Convincing the Mummy-ji: Improving Mother-in-Law Approval of Family Planning in India[†]

By S Anukriti, Catalina Herrera-Almanza, Mahesh Karra, and Rocío Valdebenito*

Family, as the most primitive social institution in the world, has been of longstanding interest to researchers and policymakers alike (Cox and Fafchamps 2008; La Ferrara 2008; Alesina and Giuliano 2014). Studies of family structure in developed societies have predominantly examined kinship and intrafamilial ties within nuclear family settings, with an extensive literature devoted to marital and parent–child relationships. In contrast, relationships within nonnuclear family structures have received considerably less attention, particularly in developing countries where strong extended family ties are prevalent. One such relationship is that between mothers-in-law (MILs) and daughters-in-law (DILs), which is of particular importance in South Asian settings where women move into their husbands' (often extended) households following marriage. In these patrilocal-patrilineal societies,[1] a woman's

MIL, as the likely matriarch of the household, plays a crucial role in determining her mobility, access to services and resources outside the home, and overall well-being (see Gram et al. 2018 for a review). Indeed, Gupta, Ksoll, and Maertens (2021) find that relationships between MILs and DILs in extended households in rural India are not always balanced, as young DILs often lack the power to assert their preferences within this household structure and resort to inefficient actions. Arguably, a woman's MIL may be an even stronger influence on a woman than her husband, especially during the early years of an arranged marriage. To this end, a growing body of literature has examined the influence of MILs on DIL outcomes (e.g., Allendorf 2006; Varghese and Roy 2019; Anukriti et al. 2020; Khanna and Pandey 2020).

In this paper, we focus on interactions between MILs and DILs related to fertility and family planning (FP) in rural Uttar Pradesh (UP), India.[2] We first document the extent to which fertility preferences are misaligned between women and their MILs. We then evaluate the impact of a randomized intervention that provided women with vouchers for subsidized FP services on their ability to engage with their MILs on a sensitive and private topic like FP and on their MIL's approval of FP.

I. Experimental Design

We recruited 671 women from 28 villages in Jaunpur district, UP, who were 18 to 30 years old, married, neither pregnant nor within 6 months postpartum, and had at least 1 child at the time of recruitment. After conducting a baseline survey between July and August 2018, 321 women were

*Anukriti: Development Research Group, World Bank (email: sanukriti@worldbank.org); Herrera-Almanza: Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign (email: cataher@illinois.edu); Karra: Frederick S. Pardee School of Global Studies, Boston University (email: mvkarra@bu.edu); Valdebenito: Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign (email: riv2@illinois.edu).

[1]Patrilocality refers to the practice of a married couple residing with or near the husband's parents. Patrilineality is a kinship system in which an individual's family membership derives from the father's lineage.

[2]UP is not only India's most populous state, it would be the world's fifth most populated country by itself.

randomly selected to receive a voucher worth 2,000 rupees (US\$28) for subsidized FP services at our partner clinic in Jaunpur, the Arogyaneer Diagnostic Clinic (ADC), and the remaining women were assigned to a control group that did not receive a voucher.[3] Women assigned to the treatment group also received 1 free FP consultation and transportation reimbursements for up to 3 visits to the ADC (at the rate of 40 rupees, or US\$0.50, per visit). The objective of this intervention was to improve women's access to FP services; additional details are available in Anukriti, Herrera-Almanza, and Karra (2022).[4] We stratified randomization by a woman's village of residence, use of FP, years of schooling, desire for another child, and number of peers at baseline.[5] All sample women received an information brochure about the benefits of FP. The intervention lasted ten months, after which we conducted an endline survey between July and October 2019. We administered the endline survey to 625 women, yielding an attrition rate of 6.8 percent.[6]

II. Data

In this paper, we restrict our sample to 420 women whose MILs were alive at endline, who were surveyed in person at endline, and for whom data was not missing for the variables of interest.[7]

