the case of the ‘Only DIL’ treatment, only the pregnant woman was made to listen to the clip, and in the case of the ‘Both DIL and MIL’ treatment, both were made to listen to the clip. In addition, they were given a flyer with a phone number to call if they wished to hear similar messages to learn more about good health practices during pregnancy.

During the midline survey, in phase 1-4, some of the pure control villages were also made to listen to the audio clip by error. Given that this contaminated the pure control group, we will drop them from the analysis of the results of the endline survey.⁷ This error does not

⁷It is possible to present all results including the pure control group as a lower bound with reference to the control group. However, for the moment, we are unaware of the number of villages and which villages

impact the outcomes measured at midline as the survey was completed before the audio clip was played, and it also does not impact the across-treatment results at endline.

3.2.5 Endline

Endline surveys were conducted for both the pregnant woman and her mother-in-law in the study sample villages two to three weeks after the delivery for the pregnant woman. Given that we have women from gestational ages of 2 to 6 months, the endline survey does not follow the timing of the phases, instead it follows the timing of the delivery of the baby. For logistical reasons, the endline survey was conducted over the phone. We collected information on health-seeking behaviour during the pregnancy, postpartum health, knowledge, and volume and type of conversations about the training curriculum.

3.3 Implementation timeline and data

Below we present the implementation timeline of the phases of the study. As explained above, the endline surveys were conducted according to the delivery dates of the participants throughout the course of the study.⁸

During the entire study, a number of instruments were used to collect data at various points of the experiment. For the present analysis, we will use the baseline, midline and endline data along with the signatures on the flyers for the district hospital visits.^{9,10}

received the erroneous training. Thus, including the control villages at the endline will make interpreting the magnitude of the effect unclear. We are currently attempting to clearly identify these villages to be able to present robust results.

⁸For the purposes of the current thesis, due to delays in implementation owing to the health situation in Madhya Pradesh, phase 5 will not be a part of the thesis chapter.

⁹Since we elicit knowledge at endline, we do not consider the comprehension survey data at present. This data will be useful to estimate the effect of the treatment on the treated. In this paper, we presently focus on the intention-to-treat effect.

¹⁰We have recently received access to administrative data from the Reproductive and Child Health Portal, managed by the National Health Commission of India. The data consists of pregnancy-related information (such as number of antenatal visits, types of tests conducted, etc) as well as anthropometric measures for all pregnant women registered in the three districts of the study since January 2022. In order to be able to use this data for information on our study participants, the challenge is to be able to match these women to the administrative data. Study participants were reluctant to provide the unique ID number they receive at the time of registration to our enumerators. Thus, we are conducting a fuzzy matching based on baseline data

March 2022	•	Village scouting survey and Phase 1 baseline
April 2022	•	Phase 1 intervention and Phase 2 baseline
May 2022	•	Phase 2 intervention
June 2022	•	Phase 1 midline, Phase 2 midline, Phase 3 baseline
July 2022	•	Phase 3 Baseline, Phase 3 Intervention
August 2022	•	Phase 4 Baseline, Phase 4 Intervention
September 2022	•	Phase 3 Midline
October 2022	•	Phase 4 Midline
November 2022	•	Phase 5 Baseline, Completion of Phase 1 Endline
December 2022	•	Phase 5 Intervention, Completion of Phase 2 Endline
February 2023	•	Phase 5 Midline
March 2023	•	Completion of Phase 3 and 4 Endline
July 2023	•	Completion of Phase 5 Endline

3.4 Sample characteristics and balance checks

Our sample from the study sample villages i.e. villages selected after baseline based on the selection criteria described above consists of 1989 participating households (i.e. 1989 pregnant women and their mothers-in-law).

such as name, age, phone number, name of community health worker, etc. This is currently ongoing.

3.4.1 Indexes

For our analysis, we group variables into broad topics related to knowledge, social networks, quality of relationships, adherence to social norms, and household decision making. For each topic, we asked respondents several survey questions which are then aggregated into indexes. We follow the method proposed by Kling et al. (2007) to construct equally weighted averages of the z-scores of the variables that enter each index. Following, Banerjee et al. (2019) we change the sign of each variable so that correct answers for the knowledge indexes provide a higher value of the index. Appendix Table A11 provides a list of the individual variables that enter each index.

The *ANC knowledge* index aggregates responses on the knowledge of the respondents regarding the benefits of antenatal care, the recommended number of visits and the location of the visits; and the *Iron tablets knowledge* index aggregates the responses to the benefits of consuming iron tablets, the potential side-effects of the tablets, and the risk of anemia during pregnancy due to iron deficiency. To elicit responses to these questions, the enumerators were instructed not to read out the options to the respondent, they were to only select the responses on the digital survey given by the respondent. In case multiple correct responses were given, we sum them and consider the average value of the response for the index.¹¹

The *Restrictive nature of relationship* captures the dynamics between the pregnant woman and her mother-in-law as reported by both of them. A higher value for this index refers to a more restrictive relationship between the two, and is constructed using the average score of the five questions regarding the relationship as listed in Appendix Table A11. The next set of indexes relates to household decision-making. The two indexes refer to the need to take permission from the mother-in-law and the husband for various household decisions, as reported by both respondents. A higher value for these indexes implies a higher degree of permission needed. The index on *Adherence to social norms* elicits opinions on norms related to the relationship with the mother-in-law, mobility during pregnancy, and the role of women

¹¹If a respondent chose a right and wrong answer for questions where multiple responses were accepted, we sum only the number of correct responses. In other words, there is no negative score for a wrong answer, it yields a zero.

in the household. A higher value for this index indicates a stronger belief in social norms. Finally, the average number of peers includes the number of people the respondent meets during her free time before pregnancy, the number of people she usually takes advice from on matters related to family planning and reproductive health, and care during pregnancy.

3.4.2 Attrition

We consider a household to have attrited from our sample at midline (endline) if the pregnant woman was not available to answer the midline (endline) survey. Before calculating the rate of attrition, we drop observations from 7 villages. 4 treatment villages were not given the main intervention, while 3 control villages were given the main intervention. Dropping these villages reduces the sample size by 42 households. At midline, 16.23 percent (316 out of 1947) of households attrited from the study, and at endline, 11.09 percent (216 out of 1947) households attrited. Midline surveys were conducted in-person, and the larger attrition as compared to endline was due to the unavailability of the respondents at their home at the time of the survey. Due to time and budgetary constraints, the midline survey was short, and the enumerators were instructed to visit a village only for two consecutive days. If they were unable to find a respondent within these two days, that household was considered to have attrited from the study. The endline surveys were conducted over the phone, resulting in a higher response rate. The main reason for attrition was the non-response to the phone calls after five attempts made on two consecutive days. 16.20 percent (35 out of 216) of the attrited households responded to the phone calls but did not consent to answering the survey due to miscarriage or death of the baby after delivery. To make sure that attrition is not imbalanced across treatments, in Table 3 we regress an indicator for having answered the survey at midline and endline on the treatment dummy and on the baseline values of socioeconomic controls as well as knowledge levels and household decision-making indexes. The table shows that attrition does not differ by treatment status.

3.4.3 Balance checks

Before describing the empirical strategy, we first verify if the randomization was successful and if the covariates are balanced across treatments. Table 4 shows the summary statistics of the village-level characteristics for the control group as well as the Group and Individual treatments since village-level randomization was conducted for this set of treatments. Columns (1)-(3) show the means and standard deviations of the covariates, columns (4)-(6) show the p-value of the t-test that the difference is zero. In columns (7)-(9), we report the normalized difference as proposed by Imbens and Wooldridge (2009) and Imbens and Rubin (2015). This is a scale-free measure of the difference in distributions, and thus does not depend upon the sample sizes for the balance tests. Imbens and Rubin (2015) suggest that, as a rule of thumb, the normalized difference should not exceed 0.25. Table 4 shows that there are no imbalances across treatment arms for the village-level covariates.

Next, Table 5 reports the summary statistics for the demographic controls that we use in all our regression specifications for the pregnant woman, her mother-in-law as well as her husband. Columns (1)-(4) show the mean and standard deviation of the covariates for the four treatment arms, columns (5)-(8) report the p-value of the t-test that the difference is zero, and columns (9)-(12) report the normalized difference.¹² Given that we have four treatment arms, multiple cross-treatment comparisons are possible. However, we report comparisons only for the cross-randomized treatment arms (Only DIL v/s Both DIL MIL within Group treatment and Individual treatment respectively, Group v/s Individual within Only DIL treatment and Both DIL MIL treatment respectively) as they are the main comparisons of interest. There are no meaningful imbalances across treatments. 7 out of the 84 p-values are equal to or less than 0.05, however the normalized differences are small and below the cutoff suggested by Imbens and Rubin (2015).

Finally, we report the summary statistics of the key indexes of knowledge, relationship between the pregnant woman and her mother-in-law, adherence to social norms and

¹²The results of the main specifications in the following sections are presented, excluding the pure control group. We thus report summary statistics and balance checks only for the four treatment groups for readability.

household-decision making as reported by both the pregnant woman and her mother-in-law in Table 6. The indexes appear to be well balanced across treatment arms. 5 out of the 56 p-values are equal to or less than 0.05. The normalized differences are extremely small, except in the case of the difference in the number of peers as reported by the mother-in-law in the ‘Both DIL MIL’ treatment between the ‘Group’ and ‘Individual’ treatments (column 11), where the value is very close to the suggested cut-off.

4 Empirical specification

The primary goal of the experimental design is to identify the differential effects of providing health training to the pregnant woman alone and along with her mother-in-law, both in a group and individual setting. Our empirical strategy follows in a straightforward way from our design. First, we are interested in estimating the average treatment effect of delivering the health intervention in a group setting versus in an individual setting on any given outcome at the individual level, for the pregnant woman and her mother-in-law. We use the following specification for this estimation:

$$Y_i = \beta_0 + \beta_1 Individual_i + \theta X_i + \epsilon_i \quad (1)$$

where i denotes the individual (either the pregnant woman or her mother-in-law), $Individual=1$ is the indicator for the household belonging to the ‘Individual’ treatment. The omitted group includes individuals in the ‘Group’ treatment arm. The vector X_i is the vector of baseline control variables which includes the demographic controls in Table 5, stratification variables, as well as controls for knowledge, social network, adherence to social norms, quality of relationship, and household decision making.

Next, we consider the specification in which we estimate the effects of the cross-randomized treatment arms:

$$Y_i = \beta_0 + \beta_1(\textit{Group} + \textit{Both DIL and MIL}_i) + \beta_2(\textit{Individual} + \textit{Only DIL}_i) \\ + \beta_3(\textit{Individual} + \textit{Both DIL and MIL}_i) + \theta X_i + \epsilon_i \quad (2)$$

where the omitted treatment arm is ‘Group + Only DIL’. For this specification, we report the p-values of the following F-tests:

- the difference between providing the intervention to only the pregnant woman versus both the pregnant woman and her mother-in-law for the ‘Individual’ treatment arm ($\beta_2 = \beta_3$).
- the difference between providing the intervention in a group setting versus the individual setting for the ‘Both DIL MIL’ treatment arm ($\beta_1 = \beta_3$).

The reason we present pooled results for the ‘Group’ and ‘Individual’ treatments is because it shows the average treatment effect of being in a village that received training in groups or not, irrespective of the recipient of the training. We do not consider a specification in which we pool the households in which both the pregnant woman and her mother-in-law are treated versus only the pregnant woman is treated. Women in the pooled ‘Only DIL’ and in the ‘Both DIL MIL’ arm consist of women who received training in groups as well as individually. Since the setting in which training is received is very different, pooling these treatments brings little additional information.

5 Results

We now present the main results of the paper. We first begin by testing if our health training intervention improved knowledge on the relevant topics. Then, we test the differential impact of the treatments on the preventative health outcomes of antenatal visits and consumption of iron folic acid tablets. This is followed by studying the extent to which

treatments affected health-information seeking outcomes and longer-term post-delivery outcomes. Lastly, we explore the underlying mechanisms for the results. In all regressions we use post double-selection LASSO (see Belloni, Chernozhukov, and Hansen (2014)) in order to efficiently select controls.

5.1 Knowledge on antenatal care and iron tablets

The health information training aimed to improve health-seeking behaviour by pregnant women and their mothers-in-law. For this to work, we first test whether the intervention improved knowledge on the topics addressed in the training. Table 7 reports the estimates of the intervention on the knowledge indexes of Antenatal Care and Iron tablets. These indexes are constructed as described in section 3.4.1. Columns (1)-(2) report the knowledge indexes for the pregnant woman, and columns (3)-(4) report the indexes for the mother-in-law. Individual level demographic controls as well as controls for strata are always included but not shown. Further, the specifications include controls for the indexes described in section 3.4.1. Standard errors clustered at the village level are in parentheses, and p-values are shown in square brackets. At the bottom of each table, we show the p-values from the relevant F-tests of the cross-treatment comparisons. The midline survey was designed to be a short survey to track our main preventative health outcomes a short while after the intervention. Thus, we did not include the questions on knowledge in phase 1 and 2. However, since it is possible that knowledge tapers as time between intervention and survey increases, we decided to include the questions in the midline from phase 3 onward. In the main results, we only show endline responses as this is available for all phases.¹³

Panel A shows the estimates of the regression of the knowledge indexes on the ‘Group’ and ‘Individual’ treatment arms, as compared to the pure control group. The results clearly show that our maternal health training significantly improved knowledge for antenatal care.

¹³In Appendix Table ??, we show the results separately for the midline survey for phase 3 and 4. The qualitative results remain unchanged, although we lose significance due to lower sample sizes. In addition, we also see some significant improvement in the iron tablets knowledge of the pregnant women in the group setting as compared to the control group. This effect disappears over time in the endline survey.

