Evaluation of a multi-pronged strategy to improve young women's access to reproductive health services, including abortion, in Jharkhand, India

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Introduction: In India, young women (age 15-24 years) account for approximately 19 percent of the total female population.[1] These women, particularly those living in rural areas, are at high risk for negative sexual and reproductive health (SRH) outcomes-recent data suggest that women 15-24 years account for 45% of total maternal deaths in India.[2] Early marriage, combined with lack of SRH knowledge, few trusted sources of SRH information, and limited agency to negotiate sexual encounters, contribute to early and unprotected sex for youth.[3,4] Despite multiple Indian policies aimed at delaying marriage,[5-8] women continue to marry young-in a nationally representative sample of women 20-24 years, nearly half (47%) reported marrying before the legal age of 18.[9] Given the additional social pressure of proving fertility, it is perhaps not surprising that 30% of women in India give birth before age 18, and 53% do so by age 20.[9] Although evidence regarding unintended pregnancies and abortion among youth is limited in India, national data report that nearly 20% of live births were unplanned and community-based studies indicate that as much as 41% of all abortions were among young women. [9,10] Unsafe abortion accounts for 8-10% of all maternal deaths;[2] given young women's tendency to approach unskilled and illegal abortion providers, to seek abortion care later in pregnancy, and to delay seeking care for abortion-related complications, the proportion of maternal death due to unsafe abortion is likely higher in young women. [11-14] Globally, adolescent girls (10-19) in developing countries undergo 2.2 to 4 million unsafe abortions every year, account for 70 percent of all hospitalizations from unsafe abortion and suffer approximately 46% of unsafe abortion related deaths every year.[15,16]

Young women continue to lack SRH, and particularly abortion, knowledge. Communication campaigns intended to address reproductive health issues often fail to include information about unsafe abortion, or do not reach young women.[17] Additionally, Indian youth may lack sources of SRH information; a recent assessment in Bihar and Jharkhand revealed that youth are apprehensive and unlikely to discuss sensitive SRH issues, including abortion, with older counterparts who are perceived to have, and often demonstrate, stigmatizing attitudes about youth sexuality.[18]

Agency, defined as the ability to exercise strategic life choices through personal competence to exert influence over life matters including personal health and self-efficacy (young woman's confidence and ability to negotiate with elders, peers, spouse and medical doctors, including expressing opinions, discussing her reproductive health choices, and negotiating sex), directly influence young people's sexual and reproductive lives.[18-20] Agency and self-efficacy enable youth to exercise their preference in the timing of marriage and choice of partner, to make health-related decisions, to access health services and to decide whether and when to engage in sexual relations and contraception.[21]

Youth-focused interventions are an important way to address the SRH information and service delivery needs of young women. We present an evaluation of a youth-focused BCC campaign designed to increase young, rural women's knowledge about SRH issues, contraception and safe abortion.

Research Design and Methods

Study design and eligibility criteria: The purpose of the study was to evaluate a multi-pronged intervention in rural Jharkhand that aimed to increase awareness about and access to youth-friendly reproductive health services, including abortion. We conducted a quasi-experimental panel design with replacement at 12 months post intervention. Using two stage systematic random sampling, the pre-intervention and post-intervention household surveys were conducted among women age 15-24 in two intervention (Deogarh and Bagodar)and two control blocks in the state of Jharkhand. Women were interviewed by trained interviewers using a semi-

structured and bilingual (English & Hindi) questionnaire that was pretested before implementation. Two ethical review boards, Center for Media Studies in India and Allendale IRB in the US, approved the protocol before study initiation.

Scope of the Intervention: The intervention included three primary strategies: (1) building youth capacity; (2) reaching out to young women in the intervention area with information on availability of youth-friendly reproductive health services, including abortion; and (3) sensitizing providers to offering youth-friendly reproductive health services.

