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## Men's Involvement during Pregnancy and Childbirth: Evidence from Rural Ahmadnagar, India

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### Abstract

Interventions that include men during pregnancy and childbirth have shown to yield positive health benefits to women and their children. Most previous studies in India examined male involvement during pregnancy and childbirth using qualitative data. In order to gain a quantitative insight on the subject, primary data collected from men aged 15-54 from rural Ahmadnagar in India is used to examine men's involvement during pregnancy and child birth. The indicators of men's involvement are designed to measure presence of men during antenatal visits and child birth, type of assistance provided during pregnancy, and men's involvement in deciding the place of delivery and the person to conduct the delivery. This study, for the first time, uses a measure of social network and gender role attitudes in explaining men's involvement during pregnancy and child birth in India. The results reveal that a substantial proportion of men are involved during pregnancy and child birth in rural Ahmadnagar. Gender role attitudes and social network are important predictors of men's involvement during pregnancy and child birth.

### Keywords

Men, Involvement, pregnancy, childbirth, social network, Gender role attitude

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## **Introduction**

During the eighties and early nineties, almost all the reproductive and child health programmes in India focused exclusively on women. Men were left out of the programmes. It was during the mid-nineties that researchers and policy makers started realizing the important role that men can play as supportive partners in achieving good health for women and children. Further, the International Conference on Population and Development (ICPD) held in Cairo in 1994 reminded people that good reproductive health is the right of all people, men and women alike, and that together they share responsibility of making decisions about reproductive matters. The concern that emerged from the ICPD conference was that neither women nor men are likely to enjoy good reproductive health until they are able to discuss sexual matters and make reproductive decisions together. As part of this broader view, reproductive health programmes started to focus their attention on the role of men as it relates to women's access to and utilization of reproductive health services.

Men are key players in influencing, both positively and negatively, directly and indirectly, the reproductive health outcomes of their wives and children (Dudgeon and Inhorn 2004). Therefore, ensuring men's involvement in reproductive and maternal health matters can, in theory, promote a better partnership between men and women in both the household and community at large. The other perspective that emphasizes this relationship is that male involvement can yield positive health benefits for women through added social support (Carter 2002). The involvement of men in the programmes can also enhance out reach as well as utilization of the various reproductive health services.

Only a few studies have examined the involvement of men in pregnancy and delivery care of their wives (Abdel-Tawab 1997; Bhalerao et al. 1984; Carter 2002; Mullany, Becker and Hindin 2007; Singh, Lahiri and Srivastava 2004). Most of these studies examined the positive health benefits of men's involvement for wives and children. A study conducted in Mumbai by Bhalerao et al. (1984) found that involving husbands in antenatal care counseling significantly increases the frequency of antenatal care visits, significantly lowers perinatal mortality, and pays dividends even among uneducated and low socio-economic groups. Further, in contrast to men who do not participate in antenatal care counseling, men participating in antenatal care counseling tend to know more about family planning, nutrition and health of their wives during pregnancy, and the ways and means of preventing complications during pregnancy, at delivery, or during an abortion. An intervention during prenatal consultations to increase men's involvement in their partners' maternal care increased couples' discussion and use of contraception and improved knowledge about pregnancy and family planning (Varkey et al. 2004). A study by Mullany, Becker and Hindin (2007) provided evidence that educating pregnant women and their male partners yields a greater net impact on maternal health behaviors compared with education of women alone. None of the studies conducted in India provide any evidence on the factors predicting men's involvement during pregnancy and child birth. Further, none of the studies tried to understand the role of gender attitudes and social networks in explaining men's involvement.

