Maternal Mortality Risk and Spousal Differences in the Demand for Children

Appendix - For Online Publication

Nava Ashraf, Erica Field, Alessandra Voena, Roberta Ziparo

A Appendix Tables and Figures

A.1 Tables

Table A1: Regression: Communication, Maternal Health Knowledge and Husband's Desired Fertility

	Husband wants another child now	Husband wants no more children	N
Wife ever comm about comp risk (W)	-0.11	0.13	555
	(0.06)	(0.05)	
Wife ever comm about comp risk (H)	-0.12	0.04	554
	(0.04)	(0.04)	
Comm broke bc hus not interested	-0.02	-0.05	242
	(0.05)	(0.05)	
Hus understand if told abt risks	-0.22	0.2	548
	(0.10)	(0.07)	
Time to recover (m)	-2.29	5.43	552
	(2.13)	(2.03)	
Prob of comp if preg immediately	-0.16	-0.27	557
	(0.25)	(0.23)	
Prob of comp if preg 12m after	-0.03	0.63	557
	(0.26)	(0.23)	
Prob of comp if preg 24m after	0.12	0.32	556
	(0.23)	(0.22)	
Correct on age	0.01	-0.03	556
	(0.04)	(0.03)	
Correct on parity	-0.05	-0.00	554
	(0.05)	(0.04)	

Notes: Data from the baseline survey in the Fall of 2014. Dependent variables are in the left column.

Table A2: Pregnancy and fertility (husband's reports)

	(1) Fertility Index	(2) Currently Pregnant	(3) Likelihood Have More Kids
Husband Treated (β_H)	-0.172	-0.053	-0.597
	(0.072)	(0.029)	(0.311)
	[0.020]	[0.070]	[0.058]
Wife Treated (β_W)	-0.107	-0.037	-0.359
	(0.079)	(0.032)	(0.295)
	[0.177]	[0.243]	[0.228]
Stratification Variables	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes
F-test p-value (β_H=β_W)	0.392	0.614	0.446
Mean of Control Group	0.105	0.120	5.890
Observations	516	498	516

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Index variable in column 1 is the mean of all standardized variables in columns 2 and 3. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present. Demographic control variables include wife age, husband age, wife education, husband education, number of children, age of last child born before meeting, wife is actively trying to get pregnant, baseline contraceptive use, and household weekly income.

Table A3: Demand for children

	(1)	(2)	(3)	(4)	(5)
	Demand Index	Want another child	Wants another child within 2yrs	Believes Spouse Wants another kid	Believes Spouse Wants More than self
H Respondent× H Treated (δ_H^h)	-0.199	-0.073	-0.064	-0.131	-0.079
	(0.051)	(0.039)	(0.050)	(0.035)	(0.039)
	[0.000]	[0.063]	[0.198]	[0.000]	[0.048]
H Respondent × W Treated (δ_W^h)	-0.035	0.020	-0.032	-0.037	-0.009
	(0.063)	(0.036)	(0.050)	(0.040)	(0.045)
	[0.583]	[0.574]	[0.520]	[0.358]	[0.836]
W Respondent × H Treated (δ_H^w)	0.033	-0.016	0.018	-0.013	0.067
	(0.073)	(0.040)	(0.053)	(0.044)	(0.054)
	[0.652]	[0.685]	[0.737]	[0.760]	[0.222]
W Respondent × W Treated (δ_W^w)	0.016	0.033	-0.027	0.017	-0.001
	(0.065)	(0.038)	(0.049)	(0.038)	(0.054)
	[0.805]	[0.380]	[0.587]	[0.662]	[0.992]
Stratification Variables	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes
H Respondent Interactions	Yes	Yes	Yes	Yes	Yes
F-test p-values:					
Direct vs. spillover effect on husband (δ_H^h=δ_W^h)	0.013	0.011	0.507	0.034	0.095
Direct vs. spillover effect on wife (δ_W^w=δ_H^w)	0.787	0.301	0.399	0.435	0.148
Symmetry of intra-hh spillover effects (δ_H^w=δ_W^h)	0.473	0.501	0.453	0.669	0.303
Direct treatment effects (δ_H^h=δ_W^w)	0.007	0.050	0.555	0.001	0.264
Mean of Control Group for H	0.085	0.700	0.290	0.730	0.240
Mean of Control Group for W	-0.015	0.670	0.360	0.750	0.230
Observations	1050	1050	1050	1018	1050

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Index variable in column 1 is the mean of all standardized variables in columns 2,3,5 and the opposite of the variable in column 4. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present. Demographic control variables include wife age, husband age, wife education, husband education, number of children, age of last child born before meeting, wife is actively trying to get pregnant, baseline contraceptive use, and household weekly income. Each control variable and the constant are also interacted with a dummy for the husband being the respondent.

Table A4: Demand for and use of contraceptives

	(1) WTP contrac. at intervention	(2) Contrac. use Index	(3) Using modern contrac.	(4) Using trad. contrac.	(5) Consistent use of contrac.	(6) Any sex	(7) Times sex using contrac. past week	(8) Unprotected sex
Husband Treated (β_H)	0.231	0.050	-0.018	-0.026	0.039	0.002	0.014	-0.027
	(0.528)	(0.061)	(0.049)	(0.038)	(0.030)	(0.041)	(0.045)	(0.041)
	[0.663]	[0.415]	[0.710]	[0.492]	[0.185]	[0.968]	[0.763]	[0.509]
Wife Treated (β_W)		0.035	-0.022	0.013	0.015	-0.024	0.047	-0.051
		(0.053)	(0.050)	(0.040)	(0.032)	(0.045)	(0.045)	(0.039)
		[0.514]	[0.668]	[0.737]	[0.655]	[0.602]	[0.296]	[0.202]
Stratification Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F-test p-value (β_H=β_W)		0.798	0.951	0.330	0.402	0.534	0.502	0.558
Mean of Control Group	9.310		0.680	0.150	0.930	0.830	0.740	0.230
Observations	533	534	534	534	354	515	420	515

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. The husband's WTP variable was collected right after the intervention, before men had a chance to meet their wife and potentially learn from them about their treatment status. Hence, the control arm ad the *Wife Treated* arm are merged. Index variable in column 2 is the mean of all standardized variables in columns 3, 5, 7 and the opposite of the variables in columns 4, 6 and 8. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present. Demographic control variables include wife age, husband age, wife education, husband education, number of children, age of last child born before meeting, wife is actively trying to get pregnant, baseline contraceptive use, and household weekly income.

Table A5: Risk factors

	(1) Months to recover	(2) Adv. Age is Risk Factor	(3) High Parity is Risk Factor	(4) Low Spacing is Risk Factor	(5) Correct on age vignette	(6) Correct on parity vignette
H Respondent × H Treated (δ_H^h)	1.090	0.086	0.050	0.064	0.050	0.044
	(1.889)	(0.053)	(0.037)	(0.038)	(0.041)	(0.033)
	[0.566]	[0.106]	[0.172]	[0.093]	[0.223]	[0.181]
H Respondent × W Treated (δ_W^h)	-3.856	0.040	0.060	0.019	-0.062	-0.069
	(1.674)	(0.052)	(0.035)	(0.034)	(0.038)	(0.043)
	[0.024]	[0.439]	[0.093]	[0.563]	[0.109]	[0.114]
W Respondent × H Treated (δ_H^w)	7.752	0.030	-0.040	0.039	0.024	0.030
	(3.069)	(0.049)	(0.039)	(0.044)	(0.028)	(0.032)
	[0.013]	[0.542]	[0.298]	[0.385]	[0.387]	[0.345]
W Respondent × W Treated (δ_W^w)	1.352	0.073	0.042	0.084	0.016	0.022
	(1.842)	(0.054)	(0.046)	(0.054)	(0.030)	(0.026)
	[0.465]	[0.179]	[0.359]	[0.125]	[0.590]	[0.407]
Stratification Variables	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
H Respondent Interactions	Yes	Yes	Yes	Yes	Yes	Yes
F-test p-values:						
Direct vs. spillover effect on husband (δ_H^h=δ_W^h)	0.006	0.349	0.772	0.235	0.009	0.009
Direct vs. spillover effect on wife (δ_W^w=δ_H^w)	0.039	0.439	0.061	0.367	0.749	0.789
Symmetry of intra-hh spillover effects (δ_H^w=δ_W^h)	0.001	0.880	0.046	0.746	0.081	0.070
Direct treatment effects (δ_H^h=δ_W^w)	0.921	0.864	0.881	0.778	0.519	0.596
Mean of Control Group for H	28.850	0.230	0.080	0.090	0.830	0.840
Mean of Control Group for W	36.220	0.350	0.260	0.300	0.910	0.870
Observations	1050	1049	1049	1049	1050	1050

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present. Demographic control variables include wife age, husband age, wife education, husband education, number of children, age of last child born before meeting, wife is actively trying to get pregnant, baseline contraceptive use, and household weekly income. Each control variable and the constant are also interacted with a dummy for the husband being the respondent.