The impact on the respondents’ ANC knowledge is positive and significant at the 5 percent level for both types of respondents. The magnitude of the effect corresponds to an increase of 0.21 and 0.18 standard deviations (columns (1) and (3)) for the antenatal care knowledge for the pregnant woman and the mother-in-law respectively for the group treatment, while the figures for the individual treatment correspond to an increase of 0.22 and 0.23 standard deviations (columns (1) and (3)). We do not detect any significant difference on antenatal care knowledge between the group and individual treatments (columns (1) and (3), p-value at the bottom of the table) for women who receive training individually at home than in a group setting. Despite the fact the training script dedicated an equal amount of time to both the topics of antenatal care and iron tablets, there is no significant effect of the intervention on iron tablets knowledge index.

In Panel B, we study the effects of the cross-randomized treatment arms. There is a positive and significant impact of the intervention on the antenatal care knowledge for all treatment groups as compared to the control group for both the pregnant woman and the mother-in-law, except in the case of the mother-in-law’s ANC index for the ‘Group + Both DIL MIL’ arm. Further, there is no significant difference in the effects across the treatment arms for either respondent (p-values at the bottom of the table).

To summarize, the results show that overall the health training improves knowledge for the index on antenatal care knowledge as compared to the pure control group, even in the case where the intervention is given only to the pregnant woman. The effect is significant for antenatal care for which individuals have uncertain priors, in comparison to iron tablets for which there exist strong negative priors. Finally, there is no significant difference across treatments for this outcome.

5.2 Preventative health outcomes

In this section, we present the results of the effect of the maternal health training on the number of antenatal visits, the probability of going for the visits, and the number of iron folic acid tablets consumed during pregnancy.

5.2.1 Number of antenatal visits

In Table 8, the dependent variable is the number of antenatal visits. In column (1), we show results as reported by the pregnant woman¹⁴ at midline, and column (2) shows results from the endline. Individual level demographic controls as well as controls for strata are always included but not shown. Further, the specifications include controls for the indexes described in section 3.4.1. Standard errors clustered at the village level are in parentheses, and p-values are shown in square brackets. At the bottom of each table, we show the p-values from the relevant F-tests of the cross-treatment comparisons.¹⁵

Panel A shows the impact of receiving the training in the individual setting versus in a group. The impact is positive but not significant at midline, although the p-value is small at 0.102. Panel B shows the impact of the cross-randomized treatment arms on the number of antenatal visits. The omitted group includes households in which only the pregnant woman was given the maternal health training in a group setting. At midline, within the ‘Group’ treatment, also training the mother-in-law reduces the number of visits by 0.16 standard deviations, this is significant at the 10 percent level (column (1)). The reverse is true for the individual setting. The ‘Ind + Both DIL MIL’ has higher coefficient of an increase in 0.1 standard deviations in the number of visits at midline and is significant exactly at the 10 percent level (column (1), p-value at the bottom of the table (Ind(only=both))) as compared to the ‘Ind + Only DIL’ treatment. Further, when both the pregnant women and the mothers-in-law are given the training, the ‘Individual’ treatment has higher and significant impact at midline than the ‘Group’ treatment (column (1), p-value at the bottom of the table (Both(group=ind))). Finally at endline, while the signs of all coefficients appear

¹⁴As these responses are self-reported, as a robustness check, we present the same results as reported by the mother-in-law in Appendix Table ???. It is important to remember that we sent two enumerators to conduct the survey at one household to maintain privacy of responses between the pregnant woman and her mother-in-law. Thus, comparing responses on the number of visits by the two types of respondents provides a check on the validity of the reporting. The results are largely unchanged.

¹⁵Since the pure control group was contaminated after the midline survey was conducted, we present results in Table ?? excluding the control group for both midline and endline outcomes. In Appendix Table ??, we show the midline results including the control group. The results of the cross-treatment comparisons remain unchanged; and it is only the treatment arms in the individual setting that are significantly higher than the pure control group.

to reverse, none of the treatments are significantly different from each other.

Putting all the results together, it suggests that as long as decisions are taken without consulting the group, and actions are private, individuals are more willing to change behaviour on receiving new information. It could also suggest that facilitating immediate discussion after receiving new information may lead to collusion on the part of the mothers-in-law (who have more bargaining power), thus leading them to veto the decision of changing behaviour.¹⁶ At endline however, the within-group and within-individual treatment difference between the ‘Only DIL’ and ‘Both DIL MIL’ treatments disappears. This could be due to two reasons, (i) given the skewed bargaining power dynamics within the household, it perhaps takes time for the pregnant woman to communicate with her mother-in-law about the topics of the training when only she is provided the information, (ii) the social image concerns for the mother-in-law are much higher in the group setting, but tend to diminish as time between interaction with the group and the action to be taken increases.

5.2.2 Probability of going to for at least 1, 2, 3, 4 visits

We now focus on the distribution of the number of visits, and estimate the effect of the treatments on the probability of going for at least 1, 2, 3 and 4 visits.

We show these results in Figure 1¹⁷. The top row shows the estimates for the group and individual treatments, and the bottom row shows the estimates of the cross-randomized treatment arms. The ‘Individual’ treatment increases the probability of going for 4 antenatal visits by 6.2 percentage points over a mean of 14.09 percent in the ‘Group’ treatment at midline, this is significant at the 5 percent level. On the contrary, at endline the ‘Group’ treatment leads to an increase in the probability of going for 4 visits, this is significant at the 1 percent level. Looking at the cross-randomized treatment arms, we see that at midline, also training the mother-in-law significantly increases the probability of 2, 3 and 4 visits in the

¹⁶Lowe and McKelway (2021) find a similar result while studying female employment decisions to be taken between spouses. Allowing for immediate discussion after providing employment information leads to a lower likelihood of the women taking up employment.

¹⁷The detailed results are presented in Appendix Table ?? and Table ??

individual setting versus the group setting. And at endline, this is reversed and significant only for the probability of 4 visits.

5.2.3 Number of days of consumption of iron folic tablets

In Table 9, we report the results of the effect of the intervention on the number of days of consumption of iron folic acid tablets during pregnancy. This question was asked only during the endline survey due to survey design oversight. The table clearly shows that there was no significant impact of any treatment arm on the consumption of iron tablets. This could be the result of two reasons. First, there was no significant increase in knowledge for iron tablets, suggesting that our training script was perhaps less clear on this topic. Second, it also suggests that our health training was not effective in changing people’s behaviour when it comes to topics on which people have strong negative beliefs.¹⁸

5.3 Health information seeking outcomes

The next set of outcomes we look at relate to those of health-information seeking. At the end of the maternal health training, the participant who received the intervention was given a flyer inviting them to an in-hospital training at the district hospital provided by our partner NGO, Noora Health. The first outcome we look at in this regard is whether they and their mother-in-law signed the flyer, and thus showed willingness to seek maternal health information. The second outcome we study is whether the respondents visited the district hospital as reported by them.

In Figure 2, reports the estimates of the intervention on the health information seeking outcomes for both the pregnant woman and the mother-in-law.¹⁹ The top row shows that receiving the intervention individually at home increases the probability of reporting having

¹⁸It must be pointed out that this outcome might include some measurement error and recall bias. If this bias or error is balanced across treatments, it should not affect our estimates. However, it makes it difficult to interpret the magnitude of the estimates. A robustness check would be to match it to the administrative data as we will do for the antenatal care visits. While the administrative data contains verified information on the quantity of tablets issued per woman, it also contains only self-reported data on the quantity consumed.

¹⁹The detailed results are shown in Appendix Table A17.

gone to the district hospital for the training by the mother-in-law. In the bottom row, we report the estimates of the cross-randomized treatment arms. Within the ‘Only DIL’ treatment, the individual setting leads to a higher and significant likelihood of both the pregnant woman and the mother-in-law to sign the flyer separately as compared to the group setting. The mothers-in-law also report a higher likelihood of having gone for district hospital visits in the individual setting versus the group setting irrespective of who was given the training. The results on this set of outcomes confirm the patterns seen with the preventative health outcomes. They support the argument that as long as social image concerns are important, individuals are more inclined to change behaviour in the case when decisions are taken privately.

5.4 Post-delivery outcomes

As discussed in section 2, there is ample descriptive evidence that going for timely antenatal visits during pregnancy is associated with reduced risks of complications as well as lower maternal mortality. In this section, we attempt to causally test this relationship. We asked the respondent if she had any post-delivery complications and if her baby fell sick immediately after delivery. These estimates are reported in Table 10.

Panel A reports a negative coefficient for both outcomes for the women who were part of the ‘Individual’ treatment arm as compared to the ‘Group’ treatment arm, but it is significant only for post-delivery complications. These women were 4.4 percentage points less likely to report complications over a mean of 9 percent in the group treatment. There are also significant differences between the ‘Only DIL’ and ‘Both DIL and ML’ treatment arms within the group treatments for both outcomes. For this, we turn to Panel B. The results show that within the ‘Group’ treatment, providing the health training to both the pregnant woman and the mother-in-law results in a significant and higher probability of both post-delivery complications for the mother as compared to providing the training only to the pregnant woman. Next, in the case when both the pregnant woman and the mother-in-law are treated, the women in the ‘Individual’ treatment report lower probability of complications

and sickness of the baby as compared to the ‘Group’ treatment. These differences are significant (p-value at the bottom of the table, Both(group=ind)).

It is important to note that these results closely follow the patterns of the results on the number of antenatal visits in Table 8. The combined as well as cross-randomized ‘Individual’ treatment also had a positive number of antenatal care visits as compared to the ‘Group’ treatment; and within the group setting, the case of training only the pregnant women performed better in terms of number of antenatal visit. The results on the post-delivery outcomes thus demonstrate that there is indeed a positive relationship between preventative health measures and postpartum health of both the mother and the baby.

6 Potential mechanisms

6.0.1 Communication between the pregnant woman and the mother-in-law

We begin by looking at whether our intervention increased communication between the pregnant woman and her mother-in-law on the topics discussed during the training. The reason we are interested in this outcome is to understand if improved communication increases health-seeking behaviour by encouraging the exchange of new information. Figure 3 reports various measures of communication between the two types of recipients as reported by the pregnant woman and her mother-in-law respectively.²⁰ ‘Talk after training’ shows if the two respondents talked to each other after the training, and the outcome ‘DIL approached MIL’ is equal to 1 if the pregnant woman approached the mother-in-law first.

The figure shows that the pregnant woman and the mother-in-law were more likely to talk to each other after training in the individual setting versus the group setting, according to both respondents. However, this is significant only for the mother-in-law’s response. These patterns are repeated when we look at the cross-randomized treatment arms. Further, we find that the pregnant woman is less likely to approach the mother-in-law first in the individual setting versus the group setting according to her. The reverse is true for the mother-in-law

²⁰The details of the results are provided in Appendix Tables A18 and ??.

but the effect is not significant. Why does communication improve more for the individual setting, irrespective of who is provided the training? First, we asked the respondents if it was easier for them to talk to their mother-in-law after the health intervention, and if yes, what were the reasons for the same. Appendix Table ?? reports these results and shows that one of the key reasons the pregnant women found it easier to talk to their mother-in-law was because she approached them first (column (4)). As Figure 3 shows, the mother-in-law is more likely to approach the pregnant woman in the individual treatment versus the group treatment according to her, resulting in an increase in the probability to talk after training in this treatment arm. While we do not have the ability to test this, another possible explanation could be the upholding of social norms related to the role of the mother-in-law in household decisions. Consider the treatment in which only the pregnant woman was given the training. A vast majority of pregnant women in our sample believe that daughters-in-law should not argue with their mothers-in-law, and should listen to them on maternal health issues. The group setting facilitates the upholding of social norms pertaining to the primary decision-maker within the household (the mother-in-law), and might explain the difference in communication. Table 6 shows that the index on adherence to social norms is even higher for mothers-in-law as compared to the pregnant woman, suggesting that in the case where we treat both types of participants, forcing an immediate discussion leads to immediate decision making, leaving little to discuss after the group meeting.

While we have shown that receiving the training individually at home improves communication, we are yet to establish that this is associated with increase in health-seeking behaviour. To study this, we collected data on the nature and topic of conversations, specifically the topics talked about during training, and whether these topics are associated with strong priors. These results are reported in Appendix Table A26. It is clear that the conversations focus on the importance of antenatal visits (column (3)) in the ‘Individual’ treatment arm versus the ‘Group’ treatment arm; while there is no significant difference in the topic of conversation between the ‘Only DIL’ and ‘Both DIL MIL’ cross-randomized treatments. Further, we also find that when it comes to communication on topics with prior beliefs i.e.

going for antenatal visits alone and consuming iron tablets, none of the treatments significantly differ from each other. This suggests that increase in communication on the benefits of antenatal care might explain part of the increase in antenatal visits at midline in Table 8, as opposed to the lack of difference in conversations about iron tablets, and subsequent lack of effects on its consumption in Table 9.

6.0.2 Communication with other people inside and outside the house

In this section, we study whether our intervention affected communication with other people, both inside and outside the household. These effects are reported in Figure 4. For the pregnant woman, we find no significant differences across treatments for the probability to approach others within the household. Further, while both pregnant women and mothers-in-law are more likely to approach other people outside the household in the individual setting as compared to the group setting, these effects are not significant. Research on image concerns and social learning has shown that when people are aware that information is widely diffused and they care about their social image, they may hesitate to seek information because asking for information after everyone knows they have received it might signal low ability.²¹ Contrary to this, we find no significant effect of the group setting on communication outside the household at endline. While understanding the reasons behind people’s decisions to approach other people is beyond the scope of the study, Appendix Table ?? shows that women in the individual setting have a higher and significant likelihood than women in the group setting to talk about being accompanied by their mothers-in-law for antenatal visits when they approach people outside their household. On the contrary, women in the group setting are more likely to talk about being allowed to go for visits alone suggesting that gathering people into groups probably made it easier for them to approach each others and converse about otherwise unspoken subjects. This once again suggests that there is an association between improved communication and the number of antenatal visits at endline, as induced by the health intervention.