Analysis: Sociodemographic characteristics and reproductive health history is presented with percentages by intervention group and marital status, at baseline and endline. Exposure to SRH messages and sources of information are described for all groups. Key outcomes include knowledge of the legality of abortion, knowledge about sources for CAC services, knowledge of abortion legality, receiving messages on SRH issues, receiving messages on safe abortion services, and using SRH services at a public sector facility. Difference-in-difference models are presented to assess the impact of the intervention over time, adjusting for selected sociodemographic characteristics.

Preliminary Findings: Baseline and end-line respondents of intervention and controls are very similar in terms of socio-demographic profile and reproductive health histories (Table 1). Reporting on induced abortion increased from 3% to 7% among young women married women at intervention areas. This probably has happened because of improved awareness and reduced stigma on abortion-related issues.

The SRH intervention successfully reached women in the intervention areas, particularly unmarried young women (Table 2). Exposure to messages on abortion-related issues increased significantly in both intervention and comparison areas. More than 85% of young women from the intervention community reported receiving some information on abortion. IPC was overwhelmingly reported as the main source of exposure to information abortion for unmarried and married young women at intervention area, while in the comparison area young women received information through informal channels like friends and family members. Many young women at intervention areas spontaneously recalled legal gestation, conditions under which abortion are legal, and public sector health facilities a source of abortion services. Young women at comparison sites overwhelmingly reported about sex selection and possibility of pregnancy termination through drugs (tablets). For more general SRH issues, married youth recalled receiving information on contraception, while unmarried women overwhelmingly recalled information on menstrual hygiene, legal age at marriage, and contraceptive methods; these trends were similar in both intervention and control areas (data not shown).

Additional analysis will explore SRH knowledge (sex and pregnancy, contraception and methods, and legal aspects of safe abortion), contraceptive use among young married women, use of SRH services, and incidence of induced abortion.

DiD models adjusted for women's age, education, caste, religion, family type, wealth index and exposure to mass media for each outcome are presented in Table 3. The multi-pronged intervention was associated with knowledge on legality of abortion (AOR=5.1; 95% CI=1.7 – 16.5), knowledge about where to go for CAC services (AOR=1.9; 95% CI=1.3 – 2.8), knowledge of abortion legality (AOR=9.4; 95% CI=2.5 – 34.8), receiving messages on SRH (AOR=14.2; 95% CI=9.0 – 22.3), and receiving messages on safe abortion issues (AOR=8.3; 95% CI=5.0 – 13.7). There was no association between the intervention and use of SRH services in public sector facilities (AOR=1.0; 95% CI=0.6 – 1.6).

Discussion: Our results indicate that the multi-pronged intervention was successful in reaching young women and was associated with increased knowledge on key outcomes, especially related to abortion. However no impact was observed on use of SRH services at public sector facilities, possibly because the intervention follow-up period

was short. Multi-pronged BCC interventions can improve young women's SRH knowledge, especially on abortion, even in rural Jharkhand.

Table 1: Socio-economic profile of young women at intervention and comparison areas during baseline and endline by marital status, Jharkhand