It is, therefore, important to examine the involvement of men during pregnancy and child birth in a developing country setting like India. It is all the more important to understand the factors predicting men's involvement in India. Further, it would be interesting to examine whether the involvement of men during pregnancy and child birth yields positive health benefits to their wives and children. The main objective of the paper is to examine the involvement of men during pregnancy and child birth. The indicators of men's involvement are designed to measure the presence of men during antenatal visits, presence of men during child birth, type of assistance provided during pregnancy, and men's involvement in deciding place of delivery and the person to conduct delivery. To fulfill the objective of the paper, we use primary data collected from men aged 15-54 in rural Ahmadnagar, India. The

study uses a measure of gender role attitude and one measure of social networks along with other important socio-economic and demographic variables in explaining men's involvement.

## **Data and Methods**

Ahmadnagar district of Maharashtra was purposively selected for the current study. Ahmadnagar district is divided into 14 tehsils (administrative units below the district level). Sangamner tehsil was selected for the present study based on its closeness to Ahmadnagar district on indicators such as sex ratio of total population, sex ratio of 0-6 population, female literacy rate, male literacy rate, percent scheduled castes/ scheduled tribes (SC/ST) and work participation rate. From the selected tehsil, two primary health centers (PHCs) namely Ashwi-Khurd and Talegaon were randomly selected from the available nine PHCs.

In order to achieve the research objectives, men who were in age group 15-54 years were chosen as respondents. Since the study intended to examine the involvement of men in maternal care, we decided to include those men whose wives had given birth to at least one child in the three years preceding the survey. The criterion of at least one birth in the three years preceding the survey date was put to avoid recall bias and underreport of events of interest. The study also included few men whose wives were pregnant for the first time to collect information regarding knowledge, awareness and attitude especially among this group of men. To substantiate the findings of the study we further decided to interview about one-third of the wives of the selected men in the sample.

A list of all women who had delivered at least one child in the reference period or who were pregnant for the first time in villages coming under the selected PHCs was prepared with the help of PHC staff and the Auxiliary Nurse Midwives (ANM). To avoid the problems of omissions and duplication, the prepared list was further verified by visiting each village and taking help from anganwadi workers (AWW) and other knowledgeable persons available in the villages. This list of women was used to select men for data collection. Husbands of the women listed were randomly selected for interview. Wives of about one third of the selected husbands were also interviewed in the survey. The fieldwork for the present study started in the month of March 2005 and continued for around four months till June 2005. Finally 1341 men and 477 women were interviewed in the survey. However, men whose wives were pregnant for the first time were not included in the present analysis. Therefore, we have 1091 men and 340 wives in the analysis.

Men and women were interviewed face-to-face using a semi-structured interview schedule. Two types of interview schedules namely- (1) household questionnaire and (2) individual men and women questionnaire were used in the study. The questionnaire mainly consisted of closed ended questions. The household questionnaire listed all the usual residents in each sample household. For each listed person, the survey collected information on age, sex, marital status, relationship to the head of the household, education and occupation. Information was also collected on the main source of drinking water, type of toilet facility, source of lighting, type of cooking fuel, religion of the household head, caste/tribe of the household head, ownership of a house, ownership of agricultural land, ownership of livestock, and ownership of other selected items. The men's and women's questionnaire collected information from selected eligible men and women on background characteristics; reproductive behavior and intentions; knowledge, attitude towards contraception, contraceptive decision making, and use of contraception; antenatal, natal and postnatal care use and decision making; gender role attitudes; and social networks.

In the absence of a single direct question on the income of respondent, standard of living can be taken as a good proxy of income. In the survey we asked respondents about the amenities and assets owned by the sample households. Data on household amenities and possessions were used to compute a composite index (range 0-40) to classify households into low (0-9), medium (10-19) and high (20+) standard of living categories. The weights assigned to different household amenities and possessions are given in Appendix 1. The weights used in construction of the index are the same as those used in the District Level Household Survey (DLHS) 2002-2004. The survey has collected information on

three types of media, viz. newspaper, radio and television. From this information the exposure to mass media has been assessed through a composite index with two categories. Low exposure refers to exposure to only one source of mass media, while high exposure comprises of men who are exposed to two or all the three types of mass media.