Table A6: Likelihood scale

	(1) Younger than 40	(2) Older than 40	(3) Fewer than 4 kids	(4) More than 4 kids	(5) 2-yrs. spacing	(6) No spacing	(7) Wife risk
H Respondent × H Treated (δ_H^h)	-0.195	0.399	-0.164	0.064	0.056	0.085	-0.085
	(0.239)	(0.204)	(0.198)	(0.182)	(0.248)	(0.262)	(0.217)
	[0.416]	[0.053]	[0.409]	[0.726]	[0.823]	[0.747]	[0.695]
H Respondent × W Treated (δ_W^h)	-0.188	-0.131	-0.477	-0.215	-0.582	-0.054	0.298
	(0.224)	(0.232)	(0.191)	(0.224)	(0.233)	(0.265)	(0.292)
	[0.403]	[0.573]	[0.014]	[0.340]	[0.014]	[0.840]	[0.310]
W Respondent × H Treated (δ_H^w)	-0.218	0.465	0.088	-0.101	0.134	0.061	-0.025
	(0.215)	(0.222)	(0.248)	(0.241)	(0.289)	(0.213)	(0.299)
	[0.312]	[0.039]	[0.724]	[0.675]	[0.644]	[0.774]	[0.933]
W Respondent × W Treated (δ_W^w)	-0.015	0.407	0.357	0.295	0.258	0.163	-0.097
	(0.243)	(0.232)	(0.273)	(0.251)	(0.314)	(0.252)	(0.375)
	[0.952]	[0.082]	[0.194]	[0.243]	[0.413]	[0.520]	[0.797]
Stratification Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
H Respondent Interactions	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F-test p-values:							
Direct vs. spillover effect on husband (δ_H^h=δ_W^h)	0.976	0.018	0.136	0.188	0.001	0.579	0.194
Direct vs. spillover effect on wife (δ_W^w=δ_H^w)	0.410	0.771	0.272	0.075	0.653	0.662	0.831
Symmetry of intra-hh spillover effects (δ_H^w=δ_W^h)	0.931	0.051	0.086	0.728	0.071	0.733	0.432
Direct treatment effects (δ_H^h=δ_W^w)	0.629	0.979	0.140	0.453	0.628	0.828	0.979
Mean of Control Group for H	3.760	7.810	3.340	6.440	3.840	7.470	4.360
Mean of Control Group for W	4.150	7.400	3.950	6.450	3.670	7.770	4.210
Observations	1050	1048	1050	1048	1050	1048	1034

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present. Demographic control variables include wife age, husband age, wife education, husband education, number of children, age of last child born before meeting, wife is actively trying to get pregnant, baseline contraceptive use, and household weekly income. Each control variable and the constant are also interacted with a dummy for the husband being the respondent.

Table A7: Communication

	(1) Comm. Index	(2) Comm. MM risk	(3) Partner comm. MM risk	(4) Agreement on contrac. Use	(5) Tried Convince Partner.	(6) Partner Changed Resp's mind
H Respondent × H Treated (δ_H^h)	0.198	0.130	0.077	0.072	0.030	0.051
	(0.073)	(0.052)	(0.044)	(0.033)	(0.029)	(0.030)
	[0.008]	[0.015]	[0.084]	[0.030]	[0.300]	[0.090]
H Respondent × W Treated (δ_W^h)	0.041	-0.031	-0.033	0.020	0.027	0.046
	(0.071)	(0.059)	(0.052)	(0.028)	(0.026)	(0.028)
	[0.563]	[0.603]	[0.529]	[0.475]	[0.307]	[0.098]
W Respondent × H Treated (δ_H^w)	0.047	-0.020	-0.026	0.044	0.009	0.022
	(0.062)	(0.051)	(0.055)	(0.027)	(0.017)	(0.019)
	[0.454]	[0.693]	[0.641]	[0.104]	[0.616]	[0.252]
W Respondent × W Treated (δ_W^w)	0.071	-0.020	0.019	0.029	0.016	0.031
	(0.064)	(0.050)	(0.048)	(0.024)	(0.018)	(0.021)
	[0.265]	[0.684]	[0.689]	[0.227]	[0.352]	[0.136]
Stratification Variables	Yes	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
H Respondent Interactions	Yes	Yes	Yes	Yes	Yes	Yes
F-test p-values:						
Direct vs. spillover effect on husband (δ_H^h=δ_W^h)	0.051	0.001	0.016	0.155	0.921	0.874
Direct vs. spillover effect on wife (δ_W^w=δ_H^w)	0.656	0.995	0.373	0.590	0.684	0.675
Symmetry of intra-hh spillover effects (δ_H^w=δ_W^h)	0.950	0.880	0.923	0.556	0.569	0.494
Direct treatment effects (δ_H^h=δ_W^w)	0.164	0.019	0.345	0.303	0.689	0.595
Mean of Control Group for H		0.420	0.710	0.040	0.020	0.020
Mean of Control Group for W		0.480	0.460	0.050	0.050	0.050
Observations	1050	1049	1047	1046	1046	1046

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present. Demographic control variables include wife age, husband age, wife education, husband education, number of children, age of last child born before meeting, wife is actively trying to get pregnant, baseline contraceptive use, and household weekly income. Each control variable and the constant are also interacted with a dummy for the husband being the respondent.

Table A8: Transfers (wife's reports)

	(1)	(2)	(3)	(4)
	Transfers Index	Any Gift in past month	Value of gifts past month	Times hit wife last month
Husband Treated (β_H)	-0.084	0.001	-35.375	0.023
	(0.088)	(0.054)	(25.401)	(0.095)
	[0.347]	[0.989]	[0.167]	[0.813]
Wife Treated (β_W)	-0.068	-0.033	-29.757	-0.038
	(0.080)	(0.055)	(20.766)	(0.086)
	[0.397]	[0.549]	[0.156]	[0.660]
Stratification Variables	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes
F-test p-value (β_H=β_W)	0.795	0.571	0.603	0.318
Mean of Control Group		0.420	79.010	0.150
Observations	515	515	515	515

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Index variable in column 1 is the mean of all standardized variables in columns 2-3 and the opposite of the variable in column 4. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present. Demographic control variables include wife age, husband age, wife education, husband education, number of children, age of last child born before meeting, wife is actively trying to get pregnant, baseline contraceptive use, and household weekly income.

Table A9: Heterogeneity of effects on demand indices by maternal health risk

	(1) Demand Index (H)	(2) Demand Index (W)
Husband Treated × Low Risk (β_H^1)	-0.178	0.084
	(0.058)	(0.076)
	[0.003]	[0.275]
Husband Treated × High Risk (β_H^2)	-0.247	-0.099
	(0.121)	(0.143)
	[0.045]	[0.488]
Wife Treated × Low Risk (β_W^1)	-0.006	0.051
	(0.080)	(0.073)
	[0.936]	[0.488]
Wife Treated × High Risk (β_W^2)	-0.118	-0.070
	(0.113)	(0.119)
	[0.300]	[0.558]
Stratification Variables	Yes	Yes
Demographic Controls	Yes	Yes
F-test p-value Low Risk H=W (β_H^1=β_W^1)	0.034	0.610
F-test p-value High Risk H=W (β_H^2=β_W^2)	0.280	0.839
F-test p-value H Low=High Risk (β_H^1=β_H^2)	0.632	0.227
F-test p-value W Low=High Risk (β_W^1=β_W^2)	0.448	0.367
Observations	516	534

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present. Demographic control variables include wife age, husband age, wife education, husband education, number of children, age of last child born before meeting, wife is actively trying to get pregnant, baseline contraceptive use, and household weekly income.

Table A10: Heterogeneity by age

	(1) Fertility Index	(2) Transfers Index
Husband Treated × Wife Below 35 (β_H^1)	-0.134	0.077
	(0.086)	(0.081)
	[0.124]	[0.344]
Husband Treated × Wife Over 35 (β_H^2)	-0.270	-0.350
	(0.159)	(0.228)
	[0.093]	[0.128]
Wife Treated × Wife Below 35 (β_W^1)	-0.064	-0.142
	(0.090)	(0.079)
	[0.480]	[0.074]
Wife Treated × Wife Over 35 (β_W^2)	-0.217	-0.365
	(0.143)	(0.177)
	[0.132]	[0.043]
Stratification Variables	Yes	Yes
Demographic Controls	Yes	Yes
F-test p-value Below H=W (β_H^1=β_W^1)	0.386	0.000
F-test p-value Above H=W (β_H^2=β_W^2)	0.672	0.948
F test p-value H Below=Above (β_H^1=β_H^2)	0.465	0.093
F test p-value W Below=Above (β_W^1=β_W^2)	0.389	0.285
Observations	534	498

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present. Demographic control variables include wife age, husband age, wife education, husband education, number of children, age of last child born before meeting, wife is actively trying to get pregnant, baseline contraceptive use, and household weekly income.

Table A11: Heterogeneity by history of complications

	(1) Fertility Index	(2) Transfers Index
Husband Treated × No Hist. of Comp. (β_H^1)	-0.104	0.007
	(0.079)	(0.076)
	[0.191]	[0.924]
Husband Treated × Hist. of Comp. (β_H^2)	-0.496	0.002
	(0.182)	(0.224)
	[0.008]	[0.993]
Wife Treated × No Hist. of Comp. (β_W^1)	-0.055	-0.181
	(0.079)	(0.074)
	[0.491]	[0.017]
Wife Treated × Hist. of Comp. (β_W^2)	-0.340	-0.128
	(0.202)	(0.219)
	[0.095]	[0.562]
Stratification Variables	Yes	Yes
Demographic Controls	Yes	Yes
F-test p-value No Comp. H=W (β_H^1=β_W^1)	0.485	0.000
F-test p-value Comp. H=W (β_H^2=β_W^2)	0.346	0.611
F-test p-value H No Comp.=Comp. (β_H^1=β_H^2)	0.041	0.982
F-test p-value W No Comp.=Comp. (β_W^1=β_W^2)	0.157	0.825
Observations	531	495

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present. Demographic control variables include wife age, husband age, wife education, husband education, number of children, age of last child born before meeting, wife is actively trying to get pregnant, baseline contraceptive use, and household weekly income.

Table A12: LASSO: Household-level indices

	(1) Fertility Index	(2) Transfers Index
Husband Treated (β_H)	-0.133	-0.011
	(0.076)	(0.073)
	[0.077]	[0.877]
Wife Treated (β_W)	-0.117	-0.210
	(0.076)	(0.068)
	[0.122]	[0.002]
F-test p-value (β_H=β_W)	0.814	0.000
Observations	534	502

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present.