²¹See Chandrasekhar et al. (2018), Banerjee et al. (2018).

7 Heterogeneity

Our pre-analysis plan specified looking at heterogeneity by the self-assessed conformism and tradition, the relationship with the mother-in-law, number of antenatal visits at baseline and knowledge of ANC at baseline. We present the treatment effects of the different subgroups at midline and endline for the ‘Individual’ and ‘Group’ treatments in Figure 5, and for the cross-randomized treatment arms in Figure 6.²² The dependent variable for all coefficients is the number of antenatal visits. For each subgroup, the circle indicates a value higher than or equal to the mean of the index, and the square indicates a lower value.

7.0.1 Self-assessment of conformism

First, we test whether the impact of the treatment differs based on the respondent’s self-assessment of the extent to conform to other people’s views or to tradition and customs. In order to do this, we follow the approach used in Banerjee et al. (2019). The survey consists of a list of questions aimed at measuring the values of conformity and tradition categorized by Schwartz (2012).²³ Banerjee et al. (2019) provide the definitions of the two values: "Conformity captures how inclined an individual is to restrain his/her own choices if these were to upset others or violate social norms. People with a high value of this index believe that people should do what they are told, be obedient and polite, and they generally have a taste for smooth social interaction, even at the cost of self-restraint. Tradition captures individuals’ acceptance and commitment to the values that their culture or religion promote. (...) Tradition and conformity are similar in the sense that they capture individuals’ willingness to subordinate to what is expected from them, but they differ in the group to which one subordinates him/herself: in the case of conformity it is mainly people

²²The results are detailed in Appendix Tables ??, ??, ??, ??.

²³In the survey, we also asked the list of questions used to measure the third category - self-direction. However, these questions were unsuited for the local context, especially when translated in the local language, making it difficult for both the enumerators and the respondents to understand the questions. We thus omit this category from our analysis. Since we are mainly interested in understanding if people are more or less inclined to engage in health-seeking behaviour based on whether they confirm to social norms as per their own assessment, the category of self-direction brings little additional information to the analysis.

(e.g., parents or peers), while in the case of tradition it is religious and cultural customs." As is done in the paper, we use principal component analysis to create an index from the questions asked for each value. This list is provided in Appendix Table ???. Below we present the results for the conformity index, the results on the tradition index reassuringly follow similar patterns.

In Figure 5 we see that receiving the training in the individual setting versus the group setting has a positive and significant effect on the number of antenatal visits for the subgroups of less conforming and less traditional pregnant women and mothers-in-law at midline. However at endline, it is the group setting that has a positive and significant on the number of visits. This pattern is repeated when looking at the cross-randomized treatments in Figure 6 at midline. Further, within the ‘Group’ treatment, also training the mother-in-law leads to fewer visits than only training the pregnant woman for less conforming women. At endline, the estimates are no longer significant. While interpreting these results, it is important to keep in mind that ‘conformity’ means two different things from the perception of the pregnant woman and the mother-in-law, given the social norms pertaining to their relationship. A more conformist pregnant woman is more compliant, whereas a more conformist mother-in-law is more assertive. Why do the treatments for both types of respondent’s have opposite effects on the number of antenatal visits in the short and long term? One explanation could be that the group setting exacerbates the adherence of social norms even for less conforming pregnant women and mothers-in-law, thus lowering the probability of the women to speak with their mother-in-law about the importance of antenatal visits, and eventually leads to fewer visits than in the individual setting in the short run. As the duration between the group meetings and time of survey increases and decisions can be taken privately again, visits in the ‘Group’ treatment also increase, thereby leading to a less significant difference between between the individual and group settings by endline.

7.0.2 Restrictive relationship

We now look at whether the treatments effects based on the extent of restrictiveness of the relationship between the pregnant woman and her mother-in-law. One may expect that if the relationship is less restrained at the start of the study, this could have a positive impact on the adoption of health-seeking behaviour after receiving new information. This is indeed the case at midline for the individual treatment in comparison to the group treatment. We find no treatment effect under this dimension for the cross-randomized treatment arms.

7.0.3 Number of antenatal visits at baseline

Another question is whether our estimates differ based on the number of antenatal visits the respondent had already gone for when we spoke to them for the first time during the baseline survey. Here, the circle marker denotes women who had gone for some visits at baseline, while the square marker denotes women who had gone for zero visits. We find no significant effect of our treatments on women who had no visits at all at baseline, although this is a small subgroup. Further, we see that as baseline visits increase, the individual treatment had a positive and significant impact on the number of visits in the short term as compared to the group treatment; and that this effect is reversed in the long term.

7.0.4 Level of antenatal care knowledge at baseline

Next we look at whether our results differ depending upon the respondent's baseline level of knowledge about the topics of the training. Figures 5 and 6 show that in the short run the individual treatment leads to more visits than the group treatment for the subgroup of women who had some knowledge at baseline , while in the long run the reverse is true.

7.0.5 Number of children at baseline

The last dimension we study is the number of children the pregnant woman had baseline. The circle marker shows estimates for the subgroup of women with some children, and the square marker shows the estimates for women with no children. In the long run, the group

treatment leads to more visits as compared to the individual treatment for women with no children.

8 Robustness checks

In this section, we discuss some robustness checks that deal with some potential concerns.

8.0.1 Number of antenatal care visits reported by the mother-in-law

For the main results on treatment effects for the number of antenatal care visits in Table ??, we use the survey response by the pregnant woman. Since this outcome is self-reported by the respondent, it is possibly subject to experimenter demand effects or measurement error. This concern arises only if individuals in one treatment are more likely to misreport than in another treatment arm. We use two strategies to verify that this is not the case. First, in order to check for measurement error, we conduct the same estimation using the number of visits as reported by the mother-in-law (Appendix Table ??)²⁴. The results are similar in terms of direction of effect with small differences in magnitude. In the presence of experimenter demand effects, we would expect larger differences between the estimation using the two outcomes. Second, if social desirability bias is present, we should expect that mothers-in-law in who received the maternal health training (and not the placebo training) i.e. mothers-in-law in the ‘Both DIL MIL’ treatment arm should report a higher number of antenatal care visits, consistent with the information provided during the training. Panel B of Appendix Table ?? shows that this is not the case, there are no significant differences between the ‘Both DIL MIL’ and ‘Only DIL’ treatment arms.

²⁴The mother-in-law was asked to report on the number of antenatal care visits only during the midline survey. This question was omitted during the endline data collection. Thus, we report the robustness check only for results at midline

9 Conclusion

In this paper, we analyze the effect of providing important maternal health information to pregnant women and their mothers-in-law in a public or private setting on preventative health seeking behaviour, in particular on the number of antenatal care visits. In contrast to previous literature on the effect of information on health-seeking behavior, our study sheds light on a novel dynamic within the household, the role of inter-generational decision-making on maternal health decisions. Our results show a large increase in antenatal care knowledge for all treatments and a significant increase in the number of antenatal care visits, as well as the probability of going for four visits for the individual treatment arm in the short run. These effects tend to reverse over time. We also see a positive effect on health-information-seeking outcomes and postpartum health outcomes like post-delivery complications and the health of the baby after delivery. The results are consistent with the hypotheses that: 1) mothers-in-law have considerable say in the health decisions of young married women in India; 2) norms and concerns about social image prevent mothers-in-law from allowing their daughters-in-law to seek more care during pregnancy, at least in the short run. The heterogeneity analysis sheds important light on this since we find that conformity matters in both settings and has an opposite effect based on the duration since intervention. A question our study is unable to answer is how these norms can be reversed. The study provides strong motivation to further explore the role of the mother-in-law in health decision-making. It opens up avenues for future research to understand how adherence to norms can be reversed to improve health outcomes (as well as possible spillovers).

The main contribution of our study is to shed light on a critical inter-generational dynamic across rural India when young married women co-reside with their mothers-in-law. Many health information campaigns focus on providing information to young married women, pregnant women, or new mothers. It is equally beneficial to target health information to other household members, particularly the mother-in-law. In order to improve outcomes for such women, it is vital to understand the inter-generational bargaining dynamic in the household and use it to either provide information to key decision-makers or empower the

young women to engage in bargaining. The findings of our study show that not only is it essential to take this household dynamic into account but how information is provided can also have significantly different results in the presence of social norms and conformity to them.

Table 1: Madhya Pradesh: Data from National Family Health Survey (NFHS) 5: 2019-2020

	(1)	(2)	(3)	(4)
	Madhya Pradesh	Sagar	Chhattarpur	Panna
<i>Panel A: Population characteristics</i>				
Women ages 15-49 >10 years of schooling (%)	29.3	32.9	24.7	24.0
Fertility rate (children per woman)	2			
Maternal Mortality rate (per 100,000 live births)	173			
<i>Panel B: Maternal health indicators</i>				
At least 4 antenatal care visits (%)	57.5	35.9	36.9	30.9
Pregnant women who are anaemic (%)	52.9	55.0	68.3	63.4
Consumed iron tablets for >100 days during pregnancy (%)	51.4	34.4	27.1	29.9
Talked to a health worker in the past year (%)	28.2	23.0	17.8	21.7

Table 2: Study-design: Phase-wise sample selection

Phase	Number of villages		Number of households
	Baseline	Study sample	Study sample
1	101	61	474
2	101	61	497
3	100	71	576
4	80	56	442
Total	382	249	1989

Table 3: Attrition at midline and endline surveys

	(1) Midline	(2) Endline
<i>Panel A: All four treatments</i>		
Group + Both DIL MIL	-0.011 (0.023) [0.632]	0.001 (0.019) [0.964]
Ind + Only DIL	-0.000 (0.029) [0.992]	-0.022 (0.024) [0.362]
Ind + Both DIL MIL	-0.027 (0.031) [0.386]	-0.023 (0.023) [0.325]
Observations	1432	1432
Individual (only=both)	0.230	0.980
Both (group=ind)	0.990	0.360

Notes: The table presents the results of the regression analysis of the rate of attrition at midline and endline. Column (1) shows the impact of the treatments on the outcome of being interviewed at midline, and column (2) shows the same at endline. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table 4: Village-level controls

	Mean (standard deviation)			Diff=0 p-value			Normalized difference		
	(1) Control group	(2) Group treatment	(3) Individual treatment	(4) (1)-(2)	(5) (1)-(3)	(6) (2)-(3)	(7) (1)-(2)	(8) (1)-(3)	(9) (2)-(3)
Number of households	444.10 (136.7)	433.60 (115.6)	412.10 (119.1)	0.600	0.110	0.220	0.083	0.250	0.183
Distance to nearest hospital(km)	15.61 (15.78)	19.77 (17.15)	18.81 (22.91)	0.120	0.320	0.750	-0.253	-0.163	0.048
Number of pregnant households at baseline	7.59 (2.441)	8.46 (3.559)	7.99 (2.977)	0.080	0.360	0.330	-0.287	-0.146	0.145
Observations	68	87	87						

Notes: Normalized difference is the difference in the sample means of treatment and control groups divided by the square root of the difference in the sample variances.