To capture the effect of networks we used one variable namely size of network. Network size is simply the number of people with whom the respondent reported having spoken about antenatal care. To capture the perceived gender norms of the respondents, a 35-item scale, which is more commonly known as Gender Equitable Men Scale (GEMS) was used. This scale consists of a list of statements about men's and women's roles related to domestic life and child care, sexuality and sexual relationship, reproductive health and disease prevention, intimate partner violence as well as attitudes towards homosexuality and close relationships with other men. The GEM scale was successfully used in a recent study on 'challenging and changing gender attitudes among young men in Mumbai (Verma et al. 2006). The answer choices include: Agree (3), Partially Agree (2) and Do not Agree (1).

To test the consistency of the scale, factor analyses were conducted to clarify scale domains. Originally, 27 respondents were dropped from the factor analysis because answers were missing for one or more of the 35 scale items. The scale was scored so that a greater number was equivalent to being more 'gender equitable' – all items that were originally facing in the opposite direction were switched for the analysis.

A factor analysis was conducted with 35 original items to test whether separate domains exist within the construct of gender equitable norms. Three separate factors with substantial explanatory power were obtained in the factor analysis. Two of the three factors held together conceptually as also obtained in the study by Pulerwitz and Barker (Pulerwitz and Barker 2007). One of the two factors included items that were reflecting less gender equitable norms or traditional gender norms (e.g. men are always ready to have sex; woman's most important role is to take care of her home and cook; there are times when a woman deserves to be beaten; man's decision is final in his home). The second factor included items that reflected more gender equitable norms (e.g., woman and man should decide together the type of contraceptive to be used; women have the same right as men to study and work outside of the house; women can suggest using condoms just like a man). The two factors were accordingly labeled as 'traditional gender role attitudes' and 'egalitarian gender role attitudes'. The third factor included only four variables and did not hold together conceptually. Hence, the entire factor was dropped from further analysis. The factor labeled as 'traditional gender role attitudes' included 12 items and the second factor included about eight items. A final factor analysis was run with only 20 of the original 35 items. The factor structure remained almost the same in the final factor analysis. Therefore, the twenty items were retained for the final scale. The twenty items included in the final scale are given in Appendix 2. Internal consistency of the two factors, traditional gender role attitudes and egalitarian gender role attitudes, was ascertained using Cronbach's alpha. The two factors surpassed the minimum standard of reliability (Cronbach's alpha  $\geq 0.60$ ), both were considered reliable (Aiken 1991; Nunnally and Bernstein 1994) and both the scales were weighted equally to get one scale. The internal consistency of the overall scale was 0.70. Based on the final scale men were categorized into having traditional, moderate and egalitarian gender role attitudes.

The data analysis was carried using software packages like SPSS 11.0 and STATA. The management of references was done by the software package 'EndNote'. We use binary logit model to analyze the data.

## **Results**

The paper focuses on two main questions. First, what is the extent of male involvement in providing pregnancy advice and care? Second, what is the extent of male involvement in being present at the time of delivery? Around 92 percent of men reported that their wives went for antenatal checkups. Of those who reported that their wives went for antenatal checkups, around 63 percent reported that the first visit was made in the first trimester. Seventy four percent of men said that their wives went for at

least three checkups. In 81 percent of the cases husband and wife jointly decided to avail antenatal care services. Others decided only in 10 percent of the cases.

Around 81 percent of men reported that they had accompanied their wives for antenatal checkups. Among those who did not accompany their wives during antenatal visits, 18 percent said that they did not feel necessary to go, 24 percent reported that their job did not permit, 16 percent reported that wife was at her parent's house, and around 42 percent cited other reasons. Of the 42 percent of respondents who cited other reasons, about eight percent reported that antenatal care was a matter related merely to women and their family members did not allow them to accompany their wives.