Table A13: LASSO: Individual-level indices

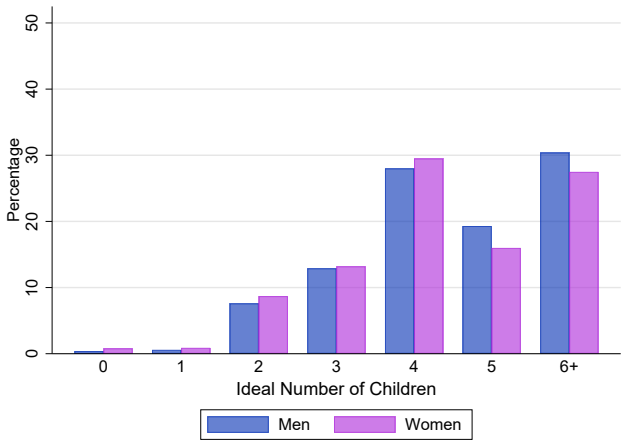
	(1) Risk factors Index	(2) Ladder Index	(3) Beliefs Index (1) & (2)	(4) Wellbeing Index
H Respondent × H Treated (δ_H^h)	0.175	0.017	0.090	0.129
	(0.064)	(0.058)	(0.039)	(0.086)
	[0.006]	[0.762]	[0.021]	[0.134]
H Respondent × W Treated (δ_W^h)	0.004	-0.116	-0.060	0.060
	(0.062)	(0.059)	(0.037)	(0.073)
	[0.944]	[0.051]	[0.107]	[0.411]
W Respondent × H Treated (δ_H^w)	0.098	-0.000	0.048	0.064
	(0.057)	(0.049)	(0.042)	(0.081)
	[0.086]	[0.994]	[0.251]	[0.433]
W Respondent × W Treated (δ_W^w)	0.151	0.097	0.125	-0.139
	(0.059)	(0.060)	(0.049)	(0.077)
	[0.011]	[0.107]	[0.011]	[0.072]
F-test p-values:				
Direct vs. spillover effect on husband (δ_H^h=δ_W^h)	0.001	0.023	0.000	0.386
Direct vs. spillover effect on wife (δ_W^w=δ_H^w)	0.384	0.089	0.115	0.019
Symmetry of intra-hh spillover effects (δ_H^w=δ_W^h)	0.248	0.148	0.060	0.970
Direct treatment effects (δ_H^h=δ_W^w)	0.764	0.345	0.574	0.018
Observations	1050	1050	1050	1050

Notes: SE clustered at the meeting level in parentheses. P-values in brackets. Stratifying control variables include if couple has children, wife over 35, wife thinks that husband wants another child later, wife thinks husband does not want another child, husband does not know of women who died at childbirth, block size, and baseline data present.

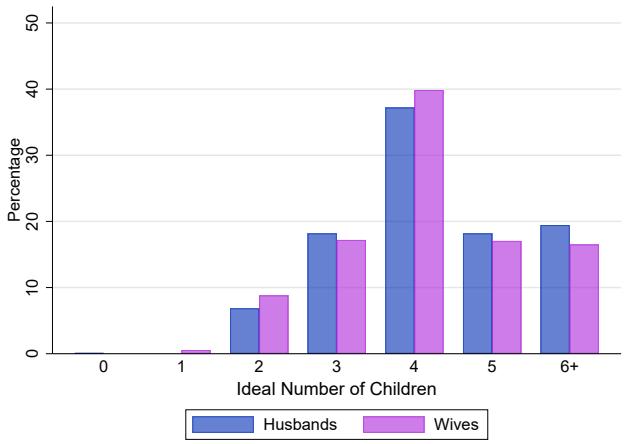
A.2 Figures

Figure A1: Ideal Number of Children in the DHS and in the Baseline Survey

(a) DHS



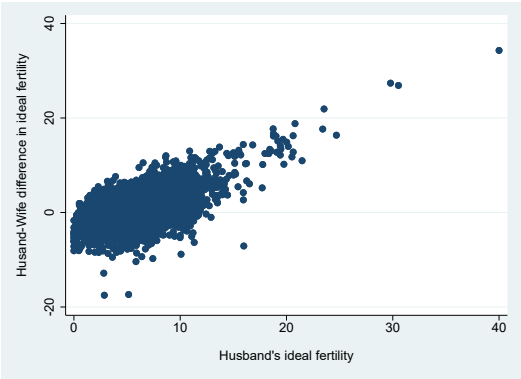
(b) Baseline Survey



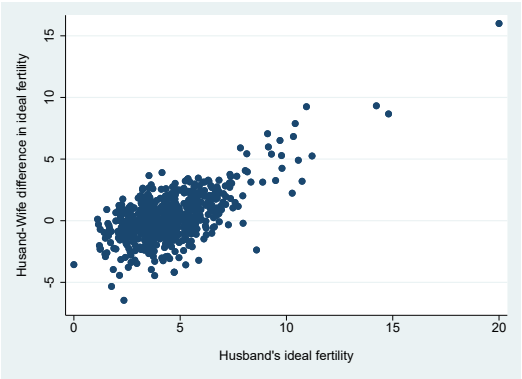
Notes: Left-hand side bar graph summarizes means of men and women for DHS 2013-2014 data; right-hand side bar graph summarizes means of husbands and wives in our sample.

Figure A2: Spousal Difference in Ideal Fertility vs. Husband's Ideal Fertility

(a) Zambia DHS 2014



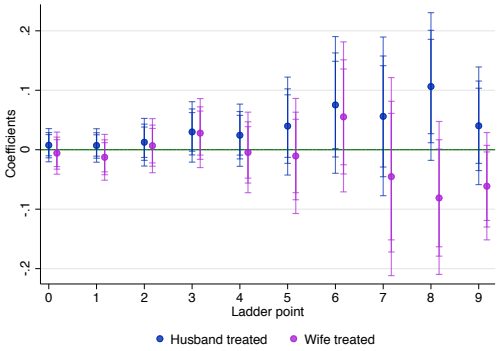
(b) Baseline Sample



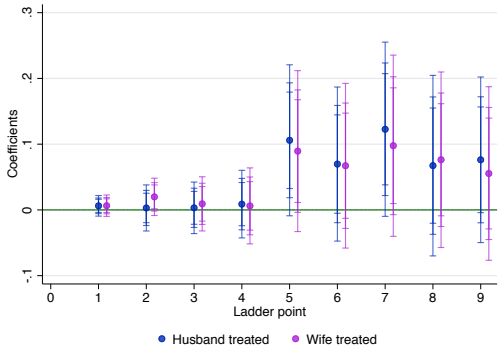
Notes: The outliers with husband's ideal fertility greater than 50 are dropped in all the DHS data.

Figure A3: Effect on Assessed Likelihood of Complication - Woman over 40

(a) Husband Respondent



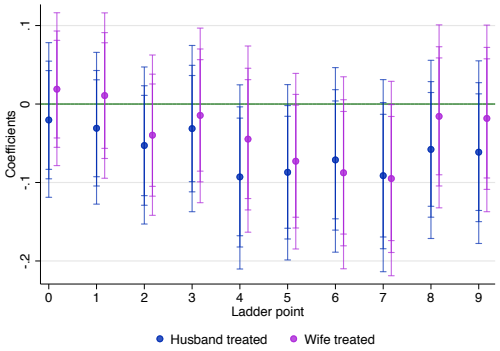
(b) Wife Respondent



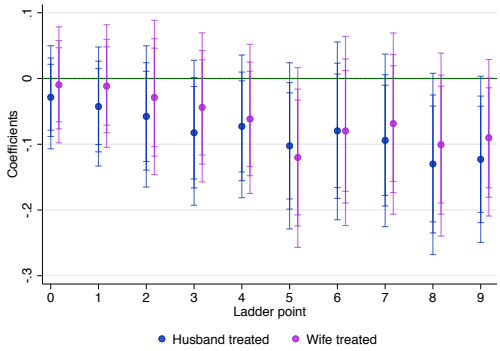
Notes: The figure depicts the effect of the intervention on the assessed likelihood of having pregnancy complications, as expressed by a ladder from 0 to 10, for an hypothetical women who is older than 40 years old. The respondents are the husband (left) and wife (right). The different colors indicate which spouse was treated.

Figure A4: Effect on Assessed Likelihood of Having Another Child

(a) Husband Respondent



(b) Wife Respondent



Notes: The figure depicts the effect of the intervention on the assessed likelihood of having another child, as expressed by a ladder from 0 to 10. Each dot corresponds to the coefficient associated with treatment status (*Husband treated* or *Wife Treated* in a linear probability model regression where the dependent variable equals 1 if the ladder point is greater or equal to the value on the horizontal axis, and 0 otherwise).

B Theoretical Appendix

B.1 Both spouses uninformed with bias: computations

We study the case in which both spouses have a biased perception of the distribution of the health cost with mean θ^G. The structure of the game is the same as before.

Privately Optimal Fertility Given the new assumption on the distribution of the maternal health cost, the optimal fertility of the wife is now equal to:

$$n_b^W = argmax \int_0^1 [-(\alpha^W - \theta - n)^2] f^G(\theta) d\theta = \alpha^W - \theta^G$$

and that of the husband:

$$n_b^H = argmax \int_0^1 [-(\alpha^H - \delta\theta - n)^2] f^G(\theta) d\theta = \alpha^H - \delta\theta^G$$

The structure of the game is the same as before. The game is solved by backward induction.

Equilibrium transfers and number of children Given the wife's preferences, the mapping between transfers and fertility is as follows:

$$n(t) = \begin{array}{ll} n_b^W & if \quad \int_0^1 [-(\alpha^W - \theta - n_{Bt}^H)^2] f^G(\theta) d\theta + t < \int_0^1 [-(\theta^G - \theta)^2] f^G(\theta) d\theta \\ n_{Bt}^H & if \quad \int_0^1 [-(\alpha^W - \theta - n_{Bt}^H)^2] f^G(\theta) d\theta + t \geq \int_0^1 [-(\theta^G - \theta)^2] f^G(\theta) d\theta \end{array}$$

Maximising the husband utility function with transfers, we have: $n_{Bt}^H = \frac{n_b^H + \gamma(n_b^W)}{1+\gamma}$ that corresponds to the minimum level of transfers that compensate the wife for her utility loss is equal to: $t_{MIN} = \left(\frac{\alpha^H - \alpha^W}{1+\gamma} + \frac{(\delta+\gamma)\theta^G}{1+\gamma}\right)^2 - 2\left(\frac{\alpha^H - \alpha^W}{1+\gamma} + \frac{(\delta+\gamma)}{1+\gamma}\right)\theta^G + (\theta^G)^2$.