	Intervention				Comparison			
	Married		Unmarried		Married		Unmarried	
	BL (n=345)	EL (n=432)	BL (n=345)	EL (n=316)	BL n=345)	EL n=437)	BL (N=346)	EL (N=309)
Current age								
15-17 years	19%	7%	90	77	23	7	86	78
18-20 years	43%	30%	8	18	41	38	12	18
21-23 years	38%	63%	2	5	35	55	2	4
Average Age (SD)	19.5 (2.2)	21.3 (2.3)	15.9 (1.4)	17.0 (1.5)	19.4 (2.3)	21.0 (2.3)	16.0 (1.4)	16.9 (1.5)
Education								
Never Attended School	24%	23%	5	3	43	44	13	13
Primary (1-4 years)	17%	13%	4	5	20	14	12	8
Middle (5-9 years)	40%	48%	71	54	30	33	60	58
High School & Above	18%	17%	20	39	7	9	15	20
Average schooling (years)	7.0 (3.1)	7.2 (2.8)	8.2 (2.0)	8.9 (2.1)	5.9 (2.9)	6.6 (2.9)	7.3 (2.6)	7.8 (2.4)
Currently studying	6%	4%	77	70	4	3	57	53
Religion								
Hindu	87%	89%	88	92	59	54	49	50
Muslim	13%	9%	12	7	41	42	50	49
Other	0%	2%	0	1	0	4	1	1
Caste								
Scheduled Caste (SC)	11%	13%	13	16	17	16	12	9
Scheduled Tribe (ST)	4%	2%	5	6	4	4	5	6
Other Backward Class (OBC)	76%	80%	72	71	62	72	62	73
General	10%	6%	11	8	16	8	21	12
Type of Family								
Nuclear Family	18%	19%	46	47	25	28	48	49
Extended Family	82%	81%	54	53	76	72	52	51
Age at Marriage (years)	15.9	16.2	n/a	n/a	15.5	16.1	n/a	n/a
Work for cash /kind	16%	12%	9	4	13	13	9	4
Low Wealth Index	32%	34%	38	29	61	54	51	52
Ever Pregnant	83%	n/a	92%	n/a	81%	n/a	89%	n/a
Pregnant at the time of survey	17%	n/a	14%	n/a	20%	n/a	20%	n/a
Ever Induced Abortion	3%	n/a	7%	n/a	4%	n/a	5%	n/a

n/a = Not applicable, was not asked for unmarried women.

Table 2. Intervention exposure – proportion of married and unmarried young women reported receiving information on safe abortion issues by sources of information, frequency of exposure and message recall during baseline and endline at intervention and comparison areas

	Intervention				**Comparison**			
	Married		**Unmarried**		**Married**		**Unmarried**	
	BL (n=345)	**EL (n=432)**	**BL (n=345)**	**EL (n=316)**	**BL (n=345)**	**EL (n=437)**	**BL (n=346)**	**EL (n=309)**
Received messages on safe abortion								
Yes	10%	86%	4%	87%	10%	53%	4%	37%
No	90%	14%	96%	13%	90%	47%	96%	63%
Sources of information								
IPC / quiz show	0%	41%	0%	62%	0%	0%	0%	0%
Wall sign	0%	29%	<1%	37%	0%	0%	0%	<1%
Street Drama	0%	30%	0%	32%	0%	0%	0%	0%
Youth Mela	0%	4%	0%	13%	0%	0%	0%	0%
Health worker	4%	3%	<1%	2%	6%	3%	2%	<1%
Friends & family members	9%	28%	3%	15%	8%	52%	3%	35%
Mass media	<1%	<1%	<1%	2%	1%	1%	1%	4%
Messages recalled among respondents who received information on SRH	**(n=34)**	**(n=371)**	**(n=12)**	**(n=274)**	**(n=35)**	**(n=231)**	**(n=12)**	**(n=113)**
Abortion is legal India	0%	39%	0%	61%	0%	7%	8%	13%
Legal gestation of 20 weeks	0%	24%	0%	43%	3%	7%	0%	13%
Early abortion is safe	12%	59%	1%	43%	26%	27%	33%	12%
Abortion services are available at public sector facility	6%	41%	0%	46%	6%	26%	0%	29%
Abortion is allowed in case on contraceptive failure	0%	7%	8%	11%	6%	3%	0%	0%
Abortion is allowed in case on health hazards of pregnant women	29%	93%	8%	92%	14%	6%	25%	3%
Sex selection is illegal	6%	31%	33%	22%	3%	29%	92%	38%
Abortion can be performed by tablet / oral pills	82%	31%	42%	22%	71%	64%	67%	30%

Table 3. Adjusted odds ratios (and 95% confidence intervals) from difference-in-differences models evaluating the effectiveness of the intervention in improving knowledge and perceptions about SRH issues

Outcome	**AOR**	**95.0% C.I.**
Knowledge of legality of abortion	5.2	1.7-16.5
Knowledge of sources of CAC services	1.9	1.3-2.8
Knowledge of legality and source of services	9.4	2.5-34.8
Received messages on SRH issue in the past one year	14.2	9.0-22.3
Received messages on safe abortion issues	8.3	5.0-13.7
Availed SRH related services from public sector facilities	1.0	0.6-1.6

Notes: AOR is the odds ratio for the logistic regression model adjusted for women's age, education, caste, religion, family type, wealth index, and exposure to mass media.