Table 5: Demographic controls

	Mean (standard deviation)				Diff=0 p-value				Normalized difference			
	(1) Group + Only DIL	(2) Group + Both DIL MIL	(3) Individual + Only DIL	(4) Individual + Both DIL MIL	(5) (1)-(2)	(6) (3)-(4)	(7) (1)-(3)	(8) (2)-(4)	(9) (1)-(2)	(10) (3)-(4)	(11) (1)-(3)	(12) (2)-(4)
<u>Pregnant woman</u>												
Age	23.36 (3.23)	23.22 (3.29)	23.56 (3.3)	23.58 (3.27)	0.567	0.955	0.404	0.150	0.042	-0.004	-0.062	-0.108
Years of schooling	0.12 (3.32)	8.60 (3.60)	8.68 (3.50)	8.28 (3.30)	0.870	0.116	0.900	0.205	0.012	0.118	-0.009	0.095
Religion - Hindu	0.81 (0.13)	0.99 (0.1)	0.98 (0.13)	0.99 (0.12)	0.528	0.812	0.985	0.685	-0.047	-0.018	0.001	0.030
Caste - Scheduled Caste/Tribe	0.25 (0.47)	0.33 (0.47)	0.39 (0.49)	0.35 (0.48)	0.979	0.253	0.100	0.648	-0.002	0.086	-0.122	-0.034
Number of household members	0.78 (1.49)	5.39 (1.77)	5.47 (1.66)	5.51 (1.80)	0.400	0.781	0.108	0.362	-0.062	-0.021	-0.119	-0.068
Currently Working	0.77 (0.43)	0.20 (0.40)	0.21 (0.40)	0.20 (0.40)	0.188	0.767	0.283	0.952	0.097	0.022	0.079	0.004
Been pregnant before	0.80 (0.50)	0.43 (0.50)	0.45 (0.50)	0.46 (0.50)	0.479	0.797	0.952	0.309	0.052	-0.019	-0.004	-0.076
Number of previous pregnancies	0.03 (0.80)	1.43 (0.81)	1.41 (0.7)	1.60 (0.91)	0.267	0.033	0.136	0.083	0.124	-0.236	0.164	-0.195
Number of children	0.12 (0.91)	0.60 (0.87)	0.63 (0.87)	0.74 (1.00)	0.356	0.124	0.696	0.042	0.068	-0.115	0.029	-0.152
Months pregnant - baseline	0.58 (1.29)	4.46 (1.28)	4.60 (1.15)	4.56 (1.17)	0.628	0.575	0.041	0.322	-0.036	0.042	-0.152	-0.074
Pregnancy is registered	0.04 (0.27)	0.92 (0.27)	0.90 (0.30)	0.94 (0.24)	0.882	0.042	0.225	0.318	0.011	-0.153	0.090	-0.075
Mother and Child Protection Card received	0.79 (0.38)	0.81 (0.40)	0.83 (0.38)	0.82 (0.38)	0.407	0.786	0.982	0.598	0.064	0.021	0.002	-0.041
Antenatal visits - baseline	0.62 (0.88)	1.25 (0.86)	1.21 (0.89)	1.24 (0.93)	0.665	0.620	0.830	0.905	-0.032	-0.037	0.016	0.009
<u>Mother-in-law</u>												
Age	0.46 (6.89)	50.63 (7.23)	51.34 (7.36)	50.93 (7.12)	0.249	0.455	0.827	0.563	0.085	0.056	-0.016	-0.043
Years of schooling	0.76 (2.3)	1.24 (2.72)	1.08 (2.61)	1.02 (2.42)	0.111	0.764	0.471	0.249	-0.118	0.022	-0.053	0.086
Currently working	0.23 (0.49)	0.33 (0.47)	0.46 (0.50)	0.41 (0.49)	0.114	0.231	0.065	0.029	0.117	0.090	-0.136	-0.163
Number of pregnancies	0.30 (1.64)	3.27 (1.65)	3.48 (1.69)	3.36 (1.65)	0.243	0.302	0.004	0.506	-0.086	0.077	-0.211	-0.050
Number of children	0.20 (1.65)	3.20 (1.67)	3.38 (1.72)	3.22 (1.59)	0.183	0.201	0.007	0.898	-0.098	0.096	-0.200	-0.010
Received antenatal care - last birth	0.11 (0.40)	0.17 (0.38)	0.16 (0.37)	0.21 (0.40)	0.405	0.109	0.169	0.286	0.061	-0.120	0.102	-0.080
<u>Husband</u>												
Age	0.62 (3.68)	26.18 (3.57)	26.26 (3.44)	26.40 (4.03)	0.621	0.615	0.845	0.435	0.036	-0.038	0.014	-0.058
Years of schooling	0.49 (3.28)	9.49 (3.51)	9.45 (3.48)	9.28 (3.37)	0.439	0.490	0.361	0.412	0.057	0.052	0.067	0.061
Observations	365	366	360	341	731	701	725	707				

Notes: Normalized difference is the difference in the sample means of treatment and control groups divided by the square root of the difference in the sample variances.

Table 6: Indices: knowledge, decision making, social norms

	Mean (standard deviation)				Diff=0 p-value				Normalized difference			
	(1) Group + Only DIL	(2) Group + Both DIL MIL	(3) Individual + Only DIL	(4) Individual + Both DIL MIL	(5) (1)-(2)	(6) (3)-(4)	(7) (1)-(3)	(8) (2)-(4)	(9) (1)-(2)	(10) (3)-(4)	(11) (1)-(3)	(12) (2)-(4)
Pregnant woman												
ANC knowledge	0.64 (0.26)	0.62 (0.26)	0.61 (0.25)	0.63 (0.25)	0.266	0.231	0.045	0.761	0.082	-0.090	0.148	-0.023
Iron tablets knowledge	0.71 (0.16)	0.69 (0.17)	0.69 (0.16)	0.7 (0.17)	0.358	0.792	0.279	0.913	0.068	-0.020	0.08	-0.008
Number of peers	0.71 (0.43)	0.71 (0.44)	0.66 (0.44)	0.72 (0.41)	0.521	0.097	0.050	0.743	0.047	-0.124	0.145	-0.025
Quality of relationship with MIL	0.48 (0.29)	0.48 (0.29)	0.49 (0.30)	0.47 (0.30)	0.931	0.448	0.769	0.57	-0.006	0.057	-0.022	0.042
Adherence to social norms	0.71 (0.16)	0.71 (0.15)	0.7 (0.16)	0.72 (0.15)	0.804	0.077	0.562	0.325	-0.018	-0.133	0.043	-0.074
Permission needed from MIL for decisions	0.88 (0.25)	0.88 (0.25)	0.88 (0.26)	0.89 (0.24)	0.955	0.675	0.861	0.846	-0.004	-0.031	0.013	-0.015
Permission needed from Husband for decisions	0.89 (0.26)	0.89 (0.24)	0.88 (0.26)	0.89 (0.25)	0.737	0.722	0.892	0.913	-0.025	-0.027	0.010	0.008
Mother-in-law												
ANC knowledge	0.57 (0.27)	0.57 (0.27)	0.53 (0.26)	0.55 (0.26)	0.902	0.239	0.043	0.335	-0.009	-0.088	0.149	0.072
Iron tablets knowledge	0.67 (0.3)	0.67 (0.29)	0.67 (0.29)	0.7 (0.28)	0.768	0.128	0.801	0.134	-0.022	-0.114	-0.019	-0.112
Number of peers	0.84 (0.32)	0.81 (0.35)	0.74 (0.41)	0.74 (0.40)	0.183	0.898	0.000	0.017	0.098	-0.010	0.281	0.179
Quality of relationship with DIL	0.39 (0.32)	0.41 (0.31)	0.42 (0.31)	0.44 (0.32)	0.554	0.452	0.214	0.162	-0.044	-0.056	-0.092	-0.104
Adherence to social norms	0.83 (0.19)	0.82 (0.20)	0.81 (0.21)	0.82 (0.21)	0.465	0.583	0.208	0.969	0.054	-0.041	0.093	-0.003
Permission needed from MIL for decisions	0.85 (0.26)	0.85 (0.26)	0.83 (0.29)	0.84 (0.27)	0.983	0.765	0.267	0.402	0.002	-0.022	0.082	0.060
Permission needed from Husband for decisions	0.87 (0.25)	0.87 (0.25)	0.85 (0.29)	0.85 (0.27)	0.855	0.842	0.434	0.238	-0.014	0.015	0.058	0.088
Observations	365	366	360	341	731	701	725	707				

Notes: Normalized difference is the difference in the sample means of treatment and control groups divided by the square root of the difference in the sample variances.

Table 7: Dependent variable: Knowledge Index

	<u>Pregnant woman</u>		<u>Mother-in-law</u>	
	(1)	(2)	(3)	(4)
	Antenatal care	Iron tablets	Antenatal care	Iron tablets
<i>Panel A: Group and Individual treatment</i>				
Group	0.052** (0.026) [0.046]	0.026 (0.018) [0.156]	0.045* (0.027) [0.095]	0.004 (0.036) [0.915]
Individual	0.055** (0.026) [0.036]	0.010 (0.018) [0.565]	0.056** (0.026) [0.032]	0.027 (0.035) [0.439]
Group=Individual p value	0.880	0.350	0.620	0.440
<i>Panel B: All four treatments</i>				
Group + Only DIL	0.057** (0.02) [0.032]	0.029 (0.019) [0.129]	0.064* (0.030) [0.069]	-0.004 (0.037) [0.909]
Group + Both DIL MIL	0.047* (0.026) [0.079]	0.023 (0.019) [0.219]	0.036 (0.027) [0.182]	0.012 (0.037) [0.746]
Ind + Only DIL	0.054** (0.027) [0.046]	0.022 (0.018) [0.230]	0.058** (0.027) [0.030]	0.024 (0.036) [0.510]
Ind + Both DIL MIL	0.057** (0.027) [0.036]	-0.002 (0.018) [0.907]	0.053** (0.027) [0.050]	0.030 (0.035) [0.390]
Group (only=both)	0.340	0.570	0.310	0.300
Individual (only=both)	0.780	0.000	0.710	0.720
Only (group=ind)	0.880	0.710	0.860	0.400
Both (group=ind)	0.660	0.150	0.470	0.550
Observations	1703	1703	1661	1661

Notes: The table presents the results of the regression analysis of the two knowledge indices (antenatal care and iron folic-acid tables) for both the pregnant woman and her mother-in-law on all the four treatment variables. Columns (1)-(2) show the impact of the treatments on the knowledge indices for the pregnant woman, and columns (3)-(4) show the same for the mother-in-law. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table 8: Dependent variable : Number of antenatal visits: All comparisons

	(1) Midline	(2) Endline
<i>Panel A: Group v/s Individual treatment</i>		
Individual	0.145 (0.088) [0.102]	-0.131 (0.084) [0.118]
<i>Panel B: All four treatments</i>		
Group + Both DIL MIL	-0.112* (0.061) [0.066]	0.040 (0.063) [0.525]
Ind + Only DIL	0.044 (0.099) [0.659]	-0.152 (0.096) [0.113]
Ind + Both DIL MIL	0.134 (0.092) [0.146]	-0.065 (0.097) [0.500]
Individual (only=both)	0.100	0.180
Both (group=ind)	0.010	0.270
Observations	1168	1264

Notes: The table presents the results of the regression analysis of the number of antenatal care visits undertaken by the pregnant woman. Panel A shows the results for the ‘Group’ and ‘Individual’ treatment arms, panel B shows results for the cross-randomized treatment arms. Column (1) shows the impact of the treatments on the number of visits at midline, and column (2) shows the same at endline. All specifications include controls for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

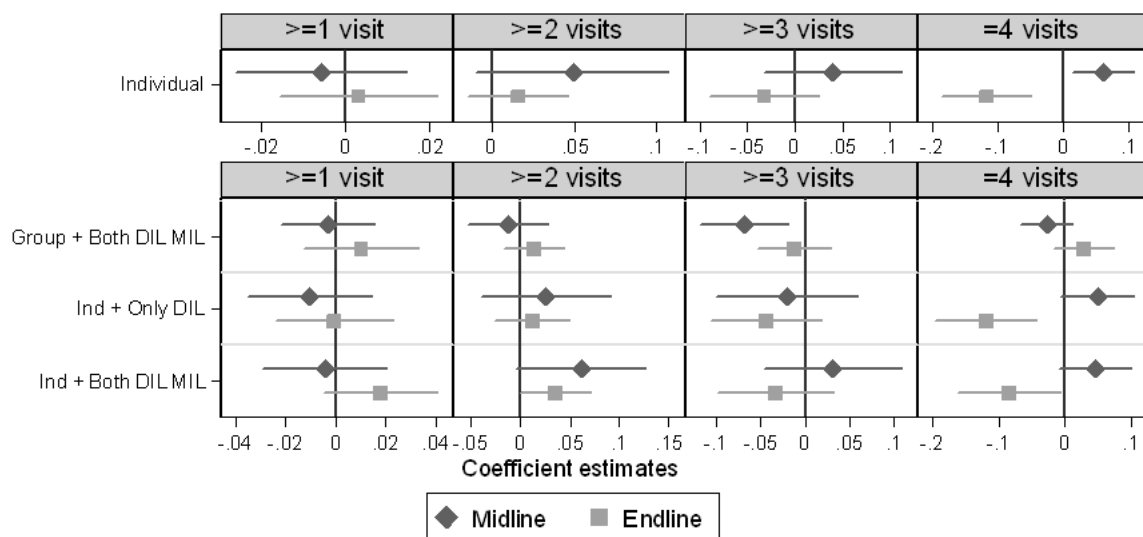


Figure 1: Dependent variable: Probability of going for at least 1, 2, 3 and 4 visits

Table 9: Dependent variable : Number of iron folic acid tablets consumed during the pregnancy:
All comparisons

	(1)
<i>Panel A: Group v/s Individual treatment</i>	
Individual	-5.111 (3.533) [0.148]
<i>Panel B: All four treatments</i>	
Group + Both DIL MIL	2.490 (2.188) [0.255]
Ind + Only DIL	-3.390 (4.048) [0.402]
Ind + Both DIL MIL	-4.232 (3.750) [0.259]
Individual (only=both)	0.660
Both (group=ind)	0.060
Observations	1264

Notes: The table presents the results of the regression analysis of the number of iron folic acid tablets consumed during the pregnancy by the pregnant woman. Panel A shows the results for the ‘Group’ and ‘Individual’ treatment arms, panel B shows results for the cross-randomized treatment arms. All specifications include controls for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