TABLE 1—BASELINE CHARACTERISTICS

	Mean (1)	SD (2)
Age	25.75	2.68
Years of schooling	9.76	4.43
Worked last year	0.14	0.35
Allowed to visit health-care facility alone	0.13	0.34
Has say in her own health-care decisions	0.56	0.50
Wants another child	0.48	0.50
Using modern contraceptive method	0.20	0.40
Ever visited a clinic for FP	0.37	0.48
Living with MIL	0.78	0.41
MIL approves of FP	0.58	0.49
Husband approves of FP	0.89	0.31
Ever discussed FP with MIL	0.53	0.50
MIL wants more children than DIL[a]	0.72	0.45
Number of close peers outside household	0.24	0.48
Observations	420	

Note: This table presents summary statistics for the estimation sample.

[a]Denotes a sample size of 309. Variable definitions are presented in online Appendix A.1.

Table 1 and online Appendix Table T.1 describe the baseline characteristics of our analytic sample. Women in our sample have low levels of education, employment, freedom to access health facilities alone, and say in decision-making about health care for themselves.[8] They have a substantial unmet need for FP, as reflected in the fact that while almost half of our sample did not want to have another child, only one-fifth of women were using a modern method of FP and about a third had ever visited a clinic for FP. The majority of women (78 percent) live with their MIL, only 58 percent of whom approve of FP. Moreover, half of the sample women report never having discussed FP with their MILs. These findings underscore the misalignment in fertility preferences between a woman and her MIL at baseline. Figure 1 shows that, on average, a MIL wants her DIL to have 0.9 more children than the DIL wants to have.

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[3]We chose the ADC based on its relative geographic proximity to our sample women and higher quality of service provision relative to other clinics in the study area.

[4]Note that 165 women from the treatment group were informed that if they were accompanied by peers to the ADC, these peers, if eligible, would also be provided exactly the same voucher package for FP services at the ADC during their first joint visit with them. In this study, we focus on the pooled treatment group; the differential effects of the two types of vouchers are examined in Anukriti, Herrera-Almanza, and Karra (2022).

[5]Randomization was balanced across a range of woman- and household-level variables (Anukriti, Herrera-Almanza, and Karra 2022).

[6]As documented in Anukriti, Herrera-Almanza, and Karra (2022), attritors and nonattritors are similar in terms of baseline socioeconomic characteristics. In addition, roughly 18 percent of endline surveys were conducted by phone because women could not be contacted in person at their recorded locations from baseline.

[7]We impose these sample selection criteria because (i) the research question examined in this paper is only relevant for women whose MIL is alive and (ii) we excluded questions related to the MIL from our phone survey to keep

it short. Women who took phone surveys are similar in terms of their treatment status and socioeconomic characteristics to women who were surveyed in person (Anukriti, Herrera-Almanza, and Karra 2022). Online Appendix Table T.1 shows that randomization is also balanced for the subsample utilized in this paper.

[8]For a quarter of women, someone other than the woman herself or her husband, most likely the MIL, is the primary decision-maker about her health care.
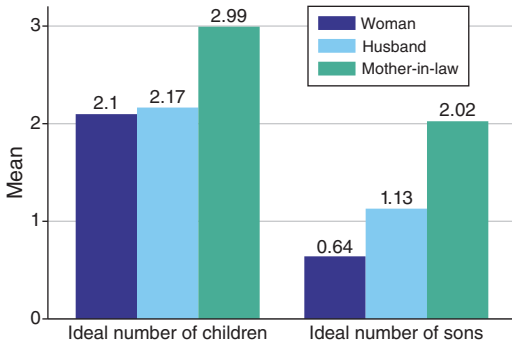
FIGURE 1. MISALIGNMENT IN FERTILITY PREFERENCES

Note: This figure shows the baseline average ideal number of children and sons for women, their husbands, and their MILs, as reported by sample women.

