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Development of behaviour change communication model for improving male participation in maternal and child health services among Saharia Tribes in Gwalior district of Madhya Pradesh: a mixed method approach

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ABSTRACT

Background: Behaviour of men, their beliefs and attitudes affect the maternal health outcomes of women and their babies. The exclusion of men from maternal health care services could lead to few women seeking maternal health services. A study was conducted for development of a Behaviour change communication (BCC) model for improving the male participation in utilization of maternal and child health services among Saharia tribes of Gwalior district of Madhya Pradesh and to assess its feasibility.

Methods: Mixed method approach, both quantitative and qualitative, were used in the study. Couple interviews were conducted to assess the level of maternity care services utilization and level of male participation in maternity care. Focused Group Discussions (FGDs) and Key informants' Interviews (KIIs) were conducted to assess the community perspective and barriers of male participation. In the exploratory phase, there were couple interviews, key informant interviews and focus group discussions and data analysis, followed by development of a Behavior Change Communication (BCC). Feasibility of the model was assessed through three principles, i.e., acceptance, integration with the current programme and short term impact of BCC.

Results: Based on the findings of couple interviews, FGDs and KIIs, a BCC model was developed to improve the male involvement in maternal and child health and its feasibility was assessed.

Conclusions: The developed BCC model went successfully through the three principles of the feasibility and therefore it can be implemented in Saharias for improving the male participation in maternity care and for improving the utilization of maternity care services.

Keywords: Behaviour change communication model, MCH, Male involvement, Saharia Tribe

INTRODUCTION

Saharias, one of the primitive tribes of India, are mainly located in the Chambal division, i.e., Gwalior, Morena, Guna and Seopur, Shivpuri, Datia, Bind and Vidisha in Madhya Pradesh. Their total population is over 6 lac, and

is one of the poorest tribe. They are inhabited mostly in the North West part of the State.

Over the years, there has been a growing consensus among policy makers, programme personnel, researchers and health practitioners across the globe that male's

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involvement has been a key facilitating factor to women's reproductive health. Male involvement in reproductive health is a complex process of social and behavioral change that requires men to play more responsible role in reproductive health.² The role in reproduction health not only implies to contraceptive acceptance but also refers to the need of change in men's attitude and behavior towards women's health and to make them more supportive of women in using health care services and in sharing child bearing activities.3 Participation of men in reproductive health leads to better understanding between husband and wife.3 By giving women emotional and instrumental support, men can positively affect women's attitude towards pregnancy.4 During pregnancy and delivery men can give important psychological and emotional support to women.⁵

Studies found that male involvement has positive effect in women's utilization of reproductive health care services during pregnancy, delivery and in the postpartum period6, including enhanced maternal access to antenatal and postnatal services, increased utilization of adequate ANC and ANC during the first trimester. Hale partner participation in ANC is associated with an increase in the number of institutional deliveries. Several systemic reviews found that encouraging male involvement in ANC resulted into improved maternal health outcomes, including improved utilization of prenatal and postnatal care. 15,16

In India, male are often the primary decision makers regarding female's health care and hence information on male participation in ANC will be vital for enhancing safe motherhood programme in the country.

The study of Khairwar tribe of Madhya Pradesh shows that most of the male have insufficient knowledge about the type of services provided and the number of ANC visits in different trimester of pregnancy.¹⁷ Further they have an indifferent attitude towards it. Most of the deliveries are made at home. So this clearly shows male's negligible participation in antenatal care services among the tribe. A study of Saharia Tribes of Gwalior and Shivpuri districts of Madhya Pradesh showed that Saharias follow lot of socio-cultural rules and regulation. Despite incentives by the Government for hospital deliveries less than 20 percent females delivered their babies in the hospitals. ¹⁸ Majority of the deliveries were assisted by either Dai or the eldest female of the household. In an intervention study on Baiga Tribes of Dindori District of Madhya Pradesh, it was observed that there was a significant effect of the IEC materials on the awareness of ANC among the men.19 Furthermore, a study of District level household survey (DLHS-3) data analysis shows that the full ANC in Tribal districts of MP increases from 18.8 in general to 23 for spouse motivated mothers.20