Table 1 presents the percentage of men accompanying their wives for antenatal check-ups and the percentage of men providing assistance to their wives on more than two domains during pregnancy by their selected socio-economic and demographic characteristics. The various items included in assistance during pregnancy were 1) provided nutritious food, 2) assisted in domestic work, 3) accompanied wife to doctor, 4) made medicines available, and 5) provided emotional support. Around 82 percent of Hindus reported accompanying their wives for antenatal care. The percentage of men of other religions accompanying their wives for antenatal care was only 50 percent. Eighty four percent of men who belonged to general castes reported that they had accompanied their wives for antenatal care. The percentage of men accompanying their wives among SC/STs and 'other backward castes' (OBC) was 74 percent and 80 percent, respectively. The involvement of men increased considerably with an increase in men's education. Around 90 percent of men who were educated above high school had accompanied their wives compared to only 70 percent of men who were educated only up to primary school. The involvement of men also increased with an improvement in the standard of living and exposure to mass media. Size of social networks and gender role attitudes were also found to be significantly and positively associated with male involvement in antenatal care. Men having more than two network partners and having egalitarian gender role attitudes were more likely to accompany their wives for antenatal checkups. Around 78 percent of men living in nuclear households accompanied their wives for antenatal care compared to 82 percent of men living in non-nuclear households. However, the association between the two was not statistically significant.

A higher proportion of men among Hindus were found to have assisted their wives compared to non-Hindus (Table 1). Twenty seven percent of men belonging to general castes had assisted their wives compared to only 20 percent of men belonging to SC/ST. A higher percentage of men educated above high school reported assistance compared to men educated only up to primary school. Men who had less than two children were more likely to assist their wives compared to men who had more than two children. Standard of living, exposure to mass media, size of network and gender role attitudes were also found associated with the extent of assistance provided by men. Men living in non-nuclear households provided a higher level of care to their wives during pregnancy compared to men who lived in nuclear households. Twenty seven percent of men living in non-nuclear households assisted their wives during pregnancy compared to only 15 percent of men living in nuclear households.

**Table 1: Responses of men on whether they accompanied their wives for ANC and responses of men on assistance provided by them to their wives during pregnancy by their selected characteristics, Ahmadnagar**

Socio economic and demographic characteristics	Accompanied wife for ANC	Assisted on more than two domains during pregnancy	N
<b>Religion</b>	***	*	
Hindu	82.3	25.3	1053
Others	50.0	10.5	38
<b>Caste</b>	**	*	
SC/ST	74.5	19.6	291
OBC	79.7	22.8	136
Others	84.5	27.3	663
<b>Current age</b>	*		
< = 24 years	73.3	22.3	193
25-29 years	83.1	24.1	519
30-34 years	83.0	27.0	267
> = 35 years	82.7	26.8	112
<b>Education</b>	***	***	
Up to primary school	69.9	15.1	225
Greater than primary but less than high school	78.3	24.4	475
Greater than high school	90.0	30.7	391
<b>Number of living children</b>		*	
0-2 children	82.2	26.4	833
Greater than 2 children	77.8	19.4	258
<b>Standard of living of household</b>	***	***	
Low	74.2	19.6	347
Medium	82.5	24.0	516
High	88.0	34.2	228
<b>Exposure to mass media</b>	**	***	
Low	71.1	14.3	161
High	82.7	26.6	930
<b>Type of work</b>	***	**	
Agriculturally self employed	83.1	23.4	470
Service/business	87.1	33.9	218
Others	75.4	21.3	403
<b>Size of network</b>	***	***	
No network member	63.2	9.2	163
1-2 network members	82.8	25.5	815
> 2 network members	92.7	41.6	113
<b>Gender role attitudes</b>	***	***	
Traditional	73.5	15.7	280
Moderate	82.0	22.4	562
Egalitarian	87.7	41.9	234
<b>Type of household</b>		***	
Nuclear	78.1	15.0	193
Non-nuclear	81.9	26.8	898

