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Association between tribal status and spacing contraceptive use in rural Maharashtra, India

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Abstract

This study examines associations between tribal status and spacing contraception use (SCU) in rural Maharashtra, India. Cross-sectional analyses were conducted on baseline survey data from non-sterilized married couples (n=867) participating in the CHARM family planning evaluation study. Participants were aged 18-30 years and 67.6% tribal; 27.7% reported current SCU. Crude regression analyses indicated tribals were less likely to use contraception (AOR=0.04, 95% CI=0.29, 0.54); the association was lost after adjusting for education, higher parity and desire for pregnancy, factors associated with tribal status. Findings suggest that lower SCU among tribals is driven by social vulnerabilities and higher fertility preferences.

Keywords

Contraceptive use; tribal population; Maharashtra; rural India

Introduction

Although the majority (66%) of rural women in Maharashtra, India has adopted contraceptive use, only 5% report ever use of spacing contraception [1]. Couples in tribal communities report some of the lowest rates of contraceptive use in India and appear to have

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an increasing fertility rate, where India as a whole maintained a steady decline in fertility [1]. Younger age at marriage, lower education, higher fertility norms and son preference have been cited as reasons for low spacing contraception use (SCU) among tribals, but low access to contraceptive knowledge and services is viewed as the primary cause [2]. Prior research, however, has not assessed these factors in rural contexts where contraceptive access is higher, such as in rural Maharashtra [1]. Understanding what impedes spacing contraceptive use (SCU) in Maharashtra may offer insight that may be relevant to the country as a whole, as contraceptive access and service delivery improves. The purpose of this study is to understand associations between tribal status and SCU among couples in rural Maharashtra.

Methods

This study involved analysis of cross-sectional baseline data from couples in a family planning evaluation study in rural India (known as the CHARM study). Participants were married men aged 18-30 years and their wives, recruited from rural areas of Maharashtra, India. Between March and December 2012, trained research staff approached households with age-eligible married men residing with their wives, as indicated by public health center household listings, and assessed couples' interest in participating in the study. Those indicating interest provided written informed consent and were screened by sex-matched research staff. Eligibility criteria included husband's age, no sterilization or infertility indicated (i.e., trying to have a child for more than two years), and no intent to move in the next 18 months. Out of 1881 couples screened; 1143 were eligible (60.8% eligibility rate), and 1081 couples participated (94.6% participation rate). Current analyses were restricted to n=867 baseline couples who did not report pregnancy, given the outcome of SCU. No monetary incentive was provided. All study procedures were approved by the Institutional Review Boards at the University of California San Diego, the Population Council, and the National Institute for Research on Reproductive Health.

Measures

Single item measures taken from the National Family Health Survey-3, India's Demographic and Health Survey [1], were used to assess the primary exposure variable of tribal status, and the outcome behavior, current SCU (including modern and traditional methods), as well as all covariates. Sociodemographic covariates included male and female age and education, female age at marriage, marital duration, household income (dichotomized as <5000 INR or 5000+ INR per month; 5000 INR=US$100), and number of male and female children. Fertility preference covariates included desire to become pregnant at time of baseline survey, ideal number of children and son preference, the latter based on reporting a desire for more sons than daughters. Women's survey responses were used for all measures except men's age and education, as well as the household income variable, which was expected to be more valid for male respondents as they were the predominant earners.

Data analyses

Chi-square and t-test analyses assessed associations between tribal status and all other variables. Unadjusted and adjusted logistic regression analyses assessed associations

between tribal status and current use of spacing contraception. An adjusted model was constructed for the full sample, using only those covariates with $p<0.1$ being retained in the model. We checked for multicollinearity by creating and examining a correlation matrix to ensure that all correlations between variables in the model were <0.7. No highly correlated factors were identified. We also conducted a test of variation inflation factor (VIF) and found it to be below 10, indicating that multicollinearity was not an issue [4].

Results

Participants (n=867) were 67.6% tribal. The minority (40.1%) had ever used contraception, and 27.7% currently used contraception (10.8% pill, 13.3% condom, 2.0% IUD, 1.6% withdrawal or rhythm). Chi-square analyses indicated that tribal relative to non-tribal couples were less educated, poorer, indicated girl child marriage, had and wanted a greater number of children, were less likely to use contraception, and were more likely to report son preference. They were also more likely to have 2+ daughters (16.4%) than 2+ sons (7.5%). Among non-tribal couples, 5.0% had 2+ sons, and 8.9% had 2+ daughters.

The association between tribal status and SCU was significant in the crude but not the adjusted model. [See Table 1.] Covariates retained in the adjusted model were female age, male and female education, parity, and pregnancy desire. Exploratory stratified models were constructed to determine if covariates associated with spacing contraception differed by tribal status. Among tribal couples, SCU was associated with husbands being older (AOR=1.08; 95% CI=1.00, 1.17), male education (AOR=1.11, 1.04, 1.19), female education (AOR=1.10, 95% CI=1.04, 1.17), having more girls (AOR=1.27, 95% CI=0.99, 1.65), and women not wanting to become pregnant (AOR=0.27; 95% CI=0.11, 0.66). Among nontribals, SCU was associated with women's age 1.15 (1.03, 1.29), her education (AOR=1.12; 95% CI=1.03, 1.22), and her desire to become pregnant (AOR=0.11; 95% CI=0.03, 0.33).