Experimentation with many models and, in some cases, their replications has been done with the understanding

that the maternal and child health services would reach out to people who are residing in the tribal areas. Various government driven programs to enhance family planning use, prenatal and natal care, along with other publicprivate partnerships with massive and innovative intervention efforts had been launched in the state, but these did not bring a remarkable change in the reproductive and child health (RCH) situation, which still remains bleak.²⁰ Looking at the low level of maternity care services utilization and the importance of male participation in improving the utilization, a study was conducted with the objective to develop a community viable Behavior Change Communication model for improving the male participation in maternal and child health care services among Saharia tribes in Gwalior district of Madhya Pradesh and assess its feasibility study. To accomplish this task, we first assessed the level of maternal and child health care services and the male participation in maternal and child health care services through couple interviews. We also tried to assess the barriers of male participation using Focused Group Discussion (FGDs) and Key Informant Interviews (KIIs), and then developed a BCC model and tested its feasibility in the community.

This paper presents the brief findings of the exploratory phase and the overall methodology adopted to develop a community viable behavior change community model for improving the male participation in maternity care among Saharia tribes in Gwalior district of Madhya Pradesh and also test the feasibility of the BCC developed.

METHODS

In the present study, mixed method approach using both quantitative and qualitative methods of research were employed. Couple interviews as quantitative method were conducted to assess the level of maternity care services utilization, and level of male participation in maternity care. Under the qualitative method, Focused Group Discussions (FGDs) and Key informants' Interviews (KIIs) were conducted to assess the community perspective regarding the male participation in maternity care services and to understand the barriers of male participation. The study was conducted during the period from October 2016 to July 2018.

Coverage

There were 4 blocks in Gwalior district which were Saharia dominated. Two geographically well distinct blocks, viz, Baria-Ghategaon and Dabra were selected for the study.

Quantitative method - couple interviews

Sampling and sample size for couple interviews

Three villages from each of the selected blocks were selected by two stage stratified cluster random sampling

(Figure 1). More precisely, the villages (clusters) within a block were arranged according to their size and divided into 3 strata, stratified according to number of households in a village and one village from each of the three strata was selected randomly.

Within a selected village, a couple who met the inclusion criteria of being pregnant or had at least one child within the last 5 years preceding the survey was selected.

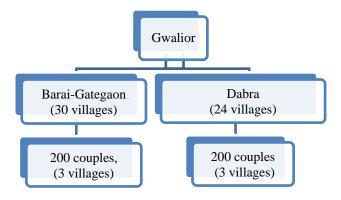


Figure 1: Sampling for couple interviews.

Selection criteria for couple interviews

In the selected village, all couples, where women was either pregnant or had at least one child of age less than or equal to 5 years on the day of interview were selected for the couple interview.

The sample size for the study was calculated using the experience of the DLHS data where the male involvement in RCH services utilization among pregnant women was around 22% using the below formula.

$$n = 4*p1q1/(p1*d)^2$$

Where, p1=prevalence of male involvement = 0.22, d=relative error = 25

The design effect to adjust for the cluster sampling design is taken as 1.5. Sample size comes out to be 340 couples. A total of 400 eligible couples were included in the study and were interviewed.

Study population for couple interviews

The study population comprises of all men of 18 years or above of age, who were married or had ever been married and fathered a child in the last five years preceding the study or whose spouses were pregnant and the wives of such selected men, who consent to participate were included in the study.

Complete enumeration of the households in the selected village was done for identifications of the eligible couples in the villages followed by couple interviews of the eligible couples (male and female interviewed separately).

For the purpose of collecting information, a structured questionnaire was administered on male and female selected for the HH survey, in isolation, to avoid influence by each other's responses.

Information collected was (a) Men: background characteristics, their involvement in maternity care, (b) Women: background characteristics, ANC utilization, male involvement/participation.

Assessment of male involvement from couple interviews

Level of male involvement was assessed from couple interviews. The couples were asked,

- (a) Whether, during the last pregnancy period, husband and wife planned together for antenatal care,
- (b) Whether husband attended at least one ANC visit with wife during the last pregnancy.
- (c) Whether husband was with wife during her labour pain in the health unit for the last delivery.
- (d) Whether husband made any fixed arrangement for place of delivery.
- (e) Made a joint decision on postnatal care services with wife for the last pregnancy.
- (f) Accompany wife to seek care in health unit within 6 weeks after delivery of the youngest child.
- (g) Who makes the final decision of where your wife should attend ANC.
- (h) Who makes the final decision of where your wife is to deliver.