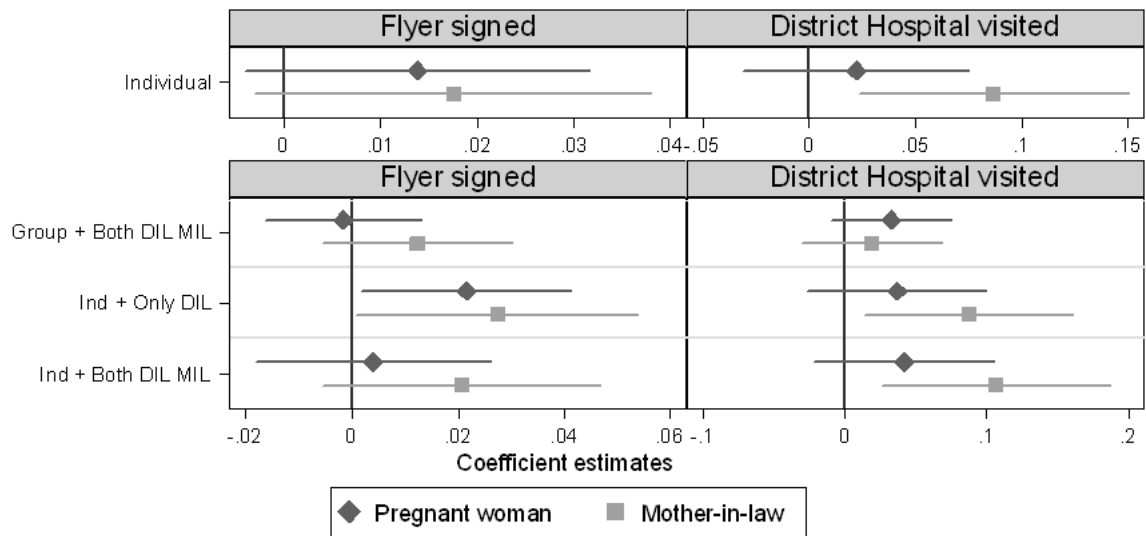


Figure 2: Dependent variable: Health information-seeking outcomes

Table 10: Dependent variable : Post-delivery health outcomes: All comparisons

	<u>Post delivery complications</u>	<u>Baby sick after delivery</u>
	(1)	(2)
<i>Panel A: Group v/s Individual treatment</i>		
Individual	-0.044*** (0.014) [0.001]	-0.013 (0.010) [0.181]
<i>Panel B: All four treatments</i>		
Group + Both DIL MIL	0.037* (0.022) [0.087]	0.018 (0.012) [0.127]
Ind + Only DIL	-0.035** (0.017) [0.035]	-0.001 (0.012) [0.931]
Ind + Both DIL MIL	-0.013 (0.019) [0.475]	-0.006 (0.013) [0.651]
Individual (only=both)	0.210	0.720
Both (group=ind)	0.020	0.090
Observations	1215	1215

Notes: The table presents the results of regression analysis of the post-delivery outcomes of complications and the health of the baby. Panel A shows the results for the ‘Group’ and ‘Individual’ treatment arms, panel B shows results for the cross-randomized treatment arms. Column (1) shows the impact of the treatments on the probability of post-delivery complications, and column (2) shows the impact of the treatment on the probability of the baby being sick after delivery. All specifications include controls for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Figure 3: Communication between the pregnant woman and the mother-in-law

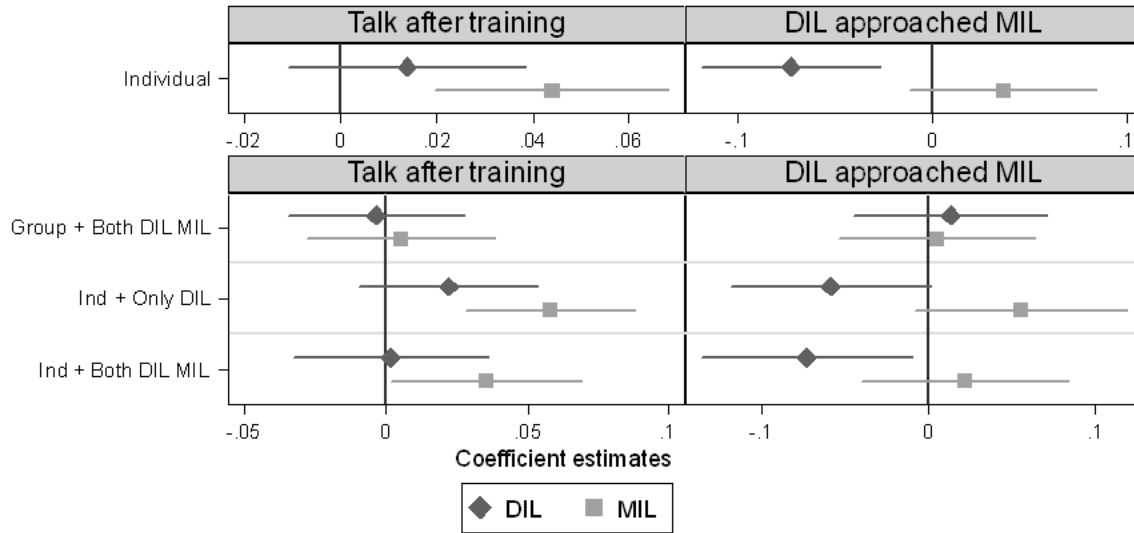


Figure 4: Communication with other people inside and outside the house

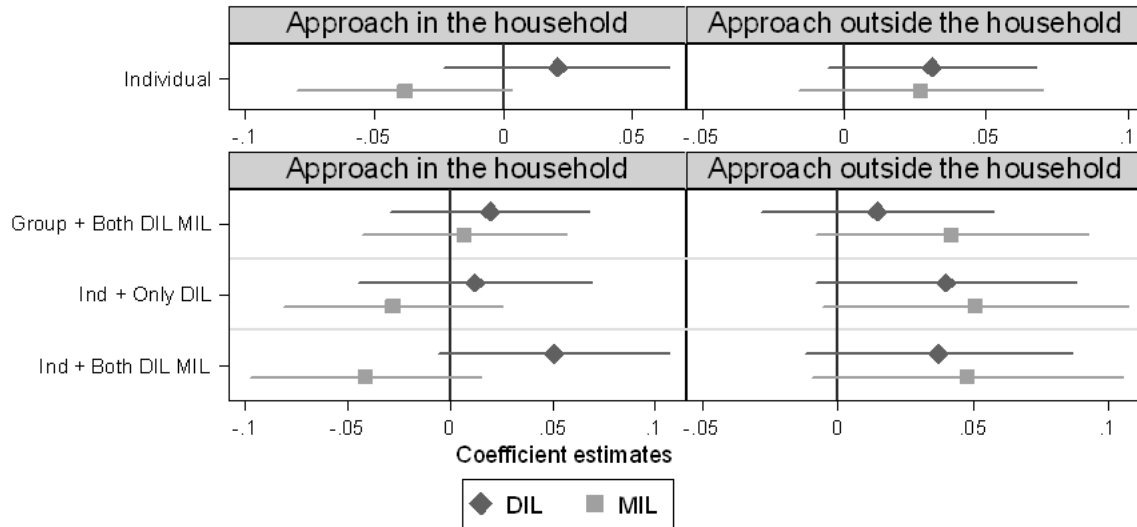


Figure 5: Heterogeneity: Individual v/s Group treatment

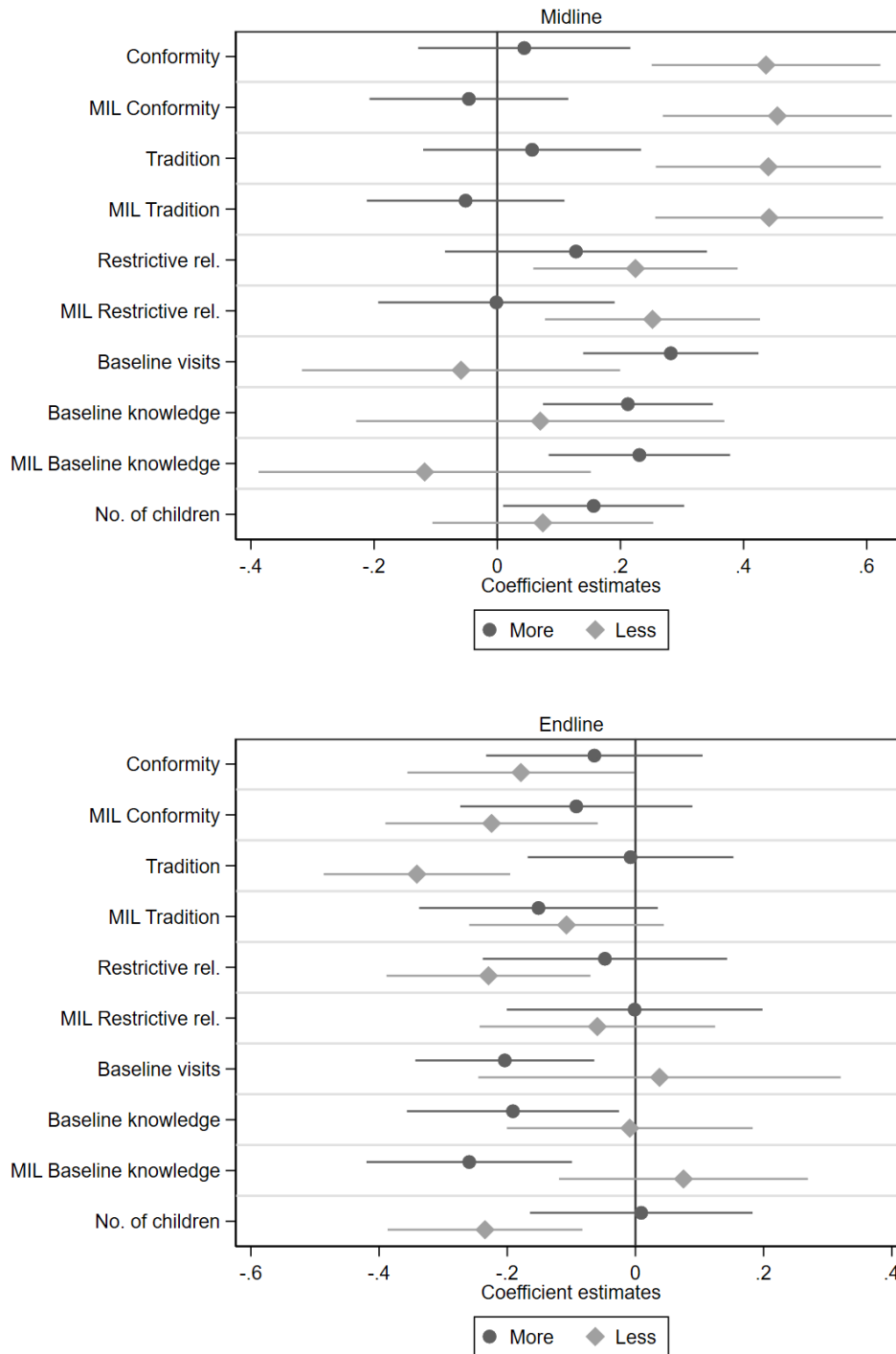
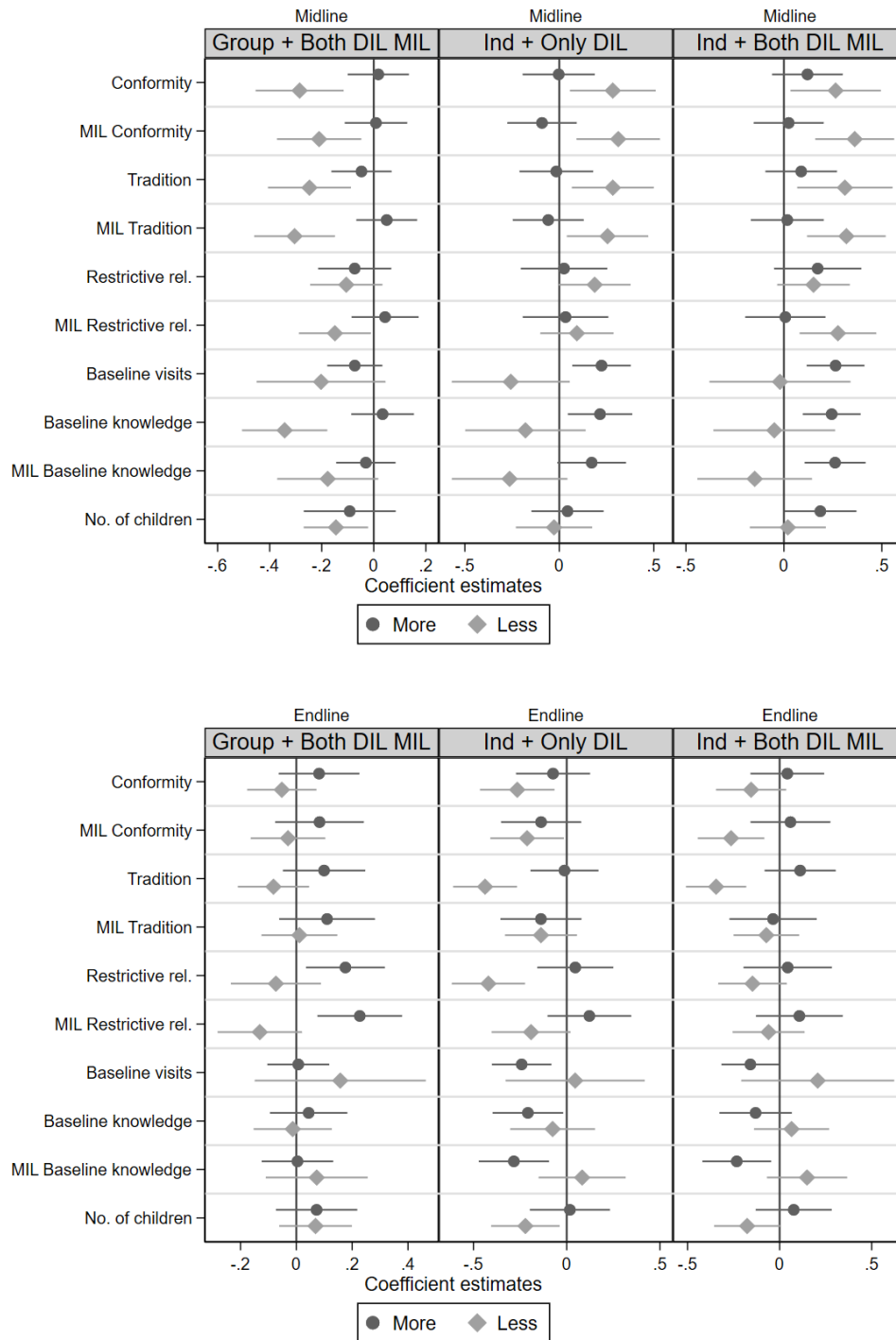


Figure 6: Heterogeneity: All four treatments



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A Appendix tables

Table A11: List of individual variables used to construct the indexes

ANC knowledge

Benefits of antenatal care include:

Detecting health complications for the mother

Detecting health complications for the baby

Early treatment of health problems

One must go for at least 4 ANC visits during pregnancy.