Let us define the husband indirect utility with transfers as:

$$IU(n_{Bt}^H) = \int_0^1 [-(\alpha^H - \delta\theta - n_{Bt}^H)^2] f^G(\theta)\theta - \gamma t_{MIN}$$

and the husband indirect utility without transfers as

$$IU(n_b^H) = \int_0^1 [-(\alpha^H - \delta\theta_j - \alpha^W + \theta^G)^2] f^G(\theta) d\theta = -(\alpha^H - \alpha^W + \theta^G)^2 - \delta^2\sigma^G + 2\delta(\alpha^H - \alpha^W + \theta^G)\theta^G$$

As before, the husband finds optimal to implement this transfers to the wife if his expected utility is higher with transfers than without, that is if $IU(n_{Bt}^H) > IU(n_b^H)$. This difference is equal to:

$$\Delta = \frac{\left(\frac{\alpha^H - \alpha^W}{\theta^G} + (1+\delta)\right)^2 (\theta^G)^2}{1+\gamma} > 0.$$

Since, even with biased beliefs, this condition is always satisfied so the optimal fertility in equilibrium is equal to $n_B^* = \frac{n_b^H + \gamma(n_b^W)}{1+\gamma}$.

B.2 Proofs

Proof. Lemma 1

To understand the incentives of the wife to truthfully report her type, we define $m(\theta_j)$ as the message sent by the wife. If the husband perfectly updates his information based on the message ($E_H[\theta_j] = m(\theta_j)$), we can compare the utility of the wife under truthful information transmission and any other message. Under truthful information transmission, the indirect utility of the wife is equal to 0. Under any other message, it is equal to:

$$IU_j^W = -\left(\frac{\alpha^W - \alpha^H + \delta m(\theta_j) + \gamma m(\theta_j)}{1+\gamma} - \theta_j\right)^2 + \left(\frac{\alpha^H - \alpha^W - \delta m(\theta_j) - \gamma m(\theta_j)}{1+\gamma} + m(\theta_j)\right)^2.$$

It is easy to show that for every θ_j, when $\alpha^H - \alpha^W > \frac{\gamma+\delta-(1-\delta)}{2}$ the optimal message is always equal to $m(\theta_j) = 1$; for $0 < \alpha^H - \alpha^W < \frac{\gamma+\delta-(1-\delta)}{2}$, the optimal message is equal to 1, for $\theta_j > \frac{\gamma+\delta-2(\alpha^H-\alpha^W)-(1-\delta)}{1+\gamma}$; instead, when $\alpha^H - \alpha^W < 0$, the optimal message is always equal to $m(\theta_j) = 0$. So full information transmission does not occur. If $1 - \delta > \gamma + \delta$, no information is share in equilibrium.

We now discuss optimal transfers when no information is transmitted: for transfers to occur for every possible θ_j, the husband needs to be ready to accept transfers higher than when the wife is uniformed.

We first show that no incentive compatible contract contingent on θ can exist in equilibrium. The wife accepts to adapt to the fertility of the husband if $t \geq (\alpha^W - \theta_j - n_u^{Ht})^2$. Given the husband's posterior $E_H[\theta_j]$, the transfer offered to the wife would be $t = \left(\alpha^W - E_H[\theta_j] - \frac{n_u^H + \gamma(\alpha^W - E_H[\theta_j])}{1+\gamma}\right)^2$. This transfer would give a level of utility to the wife equal or greater than 0 (her outside option)

only when $\theta_j \leq E_H[\theta_j]$, hence when the husband attributes a cost to the wife which is higher than the one she actually faces.

We then show that when contracts that include the highest edge of the distribution exist, given the husband's posterior $E_H[\theta_j]$, they exist for any other upper limit of the contract, θ^h. From what we just showed, we know that when the husband believes that θ_j belongs to a given interval $\left[\theta^l, \theta^h\right]$ with mean $\overline{\theta}(\theta^h)$, the only possible contracts that it is accepted by all θ_j in the interval is the one in which compensations occur based on the highest θ^h. If the husband propose a contract in which he compensate up to $\overline{\theta}(\theta^h)$ then the average θ_j accepting the contract will be $\overline{\theta}(\overline{\theta}) < \overline{\theta}(\theta^h)$. We show here that when α^H is high enough, so that including the highest θ_j is optimal, any other contract in which transfers are accepted up to an intermediate θ_j exists as well and are dominated by the one that include the highest θ_j. Let's consider the case in which transfers are accepted up to $\overline{\theta}(\theta^h)$. This means that the expected utility of the husband is the following:

$$\begin{array}{c} \int_{\theta^l}^{\overline{\theta}(\theta^h)} \left[- \left(\alpha^H - \delta\theta_j - \frac{\alpha^H - \delta\overline{\theta}(\overline{\theta}) + \gamma\alpha^W - \gamma\overline{\theta}(\theta^h)}{1+\gamma} \right)^2 - \right. \\ -\gamma \left(\alpha^W - \theta_j - \frac{\alpha^H - \delta\overline{\theta}(\overline{\theta}) + \gamma\alpha^W - \gamma\overline{\theta}(\theta^h)}{1+\gamma} \right)^2 f^G(\theta)d\theta - \\ - \int_{\overline{\theta}(\theta^h)}^{\theta^h} [-(\alpha^H - \delta\theta_j - \alpha^W + \overline{\theta}(1))^2] f^G(\theta)d\theta \end{array}$$

that is dominated by a contract for which the expected utility is

$$\begin{array}{c} \int_{\theta^l}^{\theta^h} \left[- \left(\alpha^H - \delta\theta_j - \frac{\alpha^H - \delta\overline{\theta}(\theta^h) + \gamma\alpha^W - \gamma\overline{\theta}(\theta^h)}{1+\gamma} \right)^2 - \right. \\ -\gamma \left(\alpha^W - \theta_j - \frac{\alpha^H - \delta\overline{\theta}(\theta^h) + \gamma\alpha^W - \gamma\overline{\theta}(\theta^h)}{1+\gamma} \right)^2 f^G(\theta)d\theta \end{array}$$

as long as transfers are convenient up to θ^h. This is due to the fact that, since the cost of transfers are increasing in θ_j, if they are optimal for the highest θ_j, they are optimal for the rest of the relevant interval.

Finally, we then show that for a sufficiently high $\alpha^H - \alpha^W > 0$, when no information transmission occurs, the husband finds optimal to make transfers compatible with the highest possible θ (we show that for $\theta = 1$). The optimal fertility and transfers for the husband, when providing incentives for $\theta = 1$ are determined maximizing:

$$n_{IC}^H = argmax \int_0^1 [-(\alpha^H - \delta\theta_j - n)^2 - \gamma(\alpha^W - 1 - n)^2] f^G(\theta)d\theta = \frac{\alpha^H - \delta\theta^G + \gamma\alpha^W - \gamma}{1+\gamma}$$

This gives an indirect utility to the husband equal to:

$$IU^h_{IC} = -\frac{\gamma(\alpha^H - \alpha^W)^2}{(1+\gamma)^2} - \frac{2\gamma(\alpha^H - \alpha^W)}{(1+\gamma)^2}((1+\gamma)(2-\delta\theta^G) - 2\delta\theta^G) + \frac{\delta^2(\theta^G)^2 - 2\gamma\delta\theta^G + \gamma}{1+\gamma} - \delta^2\sigma^G$$

Whether the husband decides to offer such a high level of transfer depends whether IU^h_{IC} is higher than the indirect utility of the husband with no transfers, $IU(n^H_b)$. Rearranging terms we get the following disequation:

$$\frac{(\alpha^H - \alpha^W)^2}{1+\gamma} - 2\left(\frac{\theta^G(1+\gamma+\delta) - 2\gamma}{(1+\gamma)}\right)(\alpha^H - \alpha^W) + \frac{\delta^2(\theta^G)^2 - 2\gamma\delta\theta^G + \gamma}{1+\gamma} - 2\delta(\theta^G)^2 > 0.$$

So transfers will happen for α^H bigger than

$$A^{IC} = \alpha^W + \theta^G(1+\gamma+\delta) - 2\gamma + \sqrt{(\theta^G(1+\gamma+\delta) - 2\gamma)^2 - \delta^2(\theta^G)^2 - 2\gamma\delta\theta^G + \gamma + 2\delta(\theta^G)^2(1+\gamma)^2}$$

and will stop otherwise. ■

Proof. Proposition 1

When the wife is already informed about her cost realisation, average ideal fertility of the wife is not affected by the intervention. When the spouses had biased knowledge of the cost distribution, after the intervention, the average ideal fertility of the wife moves from $\alpha^W - \theta^G$ to $\alpha^W - \theta^Z$. Furthermore, contracts break down (transfers stop) for $\alpha^H < A^{IC}$ and fertility in equilibrium is equal to the optimal fertility of the wife. (See proofs of Lemma 1).

When $\alpha^H > A^{IC}$, transfers move from t_{MIN} to $t_{IC} = (\alpha^W - 1 - n^H_{IC})$, with $t_{MIN} < t_{IC}$: the difference in transfers is equal to $\frac{(1-\delta)(1-\theta^Z)}{1+\gamma}$. Fertility moves to n^H_{IC}, with the reduction equal to $\frac{(\gamma+\delta)(1-\theta^Z)}{1+\gamma}$. ■

Proof. Proposition 2 We define $m(\theta_j)$ as the message sent by the husband: the husband propose to the wife to compensate her utility loss for accepting a level of fertility equal to $n^H_I = \frac{\alpha^H + \gamma\alpha^W - (\delta+\gamma)m(\theta_j)}{1+\gamma}$. The wife updates her information based on the message so that her new posterior is equal to $(E_W[\theta_j] = f(m(\theta_j)))$. Thus, we can compare the utility of the husband under truthful information transmission and any other message. Under truthful information transmission the utility of the husband is equal to $IU(\theta_j) = -\frac{\gamma}{1+\gamma}\left[\alpha^H - \alpha^W + (1-\delta)\theta_j\right]^2$. Under any other message, it is equal to:

$$IU(m(\theta_j)) = -\left[\frac{\gamma\left(\alpha^H - \alpha^W + m(\theta_j)\right) + \delta m(\theta_j)}{1+\gamma} - \delta\theta_j\right]^2 - \gamma\left[\frac{\alpha^H - \alpha^W - (\delta+\gamma)m(\theta_j)}{1+\gamma} + f(m(\theta_j)\right]^2$$

.