Qualitative method - Focus Group Discussions (FGDs) and Key Informants Interviews (KIIs)

FGDs and KIIs were conducted to study the community prospective regarding male participation.

Focus group discussion

FGDs for males and females were carried out to obtain a community perspective and existing cultural norms on male involvement in maternal health services. FDGs of males and females were conducted separately. Four FGDs were conducted for married males and 4 FGDs for married females to get maximum variation on the perception on male involvement during maternity,

Key informants interviews

To obtain a perspective of the key persons in the society on existing cultural norms on male involvement in maternal health services, Key Informant Interviews (KIIs) were carried out. Two ASHAs, 2 for ANMs, 2 village heads, and 2 teachers were interviewed for this purpose.

Points of discussion for both FGDs and KIIs were

- (a) Knowledge level of ANC, danger signs of pregnancy, delivery & PNC, and immunization of mother and child,
- (b) Reasons for low male involvement in these RCH services utilization,
- (c) Socio-cultural barriers and facilitators of male involvement,
- (d) Suggestions for improving male involvement,
- (e) Suggestions for improving health facility delivery system.

Development of the BCC model

Based on the information generated through the findings of couple interviews, FGDs and KIIs, a BCC model was developed and its feasibility was tested.

Statistical analysis

Quantitative survey

To assess the level of ANC, delivery and PNC services utilization frequency distributions were obtained for two blocks separately and combined. The knowledge of husband regarding the maternity care services provided by the health system and the actual participation of husband in these maternity care services were assessed using the percentage distribution of the males in both the blocks separately and combined.

Qualitative information

The quantitative information which was gather through FGDs and KIIs, was limited in number. Only 8 FGDs and 8 KIIS were conducted to study the community perspective and existing cultural norms on male

involvement. The information gathered was analysed manually by grouping the information under different themes, viz, reasons for low level of male involvement in maternity care services and suggestion to improve it.

RESULTS

Quantitative findings

Key findings from couple interview

As the objective of this paper is to present the methodology adopted for development of the BCC model and testing its feasibility and the findings of the couple interviews, FGDs and KIIs were the part of the development phase of the BCC model, we are presenting here the key findings of the coupe interviews, FGDs and the KIIs.

Level of maternity care services utilization

Results (Table 1) show that in the study area only a few pregnant women visited the health center at least 3 times, had at least 2 TT injections and IFA tablets, got checked abdominal, got measured weight and blood pressure. About 3/5th of the pregnant women took more nutritious food than their normal diet. There were mostly home deliveries with the help of relative or friend. In a few home deliveries new blade or clean thread was used and were conducted on clean surface using clean hands. Only a few new born babies were kept warm to save them from hypothermia immediately after birth and were put to breastfeeding and baby weight could not be taken. Most of the children were immunized by BCG, DPT and OPV but a few was immunized for measles.

Table 1: Practice regarding ANC services-Wife's response (%).

Combined			Block		Carabinal
The image is a second of the image is a seco			Ghategaaon-Ba	rai Dabra	Combined
If Yes, How many visits 2 46.3 54.9 51.0 3 40.5 40.8 40.7 4 .8 .4 1 16.5 6.3 11.0 How many TT injections taken? 2 51.2 54.2 52.9	•	last	60.8	70.6	65.8
1 16.5 10.0 10.	16 \$7 11		12.4	4.2	8.0
3 40.5 40.8 40.7			46.3	54.9	51.0
How many TT injections taken? 1 16.5 6.3 11.0 2 51.2 54.2 52.9	If Yes, How many visits	3	40.5	40.8	40.7
How many TT injections taken? 2 51.2 54.2 52.9		4	.8		.4
•		1	16.5	6.3	11.0
3 32.2 39.4 36.1	How many TT injections taken?		51.2	54.2	52.9
			32.2	39.4	36.1
Abdominal check-up done. 81.0 90.8 86.3	Abdominal check-up done.		81.0	90.8	86.3
Weight measured. 87.6 73.2 79.8	Weight measured.		87.6	73.2	79.8
Blood pressure measured. 75.2 77.5 76.4	Blood pressure measured.		75.2	77.5	76.4
Iron and folic acid tablets given. 90.9 94.4 92.8	Iron and folic acid tablets given.		90.9	94.4	92.8
	Did you take more nutritious food during your pregnancy as compared to your usual diet		63.8	71.1	67.5
Delivery Services	ry Services				
Where did the Govt hospital 1.5	did the Govt hospital		1.5		0.
delivery take Health center 19.1 32.3	y take Health center		19.1	32.3	25