Going to the community health worker's home, or having her visit your home is not considered as an ANC visit.

Iron tablets knowledge

Anemia causes risk to the mother and baby.

Consuming iron tablets can cause harmful side effects.

Reasons for consuming iron tablets during pregnancy include:

To increase blood in the body

To strengthen bones

To treat Anaemia

Social network

Number of friends visited before pregnancy usually

Number of friends asked for advice on family planning and reproductive health

Number of friends asked for advice on health during pregnancy

Adherence to social norms

A woman's most important role is to be a good homemaker.

It is not good for pregnant women to be seen alone in public.

A woman should tolerate violence to keep the family together.

A daughter-in-law should not argue with her mother-in-law.

A daughter-in-law should listen to her mother-in-law regarding maternal health issues.

Women should be able to travel on their own to health centers.

Restrictive nature of relationship

Your mother-in-law limits your contact with your female friends.

Your mother-in-law limits your contact with your maternal home.

You cannot openly talk to her about issues pertaining to a woman's health.

She gets upset if you disagree with her on something.

You feel uncomfortable or nervous discussing issues or arguing with her.

Permission from mother-in-law/husband

Buy clothing for yourself

Buy things in the market

Visit a family planning clinic

Meet the ASHA worker

Visit the home of friends by yourself

Travel a short distance by bus or train or other public transport

Visit your maternal home

Purchasing an expensive item like a bicycle or cow

Table A12: List of questions to construct the conformity, tradition and self-direction indexes as used in Banerjee et al. (2018)

Conformity

1. She believes that people should do what they are told.
She thinks people should always follow rules, even when no-one is watching.
2. It is important to him/her to always behave properly.
She wants to avoid doing anything people would say is wrong.
3. She believes she should always show respect to his/her parents and to older people.
It is important to her to be obedient.
4. It is important to her to be polite to other people all the time.
She tries never to disturb or irritate others.

Tradition

1. She thinks it's important not to ask for more than what you have.
She believes that people should be satisfied with what they have.
2. Religious belief is important to her.
She tries hard to do what her religion requires.
3. She thinks it is best to do things in traditional ways.
It is important to her to keep up the customs he has learned.
4. It is important to her to be humble and modest.
She tries not to draw attention to herself.

Self-direction

1. Thinking up new ideas and being creative is important to her.
She likes to do things in her own original way.
 2. It is important to her to make her own decisions about what she does.
 3. She likes to be free to plan and to choose what to do herself.
She thinks it's important to be interested in things.
She likes to be curious and to try to understand all sorts of things.
 4. It is important to her to be independent. She likes to rely on herself.
-

Table A13: Dependent variable: Knowledge Index: Midline only

	<u>Pregnant woman</u>		<u>Mother-in-law</u>	
	(1)	(2)	(3)	(4)
	Antenatal care	Iron tablets	Antenatal care	Iron tablets
<i>Panel A: Group and Individual treatment</i>				
Group	0.056*	0.090***	0.062*	0.013
	(0.031)	(0.032)	(0.035)	(0.039)
	[0.076]	[0.005]	[0.077]	[0.728]
Individual	0.025	0.047	0.060*	0.037
	(0.032)	(0.032)	(0.033)	(0.039)
	[0.428]	[0.138]	[0.064]	[0.353]
Group=Individual p value	0.210	0.040	0.970	0.380
<i>Panel B: All four treatments</i>				
Group + Only DIL	0.062**	0.085***	0.065*	-0.004
	(0.031)	(0.031)	(0.039)	(0.040)
	[0.047]	[0.007]	[0.092]	[0.928]
Group + Both DIL MIL	0.046	0.091***	0.048	0.032
	(0.034)	(0.033)	(0.035)	(0.039)
	[0.177]	[0.006]	[0.173]	[0.414]
Ind + Only DIL	0.020	0.056*	0.066**	0.021
	(0.031)	(0.032)	(0.033)	(0.039)
	[0.520]	[0.085]	[0.045]	[0.597]
Ind + Both DIL MIL	0.030	0.037	0.038	0.048
	(0.035)	(0.032)	(0.037)	(0.041)
	[0.388]	[0.248]	[0.313]	[0.249]
Group (only=both)	0.310	0.620	0.540	0.130
Individual (only=both)	0.590	0.120	0.290	0.280
Only (group=ind)	0.090	0.180	0.990	0.430
Both (group=ind)	0.610	0.020	0.760	0.620
Observations	805	805	954	954

Notes: The table present the results of the regression analysis of the two knowledge indices (antenatal care and iron folic-acid tables) for both the pregnant woman and her mother-in-law on all the four treatment variables at midline. Columns (1)-(2) show the impact of the treatments on the knowledge indices for the pregnant woman, and columns (3)-(4) show the same for the mother-in-law. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table A14: Dependent variable: Number of antenatal visits: At midline including the Pure Control group

	(1)
<i>Panel A: Group v/s Individual treatment</i>	
Group	0.097 (0.062) [0.117]
Individual	0.212*** (0.058) [0.000]
Group=Individual p value	0.020
<i>Panel B: All four treatments</i>	
Group + Only DIL	0.100 (0.069) [0.149]
Group + Both DIL MIL	0.000 (0.068) [0.997]
Ind + Only DIL	0.155** (0.066) [0.020]
Ind + Both DIL MIL	0.240*** (0.066) [0.000]
Individual (only=both)	0.190
Both (group=ind)	0.000
Observations	1550

Notes: The table present the results of regression analysis of the number of antenatal care visits undertaken by the pregnant woman on 'Group' and 'Individual' treatment variables, the cross-randomized treatments, including the pure control group. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table A15: Dependent variable : Probability of going for 1/2/3/4 antenatal visits: Group and Individual treatment

	<u>At least 1 antenatal visit</u>	<u>At least 2 antenatal visits</u>	<u>At least 3 antenatal visits</u>	<u>At least 4 antenatal visits</u>
	(1)	(2)	(3)	(4)
<i>Panel A: Midline</i>				
Individual	-0.006 (0.012) [0.630]	0.049 (0.035) [0.168]	0.040 (0.044) [0.366]	0.062** (0.028) [0.029]
Observations	1168	1168	1168	1168
<i>Panel B: Endline</i>				
Individual	0.003 (0.011) [0.789]	0.016 (0.018) [0.387]	-0.032 (0.035) [0.355]	-0.117*** (0.041) [0.005]
Observations	1264	1264	1264	1264

Notes: The table present the results of regression analysis of the probability to go for 1/2/3/4 antenatal care visits by the pregnant woman on 'Group' and 'Individual' treatment variables. Panel A shows the impact of the treatments on the number of visits at midline, and Panel B shows the same at endline. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table A16: Dependent variable : Probability of going for 1/2/3/4 antenatal visits: All comparisons

	<u>At least 1 antenatal visit</u>	<u>At least 2 antenatal visits</u>	<u>At least 3 antenatal visits</u>	<u>At least 4 antenatal visits</u>
	(1)	(2)	(3)	(4)
<i>Panel A: Midline</i>				
Group + Both DIL MIL	-0.003 (0.011) [0.780]	-0.012 (0.024) [0.609]	-0.069** (0.030) [0.024]	-0.028 (0.024) [0.246]
Ind + Only DIL	-0.010 (0.015) [0.492]	0.025 (0.039) [0.515]	-0.021 (0.049) [0.670]	0.049 (0.034) [0.147]
Ind + Both DIL MIL	-0.004 (0.015) [0.767]	0.061 (0.040) [0.124]	0.031 (0.047) [0.504]	0.046 (0.034) [0.171]
Observations	1168	1168	1168	1168
Individual (only=both)	0.650	0.160	0.060	0.910
Both (group=ind)	0.930	0.060	0.040	0.030
<i>Panel B: Endline</i>				
Group + Both DIL MIL	0.010 (0.014) [0.467]	0.014 (0.019) [0.463]	-0.012 (0.025) [0.629]	0.029 (0.028) [0.308]
Ind + Only DIL	-0.001 (0.014) [0.963]	0.012 (0.023) [0.599]	-0.044 (0.038) [0.249]	-0.119** (0.047) [0.011]
Ind + Both DIL MIL	0.018 (0.014) [0.193]	0.035 (0.022) [0.109]	-0.033 (0.040) [0.402]	-0.084* (0.047) [0.073]
Observations	1264	1264	1264	1264
Individual (only=both)	0.150	0.150	0.700	0.260
Both (group=ind)	0.610	0.320	0.600	0.010

Notes: The table present the results of regression analysis of the probability to go for 1/2/3/4 antenatal care visits by the pregnant woman on all four treatment variables. Panel A shows the impact of the treatments on the number of visits at midline, and Panel B shows the same at endline. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table A17: Dependent variable: Health information-seeking outcomes

	<u>Pregnant woman</u>		<u>Mother-in-law</u>	
	(1)	(2)	(3)	(4)
	Flyer signed	District hospital visited	Flyer signed	District hospital visited
<i>Panel A: Group and Individual treatment</i>				
Individual	0.014 (0.011) [0.202]	0.022 (0.032) [0.494]	0.018 (0.013) [0.161]	0.087** (0.038) [0.024]
<i>Panel B: All four treatments</i>				
Group + Both DIL MIL	-0.002 (0.009) [0.859]	0.033 (0.026) [0.201]	0.012 (0.011) [0.252]	0.020 (0.030) [0.517]
Ind + Only DIL	0.022* (0.012) [0.072]	0.037 (0.038) [0.334]	0.027* (0.016) [0.090]	0.088** (0.045) [0.049]
Ind + Both DIL MIL	0.004 (0.013) [0.763]	0.042 (0.038) [0.274]	0.021 (0.016) [0.191]	0.107** (0.049) [0.028]
Individual (only=both)	0.130	0.840	0.560	0.550
Both (group=ind)	0.680	0.800	0.540	0.050
Observations	1248	1248	1220	1220

Notes: The table present the results of regression analysis of the two health information seeking outcomes: flyer for the invitation to the hospital training signed, and district hospital visited for both the pregnant woman and her mother-in-law on all the four treatment variables. Columns (1)-(2) show the impact of the treatments for the pregnant woman, and columns (3)-(4) show the same for the mother-in-law. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table A18: Communication between the pregnant woman and others as reported by the pregnant woman

	(1)	(2)	(3)	(4)
	Talk with MIL after training	DIL approached MIL	Approach others in the household	Approach others outside the household
<i>Panel A: Group v/s Individual treatment</i>				
Individual	0.014 (0.015) [0.356]	-0.073*** (0.028) [0.010]	0.021 (0.027) [0.434]	0.031 (0.022) [0.166]
<i>Panel B: All four treatments</i>				
Group + Both DIL MIL	-0.004 (0.019) [0.852]	0.013 (0.035) [0.710]	0.019 (0.029) [0.509]	0.015 (0.026) [0.575]
Ind + Only DIL	0.022 (0.019) [0.251]	-0.059 (0.036) [0.106]	0.012 (0.035) [0.730]	0.040 (0.029) [0.170]
Ind + Both DIL MIL	0.002 (0.021) [0.942]	-0.073* (0.038) [0.057]	0.051 (0.034) [0.142]	0.037 (0.030) [0.214]
Individual (only=both)	0.210	0.650	0.200	0.920
Both (group=ind)	0.800	0.020	0.340	0.430
Observations	1248	1160	1248	1248

Notes: The table presents the results of regression analysis of four different outcomes measuring communication. Column (1) shows the results for whether the respondent talked with her mother-in-law after the training, column (2) shows if it was the respondent who approached her mother-in-law first if they did talk. In column (3), we show results for whether the pregnant woman approached others in the household after the training, and column (4) shows if she approached others outside the household after the training. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table A19: Communication between the mother-in-law and others as reported by the mother-in-law

	(1)	(2)	(3)	(4)
	Talk with DIL after training	DIL approached MIL	Approach others in the household	Approach others outside the household
<i>Panel A: Group v/s Individual treatment</i>				
Individual	0.044*** (0.015) [0.003]	0.037 (0.029) [0.213]	-0.038 (0.025) [0.131]	0.027 (0.026) [0.299]
<i>Panel B: Group v/s Individual treatment</i>				
Group + Both DIL MIL	0.005 (0.020) [0.796]	0.005 (0.036) [0.893]	0.007 (0.030) [0.818]	0.042 (0.031) [0.168]
Ind + Only DIL	0.058*** (0.018) [0.002]	0.055 (0.038) [0.150]	-0.028 (0.032) [0.392]	0.051 (0.034) [0.137]
Ind + Both DIL MIL	0.035* (0.020) [0.083]	0.022 (0.038) [0.563]	-0.041 (0.034) [0.229]	0.048 (0.035) [0.169]
Individual (only=both)	0.120	0.310	0.660	0.920
Both (group=ind)	0.140	0.650	0.150	0.860
Observations	1210	1119	1210	1210

Notes: The table presents the results of regression analysis of four different outcomes measuring communication for the mother-in-law. Column (1) shows the results for whether the respondent talked with her daughter-in-law after the training, column (2) shows if it was the daughter-in-law who approached the respondent first if they did talk. In column (3), we show results for whether the mother-in-law approached others in the household after the training, and column (4) shows if she approached others outside the household after the training. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table A20: Dependent variable : Number of antenatal care visits: Individual v/s Group treatments: Heterogeneity - 1