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05, # p < 0.10

Table 2 presents the results of the logistic regressions assessing the association of husbands who had accompanied their wives for antenatal care and husbands who had assisted their wives on more than two domains during pregnancy with their selected socio economic and demographic characteristics. After adjusting for other characteristics, non-Hindus were less likely to accompany their wives for antenatal checkups compared to Hindus. Men belonging to general castes were 1.5 times more likely to accompany than men belonging to SC/ST castes. OBCs were no different from SC/STs in accompanying their wives. Education of the respondents was also found significant. Men educated above high school were 2.4 times more likely to accompany their wives compared to men educated only up to primary school. Size of network was also found significant in explaining involvement of men in antenatal care. Men who had 1-2 network partners were two times more likely to accompany their wives compared to men who had no network partners. The chances of men who had more than two network partners accompanying their wives was five times more than the men who had no network partners. Men having egalitarian gender role attitudes were also more likely to accompany their wives than those who had traditional gender role attitudes. But the difference between the two groups of men was not found significant in the logistic regression analysis. Involvement of men in antenatal care of wives was also not found dependent on the type of household. In nuclear families, men were more likely to accompany their wives. However, the results were not statistically significant.

The results of logistic regression reveal that non-Hindus were less likely to provide assistance in more than two domains compared to Hindus. This result is consistent even after controlling for other socio-economic and demographic characteristics. The variables on gender role attitudes and size of networks were found significant even after controlling for other confounding variables. Men having 1-2 network partners and more than two network partners were three times and four times more likely to assist their wives compared to men having no network partner. Similarly, men having egalitarian gender role attitudes were 2.5 times more likely to assist than men having traditional gender role attitudes. Type of household was also found significant in explaining the involvement of men in antenatal care of their wives. Men who lived in non-nuclear households were twice more likely to assist their wives during pregnancy compared to men who lived in nuclear households. The result holds even after controlling for important socio-economic and demographic characteristics. All other variables were not significant in explaining assistance by men during pregnancy.



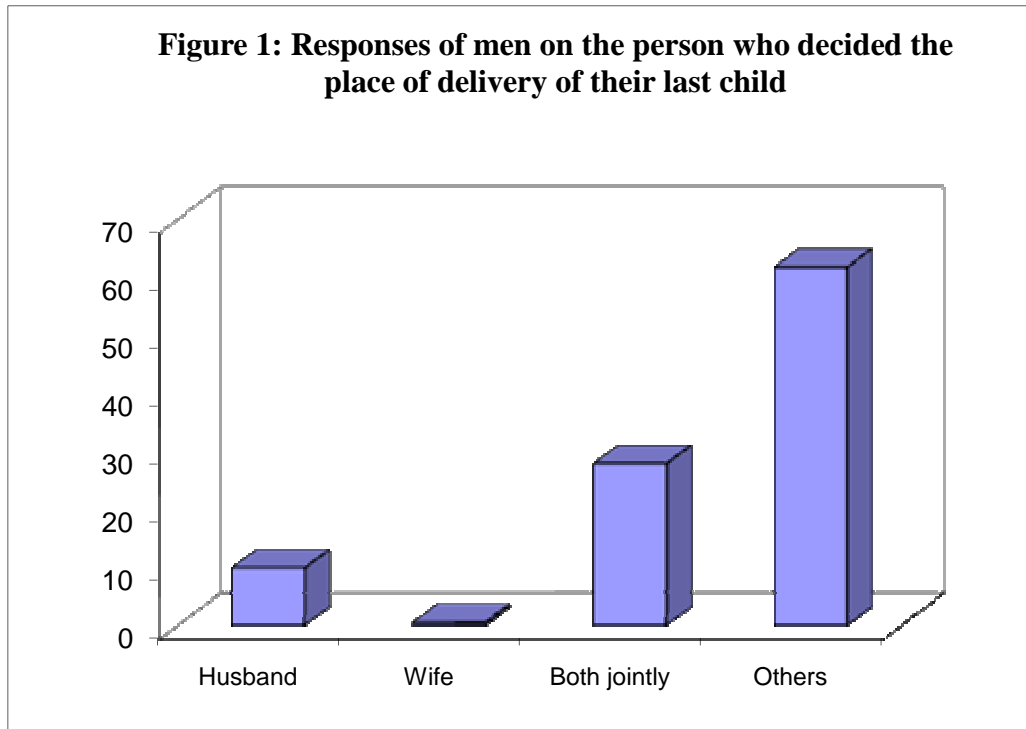
*Table 2: Adjusted odds ratios from logistic regression assessing association of whether husband accompanied wife for ANC and whether husband assisted wife during pregnancy with their selected characteristics, Ahmadnagar*