Discussion

As seen in prior studies [2-3], current findings indicate that tribal participants are less likely than non-tribals to use spacing contraception. This association may be attributable to greater social vulnerabilities for tribals versus non-tribals (e.g., younger age of wife, lesser education of the couples) as well as higher fertility norms, as the association between tribal status and SCU is lost after adjusting for these factors. Further, for tribals but not non-tribals, higher girl child parity is associated with contraception use; correspondingly, son preference is higher among tribals. Modern contraception use is still perceived as unfeasible as privacy in family settings do not allow for sereptious use among tribal communities. Changing social norms provides the opportunity for contraceptive uptake earlier in life for the purpose of delaying child birth and spacing between children [5]. These results suggest that efforts to improve SCU for tribals will require supporting social equity issues (e.g., education), fertility (social) norms, and gender issues (son preference). Findings must be considered in light of certain limitations, including reliance on self-report measures and limited generalizability. Nonetheless, these findings support the need for targeted family planning education for tribal communities, with focus on the value of the girl child.

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Highlights

- Associations between tribal status and spacing contraception use in rural India were tested
- Crude regression analyses indicated tribals were less likely to use spacing contraception
- Tribals' lower SCU is driven by social vulnerabilities and fertility preferences

Table 1

Sample characteristics and regression analyses to assess associations between sample characteristics and current contraception use for rural young couples in Thane District, Maharashtra, India (N=867)

	Total Sample (N=867) % (n) or Mean (SD, range)	**Current Contraceptive Use (n=240) % (n) or Mean (SD, range)**	**No Current Contraceptive Use (n=627) % (n) or Mean (SD, range)**	**OR (95% CI)**	**Reduced Model AOR (95% CI)**
Tribal	67.6 (586)	47.5 (114)	73.4 (460)	0.40 (0.29,0.54)	
Man's Age (in years)*	26.2 (2.68; 18-30)	26.9 (2.38, 20-30)	25.9 (2.73; 18-30)	1.15 (1.08, 1.21)	
Woman's Age (in years)	22.6 (2.47; 18-30)	23.0 (2.31, 18-29)	22.4 (2.50; 18-30)	1.12 (1.06, 1.19)	1.06 (0.98, 1.15)
Woman's Age at Marriage <18 years	31.1 (270)	25.8% (62)	33.2 (208)	0.70 (0.50, 0.97)	
Marital Duration (in years)	3.9 (2.64; 0-14)	4.0 (2.26; 0-12)	3.9 (2.77; 0-14)	1.00 (0.95, 1.06)	
Man's Education (in years)*	7.3 (3.71; 0-17)	8.7 (3.25; 0-17)	6.8 (3.74; 0-17)	1.17 (1.12, 1.22)	1.10 (1.03, 1.16)
Woman's Education (in years)	6.5 (4.20; 0-17)	8.2 (3.95; 0-17)	5.8 (4.1; 0-18)	1.16 (1.11, 1.20)	1.14 (1.08, 1.19)
Household Income<5000 INR*	48.6 (421)	40.0 (96)	51.8 (325)	0.62 (0.45, 0.83)	
Number of male children^				1.13 (0.89, 1.42)	1.33 (0.97, 1.81)
0	52.2 (453)	48.3 (116)	53.7 9337)		
1	41.1 (356)	45.0 (108)	39.6 (248)		
2	6.3 (55)	6.7 (16)	6.2 (39)		
3	0.3(.3)	0 (0)	0.5 (3)		
4+	0 (0)	0 (0)	0 (0)		
Number of girl children^				1.11 (0.92, 1.33)	1.30 (1.00, 1.68)
0	49.5 (429)	42.9 (103)	52.0 (326)		
1	36.4 (310)	42.5 (102)	34.1 (214)		
2	11.0 (93)	12.9 (31);	10.2 (64)		
3	2.8 (24)	1.7 (4)	3.2 (64)		
4+	0.3 (3)	0 (0)	0.5 (3)		

	Total Sample (N=867) % (n) or Mean (SD, range)	Current Contraceptive Use (n=240) % (n) or Mean (SD, range)	No Current Contraceptive Use (n=627) % (n) or Mean (SD, range)	OR (95% CI)	Reduced Model AOR (95% CI)
Ideal Number of Children^				0.46 (0.31, 0.69)	
1	6.7 (58)	12.5 (30)	4.5 (28)		
2	83.9 (727)	81.7 (196)	84.7 (531)		
3	9.1 (79)	5.0 (12)	10.7 (67)		
4+	0.3 (3)	0.8 (2)	0.2 (1)		
Want to become Pregnant (soon/now)	14.6 (127)	4.2 (10)	18.7 (117)	0.19 (0.09, 0.37)	0.21 (0.10, 0.43)
Son Preference	9.6 (84)	8.3 (20)	10.0 (64)	1.25 (0.74, 2.11)	

*Indicator based on men's reporting.

^Variables were left continuous in the model but displayed with 4+ for proportions presented.