We first show that communication is informative for sufficiently low level of γ and low conflict of preferences. Whether communication is informative or not, depends on whether for the husband is more costly to have an utility loss due to suboptimal fertility or due to higher transfers.

Separating equilibrium The husband compares $IU(\theta_j)$ with $IU(m(\theta_j))$. We study the optimal message, given the indirect utility of the husband. If $f(m(\theta_j)) = m(\theta_j)$, the first order condition when maximizing $IU(m(\theta_j))$ gives:

$$m^T(\theta_j) = \frac{(\delta^2 + \delta\gamma)\theta_j - \gamma(\alpha^H - \alpha^W)}{\delta^2 + \gamma}$$

.

For $\alpha^H - \alpha^W > \frac{\delta^2+\delta\gamma}{\gamma}$ or $\alpha^H - \alpha^W < -1$, the optimal message does not depend on the realization of θ_j and no informative communication occurs. Otherwise, $m^T(\theta_j) \leq \theta_j$. In particular, when γ is sufficiently close to zero, $m^T(\theta_j) = \theta_j$.

To show the existence of a general separating equilibrium, we derive a generic $f(m)$ and characterize the existence of a one-to-one belief function and a feasible message function $m^*(\theta_j)$ maximizing $IU(m(\theta_j))$.

To show the existence of a generic $f(m)$, we compute the FOC of $IU(m(\theta_j))$ with respect to $m(\theta_j)$ and derive the following beliefs solution:

$$f'(m) = \frac{\delta+\gamma}{1+\gamma} + \frac{\delta+\gamma}{\gamma(1+\gamma)}\frac{(1+\gamma)\delta f(m(\theta_j)) - \gamma(\alpha^H - \alpha^W) - \gamma(\delta+\gamma)m(\theta_j)}{\alpha^H - \alpha^W + (1+\gamma)f(m(\theta_j)) - (\delta+\gamma)m(\theta_j)}. \tag{4}$$

The inverse of this belief function, given consistency ($f(m) = \theta_j$), implies the following ordinary differential equation:

$$m'(\theta_j) = \frac{\gamma[\alpha^H - \alpha^W + (1+\gamma)\theta_j - (\delta+\gamma)m(\theta_j)]}{(\delta+\gamma)^2[\theta_j - m(\theta_j)]}. \tag{5}$$

where $m'(\theta_j) > 0$ for $\theta_j > m(\theta_j)$ and $m'(\theta_j) < 1$ (implying that the solution is one-to-one and feasible) for $\gamma(\alpha^H - \alpha^W) < (\delta+\gamma)^2[\theta_j - m(\theta_j)] - \gamma[(1+\gamma)\theta_j - (\delta+\gamma)m(\theta_j)]$.

For a given level of α^W, when α^H or γ are low enough and δ high enough, this condition is satisfied. In particular, the necessary condition for this to hold is that $\delta^2 + 2\delta\gamma - \gamma < 0$ and that γ is sufficiently low for $m'' > 0$. Under these conditions, $f(m) = \theta_j$ and $m^*(\theta_j) < \theta_j$.

For $\theta_j \in (0, 1]$ the continuity and double differentiability of this message function insure uniqueness implying that $m^*(\theta_j)$ is the only message solving the differential equation defined in 5. For $\theta_j = 0$, $m^*(\theta_j) = 0$. Equilibrium fertility is going to be $n^*(m^*(\theta_j)) = n_I^H(m^*(\theta_j))$.

Partition Equilibrium Here, we derive the conditions under which a partition equilibrium with partial information transmission occurs. That is we derive the conditions under which there exists at least one partition equilibrium of size $N = 2$.

For this to be the case, there should be at least one cost realization $\theta_j \in (0, 1)$, given the knowledge of the wife, is indifferent between belonging to the highest or the lowest intervals of the cost distribution, that are $[0, \theta_j]$ and $[\theta_j, 1]$. For this to be true, it must be that:

$$-\left[\frac{\gamma\left(\alpha^H-\alpha^W\right)+(\gamma+\delta)\beta^W\theta_j}{1+\gamma} - \delta\theta_j\right]^2 - \gamma\left[\frac{\alpha^H-\alpha^W+(1-\delta)\beta^W\theta_j}{1+\gamma}\right]^2 =$$
$$-\left[\frac{\gamma\left(\alpha^H-\alpha^W\right)+(\gamma+\delta)((1-\beta^W)\theta_j+\beta^W)}{1+\gamma} - \delta\theta_j\right]^2 - \gamma\left[\frac{\alpha^H-\alpha^W+(1-\delta)((1-\beta^W)\theta_j+\beta^W)}{1+\gamma}\right]^2.$$

For $\gamma\left(\alpha^H - \alpha^W\right)$ sufficiently small, we have that the LHS is bigger than the RHS when $\theta_j = 0$, and the reverse is true when $\theta_j = 1$. Since both are monotonically increasing in $\theta_j = 1$, it must be that there exists a level of θ_j for which this indifference condition holds. Furthermore, when this θ_j exists, since $\beta^W < \beta^Z$, $E^W(\theta) > \beta^W$ and fertility decreases.

When only the partition equilibria exist, the most informative equilibrium is selected through the NITS criterion (Chen, Kartik and Sobel, 2007). When the separating equilibrium exists, the Intuitive Criterion applies for selecting the most informative equilibrium (Cho and Kreps, 1987).

Equilibrium fertility and transfers So, for household in which the wife was previously uninformed:

- for a given α^W, when α^H or γ are low enough information transmission occurs: transfers are based on the information set of the woman, and fertility on the optimal message of

the husband. Due to the fact that knowledge converges to the true distribution, transfers increases given the update in knowledge and the fact that the husband sets optimal fertility on a lower θ_j than the realized one: $\theta_j - \frac{(\gamma+\delta)m^*(\theta_j)}{1+\gamma)} > m^*(\theta_j) - \frac{(\gamma+\delta)m^*(\theta_j)}{1+\gamma)}$ for all $m^*(\theta_j) < \theta_j$. Also, due to the fact that knowledge converges to the true distribution (implying that $|m(\theta - j) - \theta_j|$ decreases) and that transfers increase and that the husband prefer to transmit information, optimal husband fertility decreases.

For household in which the wife was previously informed:

- for a given α^W, when α^H is high, fertility increases and transfers decreases on the intensive margin.
- for a given α^W, when α^H is low enough transfers start to occur and fertility increases.

For all type of households, when δ increases, fertility decreases and transfers decreases as well.

■

Proof. Prediction 1 We define α^H as being high when $\alpha^H > \alpha^W + A^{IC}$. Given the results of proposition 1 and proposition 2, starting from the same ex ante knowledge of the woman cost, we consider changes in fertility either when the wife or the husband is treated:

- both spouses uninformed and α^H high: fertility decreases only when the husband is treated and δ is low. It moves from $n_b^{Ht} = \frac{n_b^H + \gamma n_b^W}{1+\gamma}$ to $n^*(m^*(\theta_j))$
- both spouses uninformed and α^H low: fertility decreases both when the wife and the husband are treated. For the wife, it moves to her preferred level of utility. For the husband, it is going to be either equal to $n^*(m^*(\theta_j))$.
- wife informed and α^H high: fertility moves when the husband is treated. Fertility moves to n_j^{Ht}.
- wife informed and α^H low: fertility moves only when the husband is treated. Fertility increase to n_j^{Ht}.

■

Proof. Prediction 2 Results follow directly form the proofs of proposition 1 and proposition 2. ■

Proof. Prediction 3 We define α^H as being high when $\alpha^H > \alpha^W + A^{IC}$. Given the results of proposition 1 and proposition 2, starting from the same ex ante knowledge of the woman cost, we consider changes in fertility either when the wife or the husband is treated:

- both spouses uninformed and α^H high: slight increase in transfers when the husband is treated (and γ is sufficiently low), slight increase when the wife is treated. When the husband is treated and γ is sufficiently low transfers move to $t = (\frac{\alpha^H - m(\theta_j) - \alpha^W + E_W[\theta_j])}{1+\gamma})^2$, implying a higher level of transfers since transfers are increasing in $E[\theta_j]$. When the wife is treated transfers move to $t_{IC} = (\alpha^W - 1 - n^H_{IC})$.

- both spouses uninformed and α^H low: when the husband is treated, transfers adapt to an increase information in the couple and transfers increase.

- wife informed and α^H high: no change when the wife is treated, slight decrease when the husband is treated. When the husband is treated, transfers move from t_{IC} to t_{min}.

- wife informed and α^H low: no change when the wife is treated, transfers increases only when the husband is treated. When the husband is treated, transfers move from zero to t_{min}.

■

Proof. Prediction 4 For a given level of α^H, we consider the cost as being high when $\theta_j > \theta^Z$ When θ_j is high, providing information to a spouse will move optimal fertility downwards. When θ_j is low, providing information to a spouse will move optimal fertility upwards for $\theta_j < \theta^G$ and downwards $\theta^G < \theta_j \leq \theta^Z$ ■

Proof. Prediction 5 See proof of prediction 1. When communication does not occur, fertility moves less than when communication occurs. ■

B.3 Alternative functional forms

An alternative functional form for the preferences of the husband and of the wife is the following:

$$U_j^H = -\left(\alpha^H - n\right)^2 - 2\delta\theta_j^H n - \gamma t$$

$$U_j^W = -\left(\alpha^W - n\right)^2 - 2\theta_j n + t$$

With this preferences, spouses' individual optimal fertility is unchanged. The equilibrium fertility with transfers and complete information is now:

$$n_j^{Ht} = \alpha^H + \gamma\alpha^W - \delta\theta_j - \gamma\theta_j$$

while when both spouses are uninformed:

$$n_b^{Ht} = \alpha^H + \gamma\alpha^W - \delta\theta_j^G - \gamma\theta_j^G$$

As before, when information is symmetric for both spouses, transfers are always optimal.