	<u>Conformity</u>		<u>MIL Conformity</u>		<u>Tradition</u>		<u>MIL Tradition</u>		<u>Restrictive rel.</u>	
	(More)	(Less)	(More)	(Less)	(More)	(Less)	(More)	(Less)	(More)	(Less)
<i>Panel A: Midline</i>										
Individual	0.044 (0.105) [0.676]	0.436*** (0.113) [0.000]	-0.046 (0.098) [0.639]	0.455*** (0.113) [0.000]	0.057 (0.108) [0.599]	0.440*** (0.111) [0.000]	-0.051 (0.098) [0.598]	0.441*** (0.112) [0.000]	0.128 (0.129) [0.323]	0.224** (0.101) [0.026]
Observations	775	393	677	491	787	381	667	501	612	556
<i>Panel B: Endline</i>										
Individual	-0.064 (0.103) [0.532]	-0.179* (0.108) [0.097]	-0.092 (0.110) [0.402]	-0.224** (0.101) [0.026]	-0.008 (0.098) [0.937]	-0.341*** (0.088) [0.000]	-0.151 (0.113) [0.181]	-0.108 (0.092) [0.244]	-0.048 (0.116) [0.681]	-0.229** (0.097) [0.018]
Observations	793	471	685	579	811	453	684	580	667	597

Table A21: Dependent variable : Number of antenatal care visits: Individual v/s Group treatments: Heterogeneity - 2

	<u>MIL Restrictive rel.</u>		<u>ANC visits</u>		<u>ANC knowledge</u>		<u>MIL ANC knowledge</u>		<u>Number of children</u>	
	(More)	(Less)	(Zero)	(Some)	(More)	(Less)	(More)	(Less)	(Some)	(Zero)
<i>Panel A: Midline</i>										
Individual	-0.001 (0.117) [0.990]	0.252** (0.106) [0.018]	-0.059 (0.157) [0.708]	0.282*** (0.087) [0.001]	0.212** (0.084) [0.011]	0.070 (0.182) [0.701]	0.231*** (0.090) [0.010]	-0.118 (0.164) [0.472]	0.157* (0.089) [0.080]	0.074 (0.109) [0.497]
Observations	570	598	250	918	706	462	705	463	499	669
<i>Panel B: Endline</i>										
Individual	-0.001 (0.121) [0.992]	-0.059 (0.112) [0.594]	0.038 (0.172) [0.827]	-0.204** (0.085) [0.016]	-0.191* (0.101) [0.057]	-0.009 (0.117) [0.939]	-0.259*** (0.097) [0.008]	0.075 (0.118) [0.526]	0.009 (0.106) [0.932]	-0.235** (0.092) [0.011]
Observations	628	636	268	996	781	483	775	489	559	705

Table A22: Dependent variable : Number of antenatal care visits: All four treatments: Heterogeneity - 3

	<u>Conformity</u>		<u>MIL Conformity</u>		<u>Tradition</u>		<u>MIL Tradition</u>		<u>Restrictive rel.</u>	
	(More)	(Less)	(More)	(Less)	(More)	(Less)	(More)	(Less)	(More)	(Less)
<i>Panel A: Midline</i>										
Group + Both DIL MIL	0.018 (0.072) [0.806]	-0.285*** (0.103) [0.006]	0.009 (0.073) [0.906]	-0.210** (0.098) [0.033]	-0.047 (0.070) [0.503]	-0.247** (0.097) [0.011]	0.050 (0.071) [0.483]	-0.304*** (0.094) [0.001]	-0.073 (0.085) [0.392]	-0.105 (0.084) [0.212]
Ind + Only DIL	-0.003 (0.116) [0.978]	0.283** (0.138) [0.040]	-0.092 (0.112) [0.413]	0.312** (0.134) [0.020]	-0.016 (0.119) [0.894]	0.283** (0.132) [0.032]	-0.059 (0.114) [0.608]	0.255* (0.131) [0.051]	0.025 (0.139) [0.857]	0.187 (0.116) [0.105]
Ind + Both DIL MIL	0.120 (0.110) [0.273]	0.264* (0.140) [0.060]	0.024 (0.109) [0.822]	0.362*** (0.123) [0.003]	0.088 (0.111) [0.427]	0.311** (0.148) [0.035]	0.017 (0.113) [0.878]	0.319*** (0.122) [0.009]	0.173 (0.136) [0.203]	0.151 (0.113) [0.180]
Observations	775	393	677	491	787	381	667	501	612	556
Individual (only=both)	0.040	0.870	0.120	0.600	0.070	0.820	0.330	0.490	0.050	0.630
Both (group=ind)	0.360	0	0.880	0.000	0.230	0.000	0.760	0.000	0.080	0.030
<i>Panel B: Endline</i>										
Group + Both DIL MIL	0.082 (0.088) [0.354]	-0.052 (0.076) [0.492]	0.083 (0.097) [0.389]	-0.030 (0.081) [0.713]	0.099 (0.090) [0.268]	-0.082 (0.078) [0.291]	0.110 (0.104) [0.291]	0.011 (0.083) [0.894]	0.176** (0.086) [0.041]	-0.073 (0.098) [0.456]
Ind + Only DIL	-0.073 (0.121) [0.544]	-0.265** (0.122) [0.029]	-0.137 (0.131) [0.293]	-0.212* (0.120) [0.076]	-0.012 (0.111) [0.914]	-0.438*** (0.104) [0.000]	-0.138 (0.132) [0.296]	-0.138 (0.117) [0.239]	0.046 (0.124) [0.711]	-0.420*** (0.119) [0.000]
Ind + Both DIL MIL	0.042 (0.122) [0.732]	-0.155 (0.116) [0.181]	0.059 (0.132) [0.656]	-0.264** (0.110) [0.016]	0.112 (0.118) [0.342]	-0.345*** (0.100) [0.001]	-0.036 (0.144) [0.805]	-0.072 (0.108) [0.506]	0.044 (0.146) [0.764]	-0.147 (0.113) [0.193]
Observations	793	471	685	579	811	453	684	580	667	597
Individual (only=both)	0.180	0.230	0.030	0.490	0.120	0.260	0.250	0.420	0.980	0.000
Both (group=ind)	0.740	0.410	0.850	0.040	0.920	0.010	0.270	0.410	0.330	0.500

Table A23: Dependent variable : Number of antenatal care visits: All four treatments: Heterogeneity - 4

	<u>MIL Restrictive rel.</u>		<u>ANC visits</u>		<u>ANC knowledge</u>		<u>MIL ANC knowledge</u>		<u>Number of children</u>	
	(More)	(Less)	(Zero)	(Some)	(More)	(Less)	(More)	(Less)	(Some)	(Zero)
<i>Panel A: Midline</i>										
Group + Both DIL MIL	0.044 (0.078) [0.578]	-0.149* (0.084) [0.076]	-0.203 (0.151) [0.179]	-0.073 (0.064) [0.258]	0.034 (0.073) [0.643]	-0.342*** (0.100) [0.001]	-0.030 (0.069) [0.663]	-0.177 (0.118) [0.134]	-0.092 (0.107) [0.391]	-0.145* (0.075) [0.053]
Ind + Only DIL	0.033 (0.138) [0.810]	0.093 (0.118) [0.429]	-0.257 (0.190) [0.176]	0.224** (0.094) [0.018]	0.216** (0.104) [0.038]	-0.179 (0.194) [0.355]	0.171 (0.111) [0.121]	-0.263 (0.186) [0.158]	0.043 (0.116) [0.709]	-0.028 (0.123) [0.820]
Ind + Both DIL MIL	0.007 (0.125) [0.953]	0.276** (0.119) [0.020]	-0.020 (0.219) [0.927]	0.264*** (0.090) [0.003]	0.244*** (0.090) [0.007]	-0.049 (0.189) [0.795]	0.262*** (0.095) [0.006]	-0.149 (0.178) [0.402]	0.186* (0.112) [0.097]	0.020 (0.118) [0.864]
Observations	570	598	250	918	706	462	705	463	499	669
Individual (only=both)	0.740	0.030	0.110	0.520	0.700	0.150	0.290	0.120	0.090	0.560
Both (group=ind)	0.760	0.000	0.310	0.000	0.020	0.110	0.000	0.870	0.010	0.170
<i>Panel B: Endline</i>										
Group + Both DIL MIL	0.227** (0.092) [0.014]	-0.131 (0.092) [0.154]	0.157 (0.186) [0.398]	0.007 (0.067) [0.917]	0.044 (0.084) [0.601]	-0.013 (0.085) [0.879]	0.004 (0.078) [0.959]	0.073 (0.111) [0.510]	0.073 (0.089) [0.412]	0.069 (0.079) [0.385]
Ind + Only DIL	0.122 (0.137) [0.373]	-0.191 (0.129) [0.138]	0.045 (0.227) [0.841]	-0.242** (0.097) [0.013]	-0.208* (0.115) [0.070]	-0.076 (0.138) [0.585]	-0.283** (0.115) [0.013]	0.083 (0.142) [0.560]	0.017 (0.131) [0.896]	-0.222** (0.112) [0.047]
Ind + Both DIL MIL	0.107 (0.143) [0.455]	-0.060 (0.119) [0.613]	0.207 (0.253) [0.413]	-0.159* (0.096) [0.096]	-0.131 (0.120) [0.275]	0.065 (0.124) [0.601]	-0.233** (0.114) [0.040]	0.149 (0.132) [0.260]	0.077 (0.126) [0.542]	-0.177 (0.109) [0.106]
Observations	628	636	268	996	781	483	775	489	559	705
Individual (only=both)	0.860	0.210	0.420	0.220	0.380	0.130	0.580	0.450	0.520	0.630
Both (group=ind)	0.360	0.600	0.800	0.090	0.140	0.540	0.040	0.560	0.970	0.030

Table A24: Dependent variable: Number of antenatal visits as reported by the Mother-in-law

<i>Panel A: Group v/s Individual treatment</i>	
Individual	0.209** (0.083) [0.012]
<i>Panel C: All four treatments</i>	
Group + Both DIL MIL	-0.075 (0.083) [0.369]
Ind + Only DIL	0.169* (0.102) [0.099]
Ind + Both DIL MIL	0.167 (0.105) [0.111]
Individual (only=both)	0.980
Both (group=ind)	0.010
Observations	1103

Notes: The table presents the results of the regression analysis of the number of antenatal care visits undertaken by the pregnant woman, as reported by the mother-in-law on ‘Group’ and ‘Individual’ treatment variables, as well as the cross-randomized treatments. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table A25: Dependent variable: easier to talk with mother-in-law and why

	(1)	(2)	(3)	(4)	(5)
	Easier to talk with MIL	Training gave info	Training reminded to talk	MIL approached DIL	Important to discuss
<i>Panel A: Group v/s Individual treatment</i>					
Individual	0.016 (0.011) [0.150]	0.026 (0.023) [0.254]	-0.043* (0.023) [0.063]	0.048* (0.025) [0.052]	0.099*** (0.021) [0.000]
<i>Panel B: All four treatments</i>					
Group + Both DIL MIL	-0.022 (0.014) [0.128]	0.027 (0.031) [0.385]	0.039 (0.032) [0.223]	0.026 (0.034) [0.452]	-0.011 (0.029) [0.694]
Ind + Only DIL	0.000 (0.012) [0.993]	0.026 (0.031) [0.402]	-0.009 (0.032) [0.787]	0.050 (0.033) [0.126]	0.062** (0.029) [0.031]
Ind + Both DIL MIL	0.003 (0.012) [0.829]	0.046 (0.031) [0.141]	-0.025 (0.032) [0.426]	0.052 (0.033) [0.113]	0.094*** (0.030) [0.002]
Individual (only=both)	0.830	0.510	0.580	0.950	0.220
Both (group=ind)	0.110	0.550	0.040	0.440	0.000
Observations	1248	1213	1213	1213	1213

Notes: The table present the results of regression analysis of whether it was easier to talk with mother-in-law after the training, and the reasons for the same. Column (1) shows the results for the outcome on the ease of conversation, columns (2)-(5) show the various reasons. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table A26: Dependent variable: Topic of conversation with the Mother-in-law

	(1)	(2)	(3)	(4)
	Accompanying to ANC	Going for ANC alone	Importance of ANC	Importance of IFA
<i>Panel A: Group v/s Individual treatment</i>				
Individual	0.009 (0.019) [0.640]	-0.018 (0.024) [0.469]	0.073*** (0.025) [0.003]	0.017 (0.024) [0.468]
<i>Panel B: All four treatments</i>				
Group + Both DIL MIL	-0.028 (0.024) [0.236]	0.049 (0.034) [0.146]	-0.015 (0.034) [0.661]	-0.004 (0.032) [0.893]
Ind + Only DIL	-0.029 (0.024) [0.227]	0.029 (0.033) [0.380]	0.089*** (0.033) [0.007]	0.024 (0.031) [0.442]
Ind + Both DIL MIL	0.008 (0.024) [0.748]	-0.014 (0.034) [0.674]	0.043 (0.034) [0.206]	-0.001 (0.031) [0.967]
Individual (only=both)	0.150	0.160	0.140	0.350
Both (group=ind)	0.180	0.060	0.090	0.930
Observations	1173	1173	1173	1173

Notes: The table presents the results of regression analysis on the topic of conversations with the other-in-law. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

Table A27: Dependent variable: Topic of conversation with people outside the household

	(1)	(2)	(3)	(4)
	Accompanying to ANC	Going for ANC alone	Importance of ANC	Importance of IFA
<i>Panel A: Group v/s Individual treatment</i>				
Individual	0.049** (0.025) [0.047]	-0.075*** (0.026) [0.004]	0.026 (0.026) [0.316]	0.026 (0.029) [0.364]
<i>Panel B: All four treatments</i>				
Group + Both DIL MIL	-0.011 (0.030) [0.729]	0.017 (0.035) [0.621]	-0.021 (0.035) [0.555]	0.031 (0.039) [0.431]
Ind + Only DIL	0.033 (0.033) [0.319]	-0.072** (0.034) [0.036]	0.014 (0.035) [0.695]	0.044 (0.039) [0.257]
Ind + Both DIL MIL	0.027 (0.033) [0.400]	-0.079** (0.034) [0.021]	0.018 (0.035) [0.614]	0.054 (0.040) [0.175]
Individual (only=both)	0.870	0.810	0.900	0.770
Both (group=ind)	0.250	0.010	0.270	0.540
Observations	907	907	907	907

Notes: The table presents the results of regression analysis on the topic of conversations with people outside the house. All specifications include control for the strata, demographic characteristics of the pregnant woman and her mother-in-law, as well as fertility history. Standard errors clustered at the village level are in parentheses. P-values are in brackets. * denotes statistical significance at 10 pct., ** at 5 pct., and *** at 1 pct level.