place ?	Dispensary				1.5
_	Private hospital		1.0		0.5
Private clinic			0.5		0.3
	Home Doctor		74.9	67.7	71.3
				0.7	0.4
If at home, who conducted the	ANM/Nurse/LHV	1.3	0.7	1.1	
	Trained dai	0.7		0.4	
	delivery?	Untrained dai	0.7		0.4
		Relative/friends	91.3	98.5	94.7
		Others	6.0		3.2
Care taken for a safe delivery? - Delivery on a clean surface		56.3	54.2	55.3	
	Using clean hands		52.8	49.8	51.3
	Using new blade.			41.3	35.5
	Using clean thread to tie cord		29.1	31.8	30.5
	Using a clean towel/cloth to dry the baby		29.6	39.8	34.8
			49.7	52.7	51.3
Using a separate clean cloth/towel to wrap the baby		43.2	53.7	48.5	
Immediately after delivery, Newborn Care - Baby kept warm to save it from hypothermia		95.0	97.5	96.3	
Clean Cord cutting	g to avoid infection		40.7	51.7	46.3
Breast fed immedi	ately after delivery		88.4	94.0	91.3
Post Natal Care					
PNC services prov	rided to mother and child	-Baby Weight after delivery	26.6	24.4	25.5
PNC checkup within 6 weeks of delivery		20.6	6.0	13.3	
Immunization of child		84.4	82.6	83.5	
BCG		84.4	82.1	83.3	
DPT		78.4	74.1	76.3	
OPV		87.9	94.0	91.0	
Measles			38.7	23.4	31.0

Level of male Involvement in ANC/PNC and in delivery arrangements

Most of the males in the study area were aware of the need of medical care during pregnancy, a few of them were also aware about ANC care, viz, TT injection, abdominal check-up, measurement of weight, blood pressure and distribution of IFA tablets (Table 2). The awareness about the extra nutrition requirement and possible complications during pregnancy was low. They were not aware of the benefits of institutional delivery and new born care. Most of them have awareness about immunization, but a few knew about post-natal care to be provided to the mother of the newly born child. As a result, a negligible number of males discussed about the place of ante natal care with their wife during their last pregnancy (Table 3). A very few females said that their husband discussed in advance regarding the place of antenatal care check-up and postnatal check-up and very few males accompanied their wife at least once to the health center for ANC checkup. For postnatal care checkup, very few husband accompanied their wives to the health center. The decision regarding ANC checkup was mostly self-decided or guided by the mother-in-law.

Place of delivery was mostly decided by either couple or by mother-in-law.

Qualitative findings

Key findings from the FGDs and the KIIs

Community perspective on male participation in Maternity care services

The study found that there were low level of male involvement due to the following reasons:

The males were in the habit of playing cards, alcoholism, working as migrant labourers, illiterate and feel shy to accompany females to health centre. The health centre workers were rude towards the pregnant females and accompanying family members and this prevented them from availing health services. As per government rules, monetary incentives for the institutional delivery is to be deposited directly in beneficiary's bank account. Due to lack of necessary supporting documents most of them had no bank account. Prevailing rampant corruption at the health centre and lack of transport facilities were other important reasons.

Table 2: Husband's knowledge regarding maternity care services (%).