B.3.1 Only the wife is informed

To study communication when only the wife is informed, let's define her indirect utility, given transfers and fertility, as follow:

$$\begin{gathered}
V^{Wt} = -\left((1-\gamma)\,\alpha^W - \alpha^H + (\delta+\gamma)\,m(\theta_j)\right)^2 - 2\theta_j\left(\alpha^H + \gamma\alpha^W - \delta m(\theta_j) - (\theta_j)\right) + \\
+\left((1-\gamma)\,\alpha^W - \alpha^H + (\delta+\gamma)\,m(\theta_j)\right)^2 + 2m(\theta_j)\left(\alpha^H + \gamma\alpha^W - \delta m(\theta_j) - (\theta_j)\right) + \\
+m(\theta_j)^2 - 2m(\theta_j)\alpha^W \\
= \\
-2\theta_j\left(\alpha^H + \gamma\alpha^W\right) - 2\,(\delta+\gamma)\,m(\theta_j)\,(m(\theta_j) - \theta_j) + 2m(\theta_j)\alpha^H + m(\theta_j)^2
\end{gathered}$$

Maximizing this, we find the optimal message:

$$m(\theta_j)^{Wt} = \tfrac{\alpha^H + (\delta+\gamma)\theta_j}{1-2(\delta+\gamma)}$$

from which it follows immediately that no communication occurs if $\alpha^H > 1 - 2\,(\delta+\gamma)$.

B.3.2 Only the husband is informed

Let's now the incentive of the husband to communicate. The indirect utility that he maximizes when he propose a contract and communicate about θ_j is:

$$V^{Ht} = -\left(-\gamma\alpha^W + (\delta+\gamma)\, m(\theta_j)\right)^2 - 2\delta\theta_j\left(\alpha^H + \gamma\alpha^W - (\delta+\gamma)\, m(\theta_j)\right) -$$
$$-\gamma\Big[\left((1-\gamma)\,\alpha^W - \alpha^H + (\delta+\gamma)\, m(\theta_j)\right)^2 + 2\delta m(\theta_j)\left(\alpha^H + \gamma\alpha^W - \delta m(\theta_j) - \gamma m(\theta_j)\right) +$$
$$+m(\theta_j)^2 - 2m(\theta_j)\alpha^W$$

In this case, the optimal message is:

$$m(\theta_j)^{Wt} = \tfrac{(\delta+\gamma)\delta\theta_j - (1-\delta-\gamma)\gamma(\alpha^H+\gamma\alpha^W)+\gamma\alpha^W}{(1+\gamma)(\delta+\gamma)^2+2\gamma(1-\delta-\gamma)}$$

B.4 Both spouses uninformed without bias

We now study optimal fertility for the type of household where the both the husband and the wife do not observe the realization of θ_j when deciding about the optimal contract. They only know the distribution of the maternal health cost. The structure of the game is the same as before.

Privately Optimal Fertility Given the incomplete information on the maternal health cost, we define the optimal fertility of the wife in isolation as:

$$n_I^W = argmax \int_0^1 [-(\alpha^W - \theta_j - n)^2] f^Z(\theta) d\theta_j = \alpha^W - \theta^Z$$

and that of the husband as:

$$n_I^H = argmax \int_0^1 [-(\alpha^H - \delta\theta_j - n)^2] f^Z(\theta) d\theta_j = \alpha^H - \delta\theta^Z$$

The structure of the game is the same as before. The game is solved by backward induction.

Equilibrium transfers and number of children Again, the wife declares her fertility strategy. In order to maximize her utility, she chooses:

$$n(t) = \begin{array}{ll} n_I^W & if \quad \int_0^1 [-(\alpha^W - \theta_j - n_{It}^H)^2] f^Z(\theta) d\theta_j + t < \int_0^1 [-(\theta^Z - \theta_j)^2] f^Z(\theta) d\theta_j \\ n_{It}^H & if \quad \int_0^1 [-(\alpha^W - \theta_j - n_{It}^H)^2] f^Z(\theta) d\theta_j + t \geq \int_0^1 [-(\theta^Z - \theta_j)^2] f^Z(\theta) d\theta_j \end{array}$$

Maximising the husband utility function with transfers, we have: $n_{It}^H = \frac{n_I^H + \gamma(n_I^W)}{1+\gamma}$.

Given the mapping strategy announced by the wife, this implies a minimum level of transfers equal to $t_{MIN} = (\alpha^W - n_{It}^H)^2 - (\alpha^W - n_{It}^H) - \sigma^Z$.

The husband finds optimal to implement this transfers to the wife if his expected utility is higher with transfers than without, that is if:

$$\int_0^1 [-(\alpha^H - \delta\theta_j - n_{It}^H)^2] f^Z(\theta) d\theta_j - \gamma t_{MIN} > \int_0^1 [-(\alpha^H - \delta\theta_j - \alpha^W + \theta^Z)^2] f^Z(\theta) d\theta_j$$

This condition is always satisfied so the optimal fertility in equilibrium is equal to $n_I^* = \frac{n_I^H + \gamma(n_I^W)}{1+\gamma}$.

C Scripts from the group meetings

"Good afternoon, my name is.... And my name is ... Today, we would like to talk to you about how to protect the health of your wife."

Maternal mortality treatment specific section (MM)

"Pregnancy is a very important part of a woman's life. In Zambia, health complications are very common among women who carry and deliver a child. Over the course of a lifetime, 1 out of 59 women in Zambia may die during pregnancy or delivery. Think about 59 women that you know from your community, like the ones in this figure. That means that 1 of them may die at childbirth and just 5826 will keep living. In Zambia, one woman dies every 4 hours due to complications during pregnancy or childbirth. A woman can experience health complications related to childbirth that would severely affect her health.

Mortality and complications are not a woman's fault. You may have heard that they happen to unfaithful women or to women whose husbands have unfaithful. The fact is that infidelity CAN lead to death–through sexually transmitted infections such as HIV. So being unfaithful can have bad health consequences. BUT the things that happen to women during pregnancy and childbirth are the result of medical and health issues, such as lack of appropriate health care before, during, and after delivery. This is why it is very important to attend a health facility for antenatal care, to deliver at a health facility and to seek the appropriate postnatal care.

Today you will hear about the way that pregnancy and childbirth affects a woman's body, and why this can lead to negative health effects and even death. Women who have many children already or who became pregnant right after having had a baby are exposed to an especially high risk because their bodies are more vulnerable.

Women in some other parts of Africa are less exposed to these complications. As you can see in this picture, for example, while 1 out of every 59 woman dies at childbirth in Zambia, in Botswana it is one in 230 and in South Africa it is 1 in 300. This means that women in Zambia are almost four times more at risk than women in Botswana and they are 6 times more at risk than women in South Africa. This is due to better health care and lower number of children per woman in South Africa. Women in these 3 countries are probably similar in their behavior in marriage, and yet they are exposed to very different risks! Now I will describe to you some causes of maternal mortality and health complications during pregnancy and childbirth.

You may have heard or seen that women get sick more often while they're pregnant than other times. There is a medical reason for this. Your body has a defense system against illness called the immune system. The immune system acts like an army, fighting off infection. To give you an example, HIV suppresses the immune system, which is why people with HIV become ill easily, or get other diseases such as TB. A baby is part you and part your wife, but it is its own person. This means that in order for a woman to carry the baby safely, her immune system has to stand down; The army that protects your wife from infection has to take a break, so that it doesn't hurt the baby by mistake. When your wife is pregnant, instead of a whole army, she only has one or two soldiers to protect her from infection. That's why women are especially vulnerable to diseases like malaria during pregnancy, and also many kinds of bacterial infections, such as respiratory infections. If not treated, these infections can kill the mother and harm the baby. 10,000 women die in Zambia every year due to malaria in pregnancy. Women who have chronic diseases and other long term conditions, such as anemia, HIV or hepatitis, may also be more likely to experience

complications. This is sometimes because their immune system is already affected by the disease and cannot effectively support the woman while she's pregnant.

Every pregnancy is a risk. When your wife is pregnant, you can protect her health by practicing safe childbirth. That means that your wife should go for ante-natal care, including regular check-ups, and she should give birth in a health center.

Complications at childbirth can affect any woman. The more times your wife is pregnant, the more exposed she is to these risks. Additionally, pregnancy is particularly risky to certain groups of women, as I will explain to you now.

Young women under 18 years old who become pregnant face high health risks because their bodies may not be mature enough to handle the physical stress of pregnancy and childbirth. This woman in the picture is just a girl herself, and she is carrying a child. When it comes time to deliver, her body might not be big enough for the baby to fit well. This can cause obstructed labor, where the baby cannot fit through the mother's birth canal.

Sometimes, when this happens, the woman can get a tear in her birth canal called a fistula. Fistulas are tears between a woman's birth canal and the area where her urine or feces is supposed to go. You may have seen women in your community become outcasts because they cannot hold urine or feces due to fistula.

A trained health provider can help with these complications. Giving birth in a health centre is one way to avoid the worst consequences of obstructed labor and fistula. The best way for a young woman to prevent these complications is to delay her first pregnancy and wait for the right time before becoming pregnant.

As women grow older, their risk of complications increases.

Women over the age of 35 have a high risk of developing health problems and of dying because of childbirth.

The risk of death is 5 times larger for a woman who is over 35 than for a woman who is 20 years old.

Women over age 35 can have children, but they should take some more precautions. Let me give you an example: every time you cross the road here in Lusaka, there is a risk that a car or a bike can hurt you. But when there is more traffic, the risk increases. So, when there is a lot of traffic, you pay more attention when you cross, you wait more to cross the street, or you decide to stay on the same side of the road. Similarly, women over age 35 should consider their higher risk when deciding to have another child, and take the appropriate precautions.

Women who had many children are more exposed to complications if they have another child, because their body is tired after the effort of pregnancy, delivery and breastfeeding for each child. Look at the woman in this picture. She already has six children and now she is pregnant again. She is at high risk of complications. If something happens to her, who is going to take care of all her children? The risk of maternal death increases a lot for each birth after the fourth. With each birth, the mother's body becomes more tired and the uterus becomes weaker.

Women who just had a child are more exposed to complications if they have another one right away. This is because their body needs some time to recover from the previous pregnancy and delivery. Remember we talked about the army that protects your body from infection? That army has no time to rebuild if a woman has another baby right away. Look at the woman in this picture. She has a little child who is probably two, and another one who may be 9 or 8 months old and she is already pregnant! Her body must be very tired, which exposes her to a large risk of complications and death.