B Next steps and ongoing work

B.1 Robustness checks for self-reported number of antenatal care visits

Administrative data: We have recently received access to administrative data from the Reproductive and Child Health Portal, managed by the National Health Commission of India. The data consists of pregnancy-related information (such as number of antenatal visits, types of tests conducted, etc) as well as anthropometric measures for all pregnant women registered in the three districts of the study since January 2022. In order to be able to use this data for information on our study participants, the challenge is to be able to match these women to the administrative data. Study participants were reluctant to provide the unique ID number they receive at the time of registration to our enumerators. Thus, we are conducting a fuzzy matching based on baseline data such as name, age, phone number, name of community health worker, etc.

Registers of community health workers: Since matching data is proving to be a challenge without the unique IDs, we are collecting data from the community health workers. They record women’s antenatal care visits, as well as some basic vitals in their register. This forms the basis of the data entry on to the portal above. We are thus going back to every village in our study and taking photographs of these registers of the pages on which there is data for women from our sample. This data will then be entered, and can be matched to the outcomes in our survey data.

B.2 Control group contamination

Random surveys: As mentioned previously, we are unaware of the villages in the control group that erroneously received the training at midline. In order to address this issue, we will randomly pick a sub-sample of household from our control group and conduct phone surveys with them to inquire if they received the messages, along with some questions on

the content of the messages.

Spillovers: We are conducting a mapping exercise to identify control group villages that are very close to treatment villages or that share the same community health worker in order to identify any spillover effects of the intervention.

B.3 Quality of health centers

Health facility observation survey: In order to eliminate the hypothesis that health facility differentials could be driving our results, we are currently conducting surveys to record the quality of the nearest health facility where it is possible to get an antenatal checkup. These are short surveys to be filled by our enumerators by simply observing the health facility. This includes information on the presence of medical personnel, adequate equipment, electricity, etc.

C Maternal health training scripts

C.1 Maternal health script for only pregnant women

Namaste, my name is XXX and I am working on behalf of Noora Health, an NGO working with local hospitals to help women get the right care during pregnancy. As you may remember, a member of our team met you recently.

Can you confirm that you are <read out name of respondent>? Now can you please confirm how far along in the pregnancy you are? months / weeks pregnant?

Today, we would like to provide you with some important information regarding your health during pregnancy. This will take about 15 minutes of your time.

Pregnancy can be a confusing time and there are things you need to do to take care of yourself and your baby. Have you visited the hospital/clinic for ANC check-ups?

- Yes: Very good. Now we will give you more information about this.
- No: Let us go ahead and learn about ANC, and why it is important.

1. **Antenatal care visits:** During pregnancy, it is important to monitor your health in order to detect any health complications and provide treatment. Some pregnant women may undergo problems such as high blood pressure, high blood sugar level, anemia or breech of position of baby. Often, we don't realize these problems are happening. ANC visits help to detect these problems that would have otherwise not been detected and thus protect your health as well as the health of your baby.

It is important to go for at least 4 ANC visits throughout your pregnancy to make sure your baby is growing healthy. Going for an ANC visit means going to a medical provider like a doctor or the ANM. If the ASHA comes to your home and advises you, it is good for you but that is not an ANC visit as no tests or check ups are performed.

- Go for at least 1 ANC visit as soon as you know you are pregnant. This is especially important because this is the time to register your pregnancy and get your Mother-Child Protection (MCP) card.
- The MCP card has many advantages: It allows you and your family to track your pregnancy and keep your records in one place so you have it when you go to deliver.
- You cannot avail any benefits of government schemes without the MCP card. With the card, you and your baby would be eligible for free delivery, cash assistance, antenatal and postnatal care and many other benefits described in detail on the back of the card.
- Remember, you can only register the pregnancy and get the MCP card through the ANM.
- You must go for a total of at least 4 ANC visits throughout your pregnancy.
- ANC visits are provided for free at the Village Health and Nutrition Day (VHND) held at your village every month or for free at your ANM's clinic. You can also get it done on the 9th of every month through the PMMSY.

- You can also go to the district hospital or any clinic at any time to get a check-up done during the pregnancy.
- It is important to remember the Madhya Pradesh (MP) rule: If you go to the hospital for the last two ANC visits, then you can get your MCP number registered with the hospital and get a maximum of Rs. 1400 from the Janani Suraksha Yojana (JSY) scheme when you deliver at the same hospital. Call the 108 number to get a bus to reach the hospital. It is free of cost for women in your situation.

Sometimes it may happen that you are alone at home because your husband has gone for work, and your mother-in-law or other family members are also not at home. And you may be expected to manage the house on your own, at the expense of going to the hospital for a check-up or taking adequate rest. Or you may hear your family members like your mother-in-law or husband asking you not to waste time with these check ups, and stay at home to complete house work. But by not going for the check-ups you risk the chance of harming yourself and your baby. Talk to your MIL and ask her to let you go or to take you herself for the check up.

Do you want me to repeat any of the information I shared about the ANC visit?

2. **Iron folic acid tablets:** Do you know what IFA tablets are?

Most women are not able to get all the nutrition needed to grow another life. Anemia is one of the most common conditions in pregnancy that can lead to poor health and even death in pregnant women. Your anemia can affect the baby's growth and health. Fortunately, this can be easily controlled through iron and folic acid tablets.

- Take one tablet of iron and folic acid a day throughout your pregnancy. These will be provided to you for free during your ANC visit. If you miss a dose, it's okay. Take one on the next day.
- IFA tablets may make you nauseous, make your stools black, or give you an upset stomach. Do not be discouraged. They will ensure your baby doesn't have any

birth defects and you don't get anemic. Drink lots of water throughout the day and eat a diet rich in dark leafy vegetables.

- These are the key things you need to do once you find out you are pregnant. If you do, your baby will grow healthy without any problems.

Lastly, we would like to talk to you about a part of pregnancy that often gets overlooked. At this time, you must be feeling excited, nervous, tired and some physical discomfort.

We advise pregnant women to ask their family for help and support. Your mother-in-law and husband are the people you should rely on during this time. Here are some ways in which you can do this:

- It can be difficult to go for ANC visits alone. Ask your mother-in-law to accompany you to the clinic. We understand that it is sometimes difficult to talk about subjects related to pregnancy and childbirth openly with your family. However, talking to your mother-in-law about the importance of ANC visits like we discussed above, as well as the risks involved if you do not get your health checked regularly will help keep both you and your baby healthy. If your mother-in-law or husband are busy, you can also request a friend of yours to accompany you for an ANC check-up.
- Pregnancy can be tiring especially in the first and last trimester. Try to sleep or rest during the day for an hour at least. Ask your mother-in-law to help with household chores so you can get some time to sleep.
- Many women in your family or among your friends might have already had children. You will receive advice from all these people who care about you on how to take care of your health, what food you should eat, how often you should visit the doctor, etc. In these situations, it is important to remember to always consult your doctor or your ASHA or ANM, and listen to their advice first.

Remember, you are growing a life in you and it is important you prioritize yourself and your baby. That should matter the most to you and your family.

C.2 Maternal health script for pregnant women and mothers-in-law

Namaste, my name is XXX and I am working on behalf of Noora Health, an NGO working with local hospitals to help women get the right care during pregnancy. As you may remember, a member of our team met you recently.

Can you confirm that you are <read out name of respondent>? Now Can you please confirm how far along in the pregnancy you are? months / weeks pregnant?

Today, we would like to provide you with some important information regarding your health during pregnancy. This will take about 15 minutes of your time.

Pregnancy can be a confusing time and there are things you need to do to take care of yourself and your baby.

@MIL: Maybe you already know many of the things we might be telling you today. But it is possible that there are better ways to take care of your daughter-in-law's health during pregnancy that might not have existed during your time. That is why we want to talk with both of you together.

@DIL: Have you visited the hospital/clinic for ANC check-ups?

- Yes: Very good. Now we will give you more information about this.
- No: Let us go ahead and learn about ANC, and why it is important.

1. **Antenatal care visits:** During pregnancy, it is important to monitor your health in order to detect any health complications and provide treatment. Some pregnant women may undergo problems such as high blood pressure, high blood sugar level, anemia or breech of position of baby. Often, we don't realize these problems are happening. ANC visits help to detect these problems that would have otherwise not been detected and thus protect your health as well as the health of your baby.

It is important to go for at least 4 ANC visits throughout your pregnancy to make sure your baby is growing healthy. Going for an ANC visit means going to a medical provider like a doctor or the ANM. If the ASHA comes to your home and advises you, it is good for you but that is not an ANC visit as no tests or check ups are performed.

- Go for at least 1 ANC visit as soon as you know you are pregnant. This is especially important because this is the time to register your pregnancy and get your Mother-Child Protection (MCP) card.
- The MCP card has many advantages: It allows you and your family to track your pregnancy and keep your records in one place so you have it when you go to deliver.
- You cannot avail any benefits of government schemes without the MCP card. With the card, you and your baby would be eligible for free delivery, cash assistance, antenatal and postnatal care and many other benefits described in detail on the back of the card.
- Remember, you can only register the pregnancy and get the MCP card through the ANM.
- You must go for a total of at least 4 ANC visits throughout your pregnancy.
- ANC visits are provided for free at the Village Health and Nutrition Day (VHND) held at your village every month or for free at your ANM's clinic. You can also get it done on the 9th of every month through the PMMSY.
- You can also go to the district hospital or any clinic at any time to get a check-up done during the pregnancy.
- It is important to remember the Madhya Pradesh (MP) rule: If you go to the hospital for the last two ANC visits, then you can get your MCP number registered with the hospital and get a maximum of Rs. 1400 from the Janani Suraksha Yojana (JSY) scheme when you deliver at the same hospital. Call the 108 number to get a bus to reach the hospital. It is free of cost for women in your situation.

@DIL: Sometimes it may happen that you are alone at home because your husband has gone for work, and your mother-in-law or other family members are also not at home.

@MIL: Sometimes, your daughter-in-law may be expected to manage the house on her own and complete house work, instead of going to the hospital for a check-up or taking adequate rest.

But by not going for the check-ups you risk the chance of harming yourself and your baby. Talk to each other about when you would like to visit the doctor for a check up, so that you can either go together to the hospital or you can find someone to go with you.

Do you want me to repeat any of the information I shared about the ANC visit?

2. **Iron folic acid tablets:** Do you know what IFA tablets are?

Most women are not able to get all the nutrition needed to grow another life. Anemia is one of the most common conditions in pregnancy that can lead to poor health and even death in pregnant women. Your anemia can affect the baby's growth and health. Fortunately, this can be easily controlled through iron and folic acid tablets.

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- These are the key things you need to do once you find out you are pregnant. If you do, your baby will grow healthy without any problems.

Lastly, we would like to talk to you about a part of pregnancy that often gets overlooked. At this time, you must be feeling excited, nervous, tired and some physical discomfort.

We advise pregnant women to ask their family for help and support. @DIL: Your mother-in-law and husband are the people you should rely on during this time.

@MIL: Your daughter-in-law usually relies on you for help and advice during this time. Thus, it is important that you support her and give her good advice.

- It can be difficult to go for ANC visits alone. @DIL: Ask your mother-in-law to accompany you to the clinic. @MIL: Try to accompany your daughter-in-law to the ANC visit. We understand that it is sometimes difficult to talk about subjects related to pregnancy and childbirth openly with your family. However, talking to each other about the importance of ANC visits like we discussed above, as well as the risks involved if you do not get your health checked regularly will help keep both you and your baby healthy. @DIL: If your mother-in-law or husband are busy, you can also request a friend of yours to accompany you for an ANC check-up.
- Pregnancy can be tiring especially in the first and last trimester. Try to sleep or rest during the day for an hour at least. @MIL: You can help your daughter-in-law with household chores so she can get some time to sleep.
- Many women in your family or among your friends might have already had children. You will receive advice from all these people who care about you on how to take care of your health, what food you should eat, how often you should visit the doctor, etc. @MIL: You might also have some advice based on your experience during your pregnancy. In these situations, it is important to remember to always consult your doctor or your ASHA or ANM, and listen to their advice first. @MIL: You will also receive advice from many of your friends on how to help your daughter-in-law be healthy during this time. It is normal to not have answers to all of your daughter-in-law's questions, and. It is also normal to not know everything about good health practices during pregnancy. In this case, always remember to consult a doctor or ask your daughter-in-law to consult a doctor.

Remember, you are growing a life in you and it is important you prioritize yourself and your baby. That should matter the most to you and your family.