This difference is even more prominent when examining the discordance in preferences over the number of sons, with a MIL wanting her DIL to have 1.4 more sons than the DIL wants, on average. In 72 percent of cases, a woman's MIL wants her to have more children than she wants to have. In comparison, spousal discordance between a woman and her husband is small, and 89 percent of women's husbands approve of FP at baseline.

Altogether, Table 1 suggests that a woman's MIL is likely to exert a strong influence over her use of FP and fertility outcomes, perhaps more so than her own husband. This influence is even more critical in our context, where women are relatively socially isolated; 36 percent of women have no peers with whom they can talk about fertility and FP issues other than their MIL and husband. Moreover, coresidence with their MIL lowers a woman's ability to form and benefit from social connections outside the household (Anukriti et al. 2020).

III. Empirical Strategy

We analyze the effects of our voucher intervention using the following specification:

$$(1) \qquad Y_{iv} = \alpha + \beta V_i + \gamma Y_{iv}^0 + \theta \mathbf{X}_i^0$$
$$+ \phi \mathbf{Z}_i^0 + \delta_v + \varepsilon_{iv},$$

where Y_{iv} is the outcome variable measured at endline for woman i who lived in village v at baseline. V_i is an indicator variable that equals

one if woman i was assigned to the treatment group and equals zero otherwise. We always control for the baseline value of the outcome variable, Y_{iv}^0. In addition, we include two sets of controls mainly to improve the precision of our estimates. First, $\mathbf{X}_i^0$ is a vector of baseline variables mentioned above that were used to stratify randomization. Second, $\mathbf{Z}_i^0$ is a vector of baseline variables that can influence a woman's reproductive-health-seeking behavior and her bargaining power with respect to the MIL, comprising woman's age, marital duration, mobility score,[9] household asset index,[10] and indicator variables for having at least one son, belonging to a Scheduled Caste or Scheduled Tribe, belonging to an Other Backward Class, being Hindu, wearing *ghunghat*, working last year, having ever visited a FP clinic, bringing dowry at the time of marriage, and living with the MIL.[11] Finally, we add village fixed effects, δ_v, to control for village-level unobserved and time-invariant characteristics. We include robust standard errors in our regression tables, although our results also hold when clustering standard errors at the village level. We present intent-to-treat estimates; treatment-on-the-treated estimates are similar and are available upon request.

IV. Results

Table 2 presents our main findings. Our intervention significantly increased MIL approval of FP as perceived by the DIL. Relative to control women, women who received a voucher are 8 percentage points, or 11 percent, more likely to believe that their MIL approves of FP at endline. In comparison, there was no impact of the voucher on husband approval of FP. A potential mechanism for why our intervention altered the MIL's approval of FP is that the vouchers

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[9]This score is the sum of six indicator variables for whether a woman is allowed to visit alone the following places: (i) homes of relatives or friends, (ii) health facilities, (iii) grocery stores, (iv) short distances by bus or train, (v) markets, and (vi) outside their villages or communities.

[10]We constructed the household asset index using a principal component analysis with the following variables: source of drinking water, type of toilet facility, floor material, roof material, exterior wall material, type of fuel used for cooking, ownership of animals, and number of rooms in the household used to sleep.

[11]Summary statistics for control variables are presented in online Appendix Table T.1.

TABLE 2—INTENT-TO-TREAT EFFECTS OF THE VOUCHER ON MIL APPROVAL

	MIL approves FP	Husband approves FP	Ever discussed FP with MIL	Initiated FP discussion with MIL	Visited clinic for FP
	(1)	(2)	(3)	(4)	(5)
Voucher	0.081	−0.012	0.044	0.085	0.153
	[0.044]	[0.033]	[0.050]	[0.042]	[0.048]
Observations	420	419	420	416	418
Control mean	0.72	0.89	0.49	0.19	0.20

Notes: All columns control for baseline values of the outcome and balancing controls at baseline (see Section III). Other baseline controls comprise woman's age, marital duration, mobility score, household asset index, and indicator variables for having at least one son, belonging to a Scheduled Caste or Scheduled Tribe, belonging to an Other Backward Class, being Hindu, wearing *ghunghat*, working last year, having ever visited a FP clinic, bringing dowry at the time of marriage, and living with the MIL. All columns include village fixed effects. Robust standard errors are presented in brackets.