One common cause of complications and mortality is hemorrhage. This means that a woman loses a large amount of blood during pregnancy or after delivery. Such bleeding can cause the death of the mother, and is the number 1 killer of mothers in Zambia.

Let me give you one example of why a hemorrhage happens. This area where the baby lives is called the uterus, and the connection between the mother and the baby is the umbilical cord. During pregnancy, the baby is nourished through the mother's blood supply. A placenta grows in the uterus to nourish the baby and provide it with all the blood it needs. However, because there is so much blood flowing from the mother to the baby, you can see why the mother is at risk. As the baby comes out, the umbilical cord and the placenta comes with it. Some bleeding is natural when this happens. But in some cases, the uterus does not contract and blood begins to fill the space. In this example, the uterus has not returned to its original size and fails to compress blood flow, which can lead to serious bleeding. In these pictures, you can see the difference between a normal uterus after childbirth and a uterus that has not contracted., the uterus tears. This happens especially when women have had many babies before, or have recently had a baby. The uterus becomes scarred and weak, and is less likely to contract, or become smaller and stop additional bleeding. As a result, major bleeding can happen, and the mother can die.

A woman needs plenty of time to rest and recover between pregnancies to prevent hemorrhage in the first place. Once a women is pregnant, a healthcare provider can help deal with complications, including bleeding.

Infections are caused by germs that affect the human body. All of us are exposed to germs in everyday life, but after giving birth, women are weaker and thus have less defenses against these germs. After childbirth, women are especially subject to infections where the baby comes out, since there is bleeding in this area, and the woman may have been exposed to unclean conditions during delivery. Infections can give high fever and pain, and can cause the death of the mother. Giving birth in a health facility can help prevent infections.

Women who may be weak, because they have a disease or they have recently had a child, are more exposed to the risk of infections.

Spacing children appropriately, especially if the woman is at higher risk, is important to protect the health of mother and child. Contraceptives(family planning services), like those pictured here, allow you and your wife to decide how many children to have, when you want to have them and how much spacing you desire.

Using contraceptives to plan for the health and well-being of your family is called family planning. There are at least three reasons to use family planning.

If someone does not want to have a child at all at one point in time, for example young people who aren't ready for children, then family planning can help this person to not have children at that point.

Second, if a couple wants to limit the size of their family, then family planning can help control how many children they have. For example, a couple with five children may feel that they do not want a sixth child and can use family planning.

Third, a couple that wants to space children or decide when it is the best time to have a child would also use family planning, such as the couple in this picture with a new baby."

Common section (FP)

"Let us now talk about what family planning options are available at Chipata/ Chaisa Clinic.

There are several family planning methods. We will discuss the methods that are available for you at the clinic. Because there are so many methods, a couple can choose the method they are more comfortable with and that better fits their needs. A nurse can help you make the decision about what is the best method for you and your wife.

Let me explain to you a little bit about how family planning works. Pregnancy occurs when a sperm from a man and an egg from a woman join.

Male and female condoms create a barrier that prevents a man's sperm from contacting his partner, which means the sperm cannot get to the egg. This barrier prevents the woman from becoming pregnant and also prevents the transmission of STIs when used each time you have sex. In order to work properly, a new condom must be used for each intercourse. On the chart here, you can see male and female condoms.

Medicinal methods such as the pill prevent a woman from producing an egg (which is called ovulating). As a result, she will not get pregnant as long as she continues to use these methods, when they are used properly. They do not interfere with the couple's sexual intercourse. On the chart here you can see several medicinal methods, such as pills, Jadelle, the loop, and MyChoic.

The longest term method is sterilization which permanently stops people from having children and is an option if you have completed your family. Women can be sterilized, which prevents eggs from coming to the uterus permanently, or men can be sterilized, which prevents sperm from fertilizing an egg.

There are also certain natural methods of birth control such as the Lactational Amenorrhea method , commonly known as LAM, when a woman breastfeeds her baby exclusively after giving birth .This means that her baby does not drink anything besides breast milk. The act of breastfeeding naturally changes a woman's hormones so that she does not become pregnant. Like any other contraceptive method LAM is only effective when used correctly and very few women who use LAM correctly get pregnant (1 out of 100). However, a large proportion of women who use this method in the first 6 months get pregnant if they don't practice it correctly (2 out of 100). This method works for six months after delivery only if a woman: - Does not substitute other foods for breast milk meal. - Feeds her baby at-least every four hours during the day and every six hours at night. - Has not had her period since delivery. Keep in mind that breastfeeding does not protect you from sexually transmitted diseases. And also keep in mind that this method can only be relied on for six months after delivery after which you should start using birth control. Because this method requires much commitment the clinics also offer alternative methods such as installing s loop right after delivery. Other methods can be used but only six weeks after delivery and oral contraceptives (except Microloot) can only be used six months after delivery.

Remember, condoms are the only method that prevents the spread of HIV and other STIs. To effectively prevent these diseases and unwanted pregnancy, you may want to use condoms together with another family planning method.

The reason some people like to use another method plus condoms is because condoms have to be used every time correctly in order to work. These other methods can be taken before you have sex so that you know you are protected.

Now I want to talk to you about a few things that you may have heard regarding family planning. First, you may have heard that family planning can cause health problems in women.

Some methods of family planning do have mild side effects, but overall they are safe and effective. Side effects can include dizziness, headache, breast tenderness, nausea, and heavier-than-usual or lighter-than-usual periods. In the experience of the nurses at the clinic, most of these side effects go away over time. Only for few women will the side effects continue and be bad enough for her to need to switch methods. By talking to a nurse about what method is right for you, you'll find one that won't make your wife feel badly. If your wife does experience some side effects, a nurse can advise her on how to manage them or on whether she should switch methods.

Some people say that if a couple uses family planning, the wife will never be able to have children again.

Except for sterilization, all methods of family planning are reversible. Many people use them and then go back to having children, like the woman in this picture, who has decided it's time for a baby. If you decide to stop family planning, your wife's fertility will return shortly after, at which point she will be able to get pregnant again.

Medicinal family planning works by stopping the egg from coming to the uterus. However, once your wife stops using family planning, the egg will travel to the uterus, and she can get pregnant as usual. Let me give you an example: You know that when your wife is pregnant, she cannot get pregnant again at the same time. This is because her body knows not to send another egg while one baby is already growing. And yet, after she gives birth, she can get pregnant once again. This is the same way family planning works.

You may have heard that women who use family planning are free to sleep with other men and will become promiscuous.

This is not true - there is no evidence to support the idea that women who seek family planning change morally or misbehave. Men who do not discuss family planning with their wives may have these suspicions.

A woman's faithfulness does not change because she is using family planning.

In fact, a couple can use family planning in order to have the family size that a woman can take care of well, so that she will not become overburdened. If a family is of a manageable size and does not occupy all her time and energy, she may even have more time for her husband. Look at the woman in this picture, who is happily spending time with her husband.

Family planning is about helping you and your wife better manage your family together.

It is your responsibility as a man to take care of your family.

If you like, you can talk to your wife about what we discussed today, about family planning and about how you can help her and protect her by using contraceptives.

You and your wife can go together to talk to a nurse about family planning. A nurse will be able to answer questions about all your doubts and can help you find the best way to protect the health of your wife. "

D Questionnaire Wording of the Main Variables

Table D1: Main Outcomes and Corresponding Questions in the Survey

Dependent Variables	Correponding Questions in the Survey
Living children	How many living biological children do you have in total? (from all marriages)
Ideal number of children	Currently, if it were entirely up to you, what is the ideal total number of children you would like to have? (from all marriages)
Likelihood of having another child (Likelihood Have More Kids)	Pick the point on the ladder that reflects how likely you think it is that... you will have another child?
Want another child (dummy)	If it were completely up to you, would you like to have another child within the next year, after one year or not at all? Answer "within one year/after one year"
Diff in ideal and current number of children	Difference in Ideal number of children and Living children
Fraction contrac. methods believed to be bad for health	To the best of your knowledge, to what extent do you think these contraceptive methods are bad for a woman's health? a) Pill b) IUD c) Implants d) Injectables e) Female condom f) Male condom g) Female sterilization h) Male sterilization The fraction of answering "Very bad/Somewhat bad" for any of the method.
Fraction contrac. methods believed to lower fecundity	To what extent do you think these contraceptives decrease the ability of a woman to become pregnant once she wants to stop using them? a) Pill b) IUD c) Implants d) Injectables e) Female condom f) Male condom g) Female sterilization h) Male sterilization The fraction of answering "Somewhat/Very Much" for any of the method.
Agrees that contrac. help women be unfaithful	(Do you agree or disagree with the statement...) It's easier for a woman who uses contraceptives to be unfaithful to her husband.

Ideal space between children (m)	How much space is ideal to have between children? (month)
Months woman should give body to recover post-birthing (Months to recover)	How long do you feel it takes to recover before it is safe to become pregnant again? (if any time at all is needed)
Older women at higher risk of complications (Correct on age)	Imagine two women in your community, with the same physical and mental health that you have. They have the same number of children. Their last delivery was more than two years ago. Both are pregnant. The first is 40 years old. The second is 20. Everything else about them is the same. Which one do you think faces a bigger risk of dying from childbirth? Answer "The 40 year old".
Women with more kids at higher risk of complications (Correct on parity)	Imagine two woman in your community, with the same physical and mental health, the same age that you have . Their last delivery was more than two years ago. One had 6 children already. The other pregnant woman has had 2 children. They are currently pregnant. Everything else about them is the same. Which one do you think faces a bigger risk of complications in her pregnancy? Answer "The woman with 6 children".
Likelihood of complications if woman is younger than 40 (Younger than 40 scale)	Imagine a woman in your community, with the same physical and mental health that you have. She has 2 children. Her last delivery was more than two years ago. She is YOUNGER than 40. She is pregnant. Pick the point on the ladder that reflects how likely you think it is that... she would experience any complication?