<b>Socio economic and demographic characteristics</b>	<b>Accompanied wife for ANC</b>	<b>Assisted on more than two domains during pregnancy</b>
<b>Religion</b>		
Hindu	®	®
Others	0.242***	0.313#
<b>Caste</b>		
SC/ST	®	®
OBC	1.290	1.050
Others	1.476#	1.262
<b>Current age</b>		
< = 24 years	®	®
25-29 years	1.391	1.049
30-34 years	1.386	1.307
> = 35 years	1.478	1.648
<b>Education</b>		
Up to primary school	®	®
Greater than primary but less than high school	1.245	1.234
Greater than high school	2.421*	1.037
<b>Number of living children</b>		
0-2 children	®	®
Greater than 2 children	0.934	0.730
<b>Standard of living of household</b>		
Low	®	®
Medium	1.184	0.922
High	1.289	1.279
<b>Exposure to mass media</b>		
Low	®	®
High	1.156	1.211
<b>Type of work</b>		
Others	®	®
Agriculturally self employed	1.067	0.741
Service/business	1.182	0.997
<b>Size of network</b>		
No network member	®	®
1-2 network members	2.244***	2.662***
> 2 network members	4.973***	4.458***
<b>Gender role attitudes</b>		
Traditional	®	®
Moderate	1.105	1.159
Egalitarian	1.112	2.465***
<b>Type of household</b>		
Nuclear	®	®
Non-nuclear	0.863	1.669**

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05, # p < 0.10, ® reference category

Twenty nine percent of all the deliveries during the three years preceding the survey took place at home and about half the deliveries took place in private health facilities. The remaining deliveries took place in government health facilities. A majority (84 percent) of deliveries were assisted by trained health professionals. Only 16 percent of deliveries were assisted by some one other than health professionals. A little less than half of the deliveries that took place at home or at other places were also assisted by trained health professionals.

To assess the level of male involvement in childbirth, a question was asked to the respondents about the person who actually decided on the place of delivery of the last child. In response to this question, around 62 percent of the respondents reported that some one other than themselves and their wives actually decided on the place of delivery. Only 28 percent of men reported that both the spouses jointly decided on the place of delivery (Figure 1). According to men, wives were not at all involved in deciding on the place of delivery of their children.



One of the main factors affecting decision-making about place of delivery is the type of household where the respondents reside. In non-nuclear households, others were found to decide on the place of delivery in a majority of cases. On the other hand, in the case of nuclear households, ‘husband’ or ‘husband and wife jointly’ were found to decide the place of delivery in most of the cases. In only 35 percent of the non-nuclear households, ‘husbands’ or ‘husband and wife jointly’ decided on the place of delivery compared to 52 percent of the nuclear households where ‘husband’ or ‘husband and wife jointly’ decided.