			Ghategaon-Barai	Dabra	Combined
ANC Care Services					
	Yes		97.5	98	97.8
Do you know during pregnancy a female has to take certain medical care?	ANC visit		78.4	66.2	72.3
	TT Injection		34.7	18.9	26.8
	Abdominal c	nech-up	23.1	17.4	20.3
	Measuring W	eight	27.1	18.4	22.8
	Measuring blood pressure		17.6	16.4	17
	Give iron and folic tablets		29.1	18.4	23.8
How many times a	Once		0.5		0.3
pregnant woman	Twice		17.6	6	11.8
should visit the	Three and above		56.8	59.2	58
ANC centre ?	Don't Know		25.1	34.8	30
A woman should intal	ke more nutrition	ous food during her pregnancy.	43.7	67.2	55.5
	Swelling of h	ands and feet	9	6.5	7.8
	Difficulty in	breathing	4.5	1	2.8
	High fever		18.1	2	10
XX71 . 11 . 1.1	Dizziness/los	s of consciousness	15.1	6	10.5
What all problems can occur during the	Bleeding		10.1	3	6.5
pregnancy?	Convulsions		2	2	2
pregnancy:	Weak or no n	novement of foetus	4	2	3
	Severe abdon	ninal pain	21.1	7	14
	Severe heada	che	16.6	3	9.8
	Others		2	1.5	1.8
Delivery Services					
	Govt hospital		2.5	0.5	1.5
	Health center		41.2	65.7	53.5
T 1 11 1	Dispensary		12.1	0.5	6.3
Ideally, where should a delivery	Private hospital		3.5		1.8
take place?	Private clinic			0.5	0.3
take place !	Home		40.7	32.8	36.8
	By Whom	Relatives/Friends	39.7	32.8	36.3
	by whom	Others	1		0.5
	Delivery on C	Clean Surface	9	2	5.5
D : 11:	Using clean hands		9.5	2	5.8
During delivery	Using new blade		7	2	4.5
what all care has to be taken for a safe delivery?	Clean thread to tie cord		5	1.5	3.3
	Keeping cord clean		3.5	2	2.8
	Using a clean towel/cloth to dry the baby		7	2	4.5
	Using a separate clean cloth/towel to wrap the baby		6	2	4
Immediately after Delivery, Newborn	Baby to be k	ept warm to save it from hypothermia	20.1	2.5	11.3
	Clean cord cutting to avoid infection		13.1	1.5	7.3
Care	Breast feeding immediately		20.6	2.5	11.5
Post Natal Care					
		after delivery	28.1	12.9	20.5
	PNC check-up within 6 weeks of delivery		23.1	7.5	15.3
What all facilities	Immunization of child		76.9	96.5	86.8
are provided post –	BCC		66.3	88.6	77.5
delivery	DPT		61.3	83.1	72.3
	OPV		75.4	96	85.8
	Measles		41.7	74.6	58.3

Table 3: Male involvement outcomes-Wife's response (%).

		Block		
		Ghategaon- Barai	Dabra	Combined
During last pregnancy - Did your husband discuss with you regarding place of ANC		19.1	2.0	10.5
During last delivery, did he accompanied you to the health centre		13.1	7.5	10.3
Did your husband make any arrange	69.3	31.8	50.5	
Did your husband took any decision, PNC	6.5		3.3	
Did your husband accompanied you to the health center for the PNC within 6 weeks (Yes)		11.6	2.5	7.0
	Husband	10.6	.5	5.5
Who takes the decision regarding the ANC-Wife's response	Both	46.2	22.4	34.3
	Mother in Law	22.1	36.3	29.3
	Self	5.5	2.5	4.0
Who takes the decision regarding the place of delivery - wife's response	Husband	11.6	3.5	7.5
	Both	58.3	44.3	51.3
	Mother in Law	24.6	49.8	37.3
	Yes	87.9	63.7	75.8
Does your husband take special	No	12.1	36.3	24.3
care of your health	Lack of travel facility	5.0		2.5
What is the main cause that stops	Long Queue at Health Center	2.0	.5	1.3
your husband from accompanying	Busy in earning livelihood	80.4	94.5	87.5
you for the ANC	Other reasons	12.6	5.0	8.8

Suggestions/advise

The community health workers should conduct regular meetings with the tribal people. There should be enhanced IEC activities viz, writing health messages on the village walls, Nukkad plays, improving mass awareness through educational programmes. Incentives for males should also be there, for those who accompany their wives for the ANC/PNC and institutional delivery. Necessary steps should be taken by the government to stop the menace of alcoholism and playing cards. Health facilities and employment opportunities should be created in nearby areas.