TABLE 3—HETEROGENEITY IN IMPACTS ON MIL APPROVAL OF FP

	At least one son		MIL wants more children than DIL		Asset index		ADC closest clinic	
	No	Yes	Yes	No	Low	High	Yes	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Voucher	0.212	0.038	0.129	0.086	0.103	0.047	0.146	0.066
	[0.120]	[0.049]	[0.059]	[0.139]	[0.063]	[0.068]	[0.077]	[0.061]
Observations	109	311	221	88	260	160	160	238
Control mean	0.61	0.73	0.71	0.71	0.64	0.82	0.68	0.71

Notes: All columns include the same set of controls and fixed effects as in Table 2, except for the variable being used to examine heterogeneity. Robust standard errors are presented in brackets.

enabled treated women to discuss FP with their MILs. Although we observe positive but insignificant impact on the likelihood of such discussions taking place, there was a significant increase in the probability that treated women initiated discussions about FP with their MILs relative to control women. Moreover, our intervention significantly increased the likelihood of treated women visiting a clinic for FP services,[12] suggesting that the improvement in MIL approval is potentially a relevant mechanism for the impact of vouchers.[13]

In Table 3, we explore heterogeneity in the impact on MIL approval by baseline characteristics of our sample women. The impact of the voucher on MIL approval is driven by women who did not have a son at baseline and whose MIL wanted them to have more children than they wanted—this suggests that the voucher overcame resistance from MILs who, at baseline, were more likely to have imposed barriers on their DIL's FP use. Moreover, our results are driven by relatively poor women, as measured by our asset index, implying that the voucher was more effective for women who faced stronger financial constraints at baseline. Finally, MIL approval increased significantly only for women for whom the ADC was the closest clinic, indicating that it might have been easier for women living closer to the ADC to convince their MIL about FP use, as other constraints to visiting a clinic, such as safety, would be less of a concern.[14]

[12] This result is consistent with those in Anukriti, Herrera-Almanza, and Karra (2022).

[13] Consistent with the results in Anukriti, Herrera-Almanza, and Karra (2022), we also observe a 37 percent increase in modern method use with respect to the control group, although the coefficient is insignificant at conventional levels.

[14] At endline, 48 percent of women in the control group mentioned that they prefer to visit a clinic with someone due to concerns about safety.

V. Conclusion

Our analysis presents three key results. First, we find evidence of greater misalignment in fertility preferences between a woman and her MIL as compared to her husband. Consistent with this finding, MILs are also less likely than husbands to approve of women's FP use. Second, an intervention that provided women with vouchers for subsidized FP services improved their MIL's approval of FP, especially for MILs who were more likely to have limited their DIL's access to FP, namely women who did not have a son, whose MILs wanted them to have more children than they themselves wanted, and who were from poorer households. Finally, the voucher enabled DILs to initiate discussions about FP with their MILs, potentially serving as a channel for the positive effect of vouchers on MIL approval.

Given the central role of MILs in countries where extended households are common, our results suggest that interventions that aim to improve women's welfare would benefit from engaging MILs in addition to husbands. MILs can act as gatekeepers and can prevent their DILs from using FP services due to discordant fertility preferences. To the best of our knowledge, this is the first study to provide experimental evidence on how the MIL's approval of FP can be improved. More broadly, our findings underline the importance of household structure and intrahousehold relationships that extend beyond the nuclear family framework when designing interventions to improve women's well-being.

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