Likelihood of complications if woman is older than 40 (Older than 40 scale)	Imagine a woman in your community, with the same physical and mental health that you have. She has 4 children. Her last delivery was more than two years ago. She is OLDER than 40. She is pregnant. Pick the point on the ladder that reflects how likely you think it is that... she would experience any complication?
Likelihood of complications if woman has less than 4 kids (Fewer than 4 kids scale)	Imagine a woman in your community, with the same physical and mental health, the same age that you have. Her last delivery was more than two years ago. She has LESS THAN 4 CHILDREN. She is pregnant. Pick the point on the ladder that reflects how likely you think it is that... she would experience any complication?
Likelihood of complications if woman has more than 4 kids (More than 4 kids scale)	Imagine a woman in your community, with the same physical and mental health, the same age that you have. Her last delivery was more than two years ago. She has MORE THAN 4 CHILDREN. She is pregnant. Pick the point on the ladder that reflects how likely you think it is that... she would experience any complication?
Likelihood of complications if woman gets pregnant 24 months after delivery (2-yrs. spacing scale)	Imagine a woman in your community, with the same physical and mental health, the same age and the same number of children that your wife has. She just delivered and got pregnant AFTER 24 MONTHS. Pick the point on the ladder that reflects how likely you think it is that... she would experience any complication?
Likelihood of complications if woman gets pregnant 12 months after delivery	Imagine a woman in your community, with the same physical and mental health, the same age and the same number of children that your wife has. She just delivered and got pregnant AFTER 12 MONTHS. Pick the point on the ladder that reflects how likely you think it is that... she would experience any complication?

Likelihood of complications if woman gets immediately pregnant (No spacing scale)	Imagine a woman in your community, with the same physical and mental health, the same age and the same number of children that you have. She just delivered and IMMEDIATELY got pregnant. Pick the point on the ladder that reflects how likely you think it is that... she would experience any complication?
Reports that infidelity increases risk of complications	What factors make women more at risk for complications during pregnancy and childbirth? Answer "Infidelity".
Relative infidelity weight (Infidelity weight)	Here on these cards are 3 possible factors from the previous question. Here are 30 buttons. Please divide these buttons between the cards according to how important each factor is in making women more at risk for complications during pregnancy and childbirth. a) Infidelity b) Overall health c) Not going for checkups or not delivering with a skilled birth assistant. The percentage of "Indidelity".
Past maternal and birth complications or difficulties	Have you/your wife ever experienced any complications or difficulty during pregnancy or childbirth?
Past maternal complications or difficulties	Have experienced maternal complications or difficulties.
Immediate family member died from complications	Have any of the following people experienced a complication (C), or died (D) during pregnancy or childbirth? a) Immediate family (mother, sister) b) Close relative (cousin, aunt, sister-in-law) c) Wife of close friend or close neighbor d) Distant friend or acquaintence Answer "Immediate family (mother, sister)".

Close relative died from complications	Have any of the following people experienced a complication (C), or died (D) during pregnancy or childbirth? a) Immediate family (mother, sister) b) Close relative (cousin, aunt, sister-in-law) c) Wife of close friend or close neighbor d) Distant friend or acquaintence Answer "Close relative (cousin, aunt, sister-in-law)".
Close friend died from complications	Have any of the following people experienced a complication (C), or died (D) during pregnancy or childbirth? a) Immediate family (mother, sister) b) Close relative (cousin, aunt, sister-in-law) c) Wife of close friend or close neighbor d) Distant friend or acquaintence Answer "Wife of close friend or close neighbor".
Distant friend died from complications	Have any of the following people experienced a complication (C), or died (D) during pregnancy or childbirth? a) Immediate family (mother, sister) b) Close relative (cousin, aunt, sister-in-law) c) Wife of close friend or close neighbor d) Distant friend or acquaintence Answer "Distant friend or acquaintence".
Communicated info about future possibility of complications	Have you/your wife ever conveyed any information about the possibility of complication in giving birth to your husband/you ?
Wife: Currently Pregnant	Are you currently pregnant?
Wife: Became Pregnant Post-Int.	Currently pregnant or gave birth at least 8 months after intervention (dummy)
Wife: Birth Spacing (mo)	Spacing between intervention and getting pregnant
Husband: WTP for voucher	Husband's Willingness To Pay for voucher

Wife: Using any contrac.	Have you ever used any of the following contraceptives? a) Pill b) IUD c) Implant d) Injectables e) Male condoms f) Female condoms g) Male sterilization h) Female sterilization i) LAM j) Rhythm/natural k) Withdrawal l) Others Answer "using it now" for any of the contraceptives.
Wife: Using modern contrac.	Have you ever used any of the following contraceptives? a) Pill b) IUD c) Implant d) Injectables e) Male condoms f) Female condoms g) Male sterilization h) Female sterilization i) LAM j) Rhythm/natural k) Withdrawal l) Others Answer "using it now" for any of the modern contraceptives (Pill, IUD, Implant, Injectables, Male condoms, Female condoms, Male sterilization and Female sterilization).
Wife: Consistently using any contrac. for contrac. users	When did you last use this method (ask only for the method currently being used)? Answer "using pills within last 6 days/currently wearing IUD/currently wearing Implants/taking Injections within 13 week/using Female condom within 30 days/using Male condom within 30 days".
Wife: Using trad. contrac.	Have you ever used any of the following contraceptives? a) Pill b) IUD c) Implant d) Injectables e) Male condoms f) Female condoms g) Male sterilization h) Female sterilization i) LAM j) Rhythm/natural k) Withdrawal l) Others Answer "using it now" for any of the traditional contraceptives (LAM, Rhythm/natural and Withdrawal).
Wife: Uses contrac. while partner unaware	Partner Ever Unaware you were using this method? Answer "yes" for pill/IUD/ Injectables/Female sterilization.

Wants More Kids	If it were completely up to you would you want to have another child?
Wants Ano. Kid in $<$ 2yrs	Do you want to have a child in less than 2 years or more than 2 years?
Believes Spouse Wants Ano. Kid	To the best of your knowledge, if it were completely up to her/him, would your partner want to have another child?
Believes Spouse Wants More Than Self	To the best of your knowledge, currently what is the ideal total number of children your husband would like to have? Currently, if it were entirely up to you, what is the ideal total number of children you would like to have? (from all marriages)
Believes Spouse Wants Less Than Self	To the best of your knowledge, currently what is the ideal total number of children your husband would like to have? Currently, if it were entirely up to you, what is the ideal total number of children you would like to have? (from all marriages)
Sex frequency past week	In the past seven days, how many times have you had sex with your husband?
Any sex	*Sex frequency past week* is greater than 0.
Times using contrac. past week	On how many of those times did you use birth control with your husband?
Proportion using contrac. past week	*Times using contrac. past week/ Sex frequency past week*
Unsafe Sex	A dummy equals 1 if there existed unprotected sex during past week

Comm. MM risk to partner	Have you ever conveyed any information about the possibility of complication in giving birth to your husband/wife ?
Partner comm. MM risk	Has your husband/wife ever conveyed to you any information about the possibility of complications in giving birth?
Agreement on contrac. Use	Do you and your husband/wife agree on whether to use contraceptives?
Tried Convince Partner Use contrac.	Did you ever attempt to convince your husband/wife to use contraceptives in your marriage?
Partner Changed Resp's Mind contrac. using	Did your husband/wife manage to change your mind and convince you to use contraceptives in your marriage?
Partner Tried to Convince Resp Use contrac.	Did your husband/wife ever attempt to convince you to use contraceptives in your marriage?
Any of the 3 Risk Factors	What factors make women more at risk for complications during pregnancy and childbirth? Answer any of Adv. Age/High Parity/Low Spacing as risk factor.
Wife comp. likelihood	Pick the point on the ladder that reflects how likely you think it is that... your wife would experience any complication, if she got pregnant right now?
Gifts to wife past month (dummy)	Have you given your wife any gifts in the past month?
Value of gifts last month	What would you say is the monetary value of the gifts you have given her in the past month?
Hit wife last month (freq.)	How many times have you been physically violent toward your wife in the last month?
Contrac. causes infidelity	(Do you agree or disagree with the statement...) It's easier for a woman who uses contraceptives to be unfaithful to her husband. Answer "Agree" or "Strongly agree".

Contrac.helps women decide no. of children by herself	(Do you agree or disagree with the statement...) A woman who uses contraceptives can decide how many children she can have without listening to her husband. Answer "Agree" or "Strongly agree".
Pills are bad for health	(Do you agree or disagree with the statement...) Being on the pill is bad for women's health. Answer "Agree" or "Strongly agree".
Happy with marriage	How happy are you with your marriage?
Satisfied with sex life	How happy are you with your sexual life in your marriage?
Satisfied with life	All things considered, how satisfied are you with your life as a whole these days?
Family Planing Causes Infidelity	What concerns do you have about family planning, if any? Answer "Causes infidelity".
Contrac. use leads to Infidelity	(Do you agree or disagree with the statement...) It's easier for a woman who uses contraceptives to be unfaithful to her husband.
Should confess Lover's name to avoid comp	(Do you agree or disagree with the statement...) In my community, women who have been unfaithful to their husband confess their lovers' names before delivering to avoid complications
Should not look at child/blood to avoid comp	(Do you agree or disagree with the statement...) In my community, women who have been unfaithful to their husband do not look at her child or at their blood when delivering
Infidelity increases risk of complications	What factors make women more at risk for complications during pregnancy and childbirth? Answer "Infidelity".

Agrees with superstition	(Do you agree or disagree with the statement...) Women who are unfaithful to their husbands are more likely to die at childbirth.
Infidelity index	Constructed from the answer of folowing questions: a) What concerns do you have about family planning, if any? Answer "Causes infidelity". b) (Do you agree or disagree with the statement...) It's easier for a woman who uses contraceptives to be unfaithful to her husband. c) (Do you agree or disagree with the statement...) In my community, women who have been unfaithful to their husband confess their lovers' names before delivering to avoid complications d) (Do you agree or disagree with the statement...) In my community, women who have been unfaithful to their husband do not look at her child or at their blood when delivering e) (Do you agree or disagree with the statement...) Women who are unfaithful to their husbands are more likely to die at childbirth. f) What factors make women more at risk for complications during pregnancy and childbirth? Answer "Infidelity".