Development of behavioural change communication model

In light of low utilization of maternity care services, low level of male involvement, the barriers identified for low level of male participation and the suggestions emerged during FGDs and KIIs, a Behavior Change Communication model was planned for possible behavior change. It was a combination of efforts at all levels-individual, interpersonal network, community and societal. One village, viz, 'Mil ki Dafai' from Dabra block was selected for testing the feasibility of the model. Approximately twenty-five male members were registered for awareness training programme for taking their help in the conduct of the BCC planned activities. The following main activities were suggested in the model.

a) A two day awareness training programme for the male Saharia tribes was conducted by the Child Development Public Officer (CDPO) from Integrated Child development Services (ICDS).

On day 1, introduction about the programme was given to the Saharia males by the behavior change communication (BCC) expert. Their knowledge about the maternity services (ANC/PNC/Delivery and Immunization) was assessed by the investigator/Social workers. Detailed information, about maternal and child health care facilities, viz, antenatal care/postnatal care services, institutional delivery and child immunization was given to the Saharia males by the CDPO involved in the training programme. Role & responsibilities of husband towards RCH were explained by the BCC expert, Quiz and prize distribution was carried out by the project staff.

On day 2, detailed discussion on the maternal and child health care services provided by government was carried out by the BCC experts and CDPO. After two days, the improvement in the knowledge level of the registered males was again assessed.

- b) Community Mobilization through
- i) Campaign/Rallies with Adolescent Boys & Girls and participation of AWW, ASHA, Teacher.
- ii) Posters on Anganwadi/health center, school and village walls advocating for improving male participation in MCH services utilization.
- iii) Community meetings with Leaders & Influential members discussing about MCH, Role & Responsibility of Male. Women Group meeting (Pregnant & Lactating

Women) on the topics, MCH, Women Rights, Responsibility of Male.

- iv) Drama (Nukkad Nataks) by the members of the community, on the topic of male involvement in maternity care.
- v) Home Visiting- Face to face Counselling, Quiz etc.

Monitoring of BCC activities by the project staff was carried out every week for one month.

Feasibility study of the BCC Model

After conduct of the BCC intervention in the selected village for a month, the feasibility aspect of the BCC was assessed using the three principles of feasibility, i.e., acceptability, integration with current programme and the short term impact.

Acceptability

This relatively common focus looks at how the intended individual recipients-both targeted individuals and those involved in implementing program-react to the intervention. And our assessment about the acceptability aspect of the BCC was as under.

During the implementation of the BCC, the male members in the village were more vocal in expressing their willingness to take part in the maternal and child health services being provided by the government. The elderly people of the village were also in favour of the male participation in maternity care. They were of the view that such type of activity was never performed before, in the area and were very much optimistic about impact of the BCC activity.

The participants believed that the proposed knowledge and awareness programme would result in improving awareness about the government schemes and health facilities provided. The activities would change the behaviour of the society resulting in improvement in the male involvement and the maternal and child health in general. It would reduce the morbidity and mortality among the mother and child in the society and also improve the mutual trust and coordination among the couples in the community.

Regarding the community level activities under the BCC model, the respondent believed that the proposed community level activities would change the mindset of the individuals and the community in general about the participation of husband in the maternal and child health activities. And the male members in the village would no more feel embarrassed to accompany their wives to the hospital for ANC/PNC, immunization and the delivery in the hospital. The nukkad plays under the BCC programme would augment further the process of improving male participation in maternal and child health.

The home visits for couple counselling were very much appreciated for possible improvement in knowledge of the families about the benefits of the male participation in maternal and child health. Through this process the problems and various issues of couples, which were otherwise never dealt with, could be handled at individually.

Integration

This focus assesses the level of system change needed to integrate a new program or process into an existing infrastructure or program. The documentation of change that occurs within the organizational setting or the social/physical environment as a direct result of integrating the new programme can help to determine if the new venture is truly feasible. The proposed BCC model requires minimum level of system change.

- 1. Starting from the awareness rallies and nukkad plays, which is part of the community participation in the behavior change communication model, does not need much of infrastructure change, just require the commitment from the key persons in the society and the local health workers.
- 2. The awareness training programme for the eligible males, women group meetings and the home visits by the local health workers needs addition of one component viz, male involvement in maternal and child health in the duties of the local health workers and improved level of commitment from them for success of the BCC model.
- 3. The component that requires the highest level of change in the existing system is not the component of the BCC model but the required impact of the BCC, i.e., the male involvement itself. In the existing system, in most of the gynaecological departments, men (any relatives) are not allowed to enter the ANC clinic. For this impact to take place, the support of state level health delivery system level stake holders is a must and needs maximum effort to be made. intervention

Short term effect of the intervention

The proposed intervention is implemented in the area for short period of time, say one month and the short period impact of the BCC intervention is assessed after one month.