References:

1. Census of India. C-13 Single year age returns by residence and sex. 2013; http://censusindia.gov.in.
2. Office of Register General India. Special Bulletin on Maternal Mortality in India 2007-09, Sample Registration System. June 2011 ed: Office of Register General, India; 2011.
3. International Institute for Population Sciences, Population Council. Youth in India: Situation and Needs 2006-2007. Mumbai: International Institute for Population Sciences; 2010.
4. National Institute of Medical Statistics, National AIDS Control Organization. *National Behavioural Surveillance Survey (BSS), 2006; Youth (15-24 Years).* New Delhi: NACO, Ministry of Health and Family Welfare, Government of India;2008.
5. Ministry of Health and Family Welfare. *National Population Policy 2000.* New Delhi: Government of India;2000.
6. Ministry of Youth Affairs and Sports. *National Youth Policy 2003.* New Delhi: Government of India;2003.
7. Ministry of Women and Child Development. *National Policy for the Empowerment of Women.* New Delhi: Government of India;2001.
8. Ministry of Law and Justice. Prohibition of Child Marriage Act, 2006. In: India Go, ed. *No 6 of 2007*. New Delhi: Government of India; 2007.
9. International Institute for Population Sciences, ORC Macro. National family health survey-3 India, 2005-2006. Mumbai: International Institute for Population Sciences; 2007.
10. Banerjee SK. *Social and demographic attributes of access to safe abortion: A cross section baseline survey in three slected districts of Madhya Pradesh.* New Delhi, India2013.
11. Banerjee SK, Andersen KL. Exploring the pathways of unsafe abortion in Madhya Pradesh, India. *Glob Public Health.* 2012;7(8):882-896.
12. Finer LB, Frohwirth LF, Dauphinee LA, Singh S, Moore AM. Timing of steps and reasons for delays in obtaining abortions in the United States. *Contraception.* Oct 2006;74(4):334-344.
13. Aras RY, Pai NP, Jain SG. Termination of pregnancy in adolescents. *J Postgrad Med.* Jul 1987;33(3):120-124.
14. World Health Organization, Commonwealth Medical Association Trust, UNICEF. Orientation Programme on Adolescent Health for Health-care Providers. Geneva, Switzerland: World Health Organization; 2006.
15. World Health Organization. *Unsafe abortion: global and regional estimates of incidence of unsafe abortion and associated mortality in 2000.* 2004.
16. Plan. *Because I am a Girl: The State of the World's Girls 2007.* London: Plan;2007.
17. Banerjee SK, Andersen K, Warvadekar J, Pearson E. Effectiveness of a Behavior Change Communication Intervention to Improve Knowledge and Perceptions About Abortion in Bihar and Jharkhand, India. *International Perspectives on Sexual and Reproductive Health.* 2013;39(3):142-151.
18. Banerjee SK, Andersen KL, Buchanan RM, Warvadekar J. Woman-centered research on access to safe abortion services and implications for behavioral change communication interventions: a cross-sectional study of women in Bihar and Jharkhand, India. *BMC Public Health.* 2012;12(1):175.
19. Kabeer N. *"Resources, Agency, Achievements: Reflections on the Measurement of Women's Empowerment" in Discussing Women's Empowerment – Theory and Practice.* Vol 3. Stockholm: NovumGrafiska AB; 2001.
20. Jejeebhoy SJ, Acharya R, Alexander M, Garda L, Kanade S. Measuring Agency among Unmarried Young Women and Men. *Economic & Political Weekly.* Vol XLV: Population Council; 2010.
21. Jejeebhoy SJ, Halli S. Marriage Patterns in Rural India: Influence of Sociocultural Context. In: Lloyd CB, Behrman JR, Stromquist NP, Cohen B, eds. *The Changing Transitions to Adulthood in Developing Countries*. Washington DC: The National Academic Press; 2005:172-199.