The impact was visible among the couples registered under the awareness programme. It was visible in their views which were now advocating for male participation in maternal and child health. The male members in the village were more vocal in expressing their willingness to take part in the maternal and child health services being provided by the government. The elderly people were also convinced by the idea.

The investigators visited houses for individual contact, getting their views and concerns regarding the

improvement in male involvement in MCH. Couples seemed to be enthusiastic about the whole idea. They were of the view that such type of activity was never been performed before in the area and were very much optimistic about impact of the BCC activity. There were concern regarding the bad habits among the male viz, alcoholism, which in their opinion would be one of the major barriers in improving the male involvement in MCH services. However, encouragingly, there were a large number of proactive and cooperative people who were determined to work for the cause and try to motivate as many people as possible to improve the health conditions of mothers and children in the village and thus improve the overall health of the family. This was the main convincing short term impact of our BCC.

DISCUSSION

The study was conceptualized with the aim to improve the utilisation of the RCH services through male participation. The results show that in Saharia women, maternal care is largely neglected, only 39% of the pregnant women have 3+ ANC visits, and the pregnant mothers not immunised against tetanus. No specific nutritious diet is consumed by women. Iron and calcium consumption during pregnancy is very poor. Most of the deliveries (71%) are conducted at home by elderly ladies of the family.

The post-natal care is also less among Saharias, only 13% go for PNC checkup within 6 weeks of delivery. Male participation in all these maternity care services is very less. In only 10% of the cases, husbands accompany their wives to the health center for ANC check-up and delivery. In only 7% cases husbands accompany their wives for PNC check-up. These results are in line with the results of earlier studies. ^{18,20,21}

There have been studies, national and international, which are indicative of association of utilisation of RCH services with male involvement. There is a marked physical and psychological impact of spouse support during pregnancy, delivery and post-delivery.

The studies found that exclusion of men from maternal health care services could lead to few women seeking maternal health services and as a result worsening the negative maternal health outcomes for women and children.^{3,4,5,22} A study from Nepal found that 40% of the men accompanied their wife to the health center for at least one ANC check-up.²³

A cross- sectional study from Kenya found that 65% men accompanying their wife to the health center for at least one ANC visit.²⁴ Increasingly, recognition is growing on a global scale that involvement of men in reproductive health policy and service delivery offers both men and women important benefits.

In India, the level of male involvement in MCH services utilization, especially among the tribal people of central

India is very low as compared to the global scenairio. This is evident from few studies conducted in India on tribal population in central India.

A study of Khairwar tribes of Madhya Pradesh reveal that most of the men have insufficient knowledge about the type of services being provided by the government for the care of mother and child during pregnancy, delivery and post delivery.¹⁷ They are unaware of the ANC, PNC services being provided.

Further they have an indifferent attitude towards it. A recent study in Gadchiroli District in Maharashtra, India showed that around 22% of the men reported accompanying their wives to ANC, 25% were present at the time of delivery of their children and 25% accompanied their wives to PNC.²⁵

Government of India is making all efforts to improve the utilisation of health facilities, through various health pogrammes, like Janani Surakhsha Yogna or Pradhan Mantra Surakhshit Matritva Abhiyaan, MP. The efforts have shown remarkable improvement all India and also state level.

This study has several limitations. Only univariate analysis and no multivariate analysis was carried out to study the factors associated with male involvement as the sample size was not large enough to carry out a multivariate analysis.

Since it was only a feasibility study, the impact of the developed BCC model was not tested. It will be taken care of in our new study.

CONCLUSION

This study has come up with a Behaviour Change Communication model using the mixed methodology for improving male participation in utilization of RCH services.

This model has been developed after assessing the level, barriers and facilitators of male involvement among the Saharia tribes. The feasibility study has also been undertaken. The BCC is ready to be implemented for Saharias and also on similar populations in the surrounding geographical region in the state of Madhya Pradesh in India.

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