To examine the positive health benefits of male involvement in childbirth, an attempt was made to establish association between the place of delivery of the respondent’s last child and the person deciding on the place of delivery of respondent’s last child. The results are presented in Table 3. Above eighty percent of the deliveries took place in medical institutions in case husband or husband and wife jointly decided on the place of delivery. Only 16 percent of deliveries took place outside medical institutions in cases where the husband had decided on the place of delivery. If husband and wife had jointly decided on the place of delivery, this percentage was around 20. If other persons had decided on the place of delivery the percentage of non-institutional deliveries went up to 36 percent. If other persons had decided on the place of delivery the percentage of non-institutional deliveries was more than two times compared to cases where husband had decided on the place of delivery. Even if the husband chose home delivery, it was high likely that the deliveries were assisted by a trained health professional. If husband had decided on the place of delivery only nine percent of the deliveries went unattended by a trained medical person. The proportion of unattended deliveries was 20 percent in cases where others had decided on the place of delivery (Table 4).

**Table 3: Men's report on place of delivery of their last child by the person who decided the place of delivery, Ahmadnagar**

Person who decided the place of delivery	Place of delivery of last child #			N
	Government health facility	Private health facility	Home and other places	
Husband	29.6	54.6	15.7	108
Both husband and wife	22.4	57.9	19.7	304
Others	16.4	48.1	35.5	678

# Chi square significant at  $p < 0.001$

**Table 4: Men's report on person who conducted delivery of their last child by the person who decided the place of delivery, Ahmadnagar**

Person who decided the place of delivery	Type of delivery #		N
	Not assisted by a trained health professional	Assisted by a trained health professional	
Husband	9.3	90.7	108
Both husband and wife	9.6	90.4	303
Others	19.4	80.6	676

# Chi square significant at  $p < 0.001$

To examine whether the association holds good even after adjusting for other confounding variables, we ran two sets of logistic regression. The results are presented in Table 5. The first panel of the table gives the likelihood of institutional delivery after adjusting for selected socio-economic and demographic characteristics. The likelihood of assisted delivery is given in the second panel. The results show that the likelihood of a non-institutional delivery was much higher in cases where others had decided on the place of delivery compared to cases where the husband himself had decided. The chances of an institutional delivery were the same whether husband or husband and wife jointly had decided on the place of delivery. The result holds good even after adjusting for important factors like utilization of antenatal care by women and experience of any pregnancy complication by the wives during their last pregnancy. Similar results were also found in the case of assisted deliveries. The deliveries were significantly less likely to be attended by a trained medical person if others had decided on the place of delivery compared to cases where husband or both spouses had jointly decided. It can be reasonably concluded that involvement of men in deciding on the place of delivery has positive health benefits for their wives and children.

An attempt was also made to establish an association between men's knowledge of delivery complications, the choice of place of delivery, and choice of assistance during delivery. A significant association is found between knowledge of delivery complications and the choice of place of delivery and the choice of assistance during delivery (Table 6). Increase in knowledge of men about delivery complications was found to increase the chances of an institutional delivery. Fifty four percent of men among those who knew two or more than two delivery complications reported a private health facility as the place of delivery of their last child. Seventeen percent of such men reported a government health facility as the place of delivery of their last child. Among men who had no knowledge of any delivery complications, 32 percent and 33 percent reported a government health facility and a private health facility respectively as the place of delivery of their last child. A higher percentage of men among those who had knowledge of two or more delivery complications reported that the delivery of their last child was assisted by a health professional compared to men who had no knowledge of any delivery complication. The findings suggest that the increase in knowledge of delivery complications was significantly associated with an increase in the proportion of deliveries assisted by trained health professionals.

*Table 5: Adjusted odds ratios from logistic regression analysis assessing associations between selected characteristics of men and type of delivery, Ahmadnagar*

Characteristics	Institutional delivery	Assisted delivery
<b>Religion</b>		
Hindu ®		
Others	1.132	4.783**
<b>Caste</b>		
SC/ST ®		
OBC	1.346	1.707*
Others	1.352*	1.477*
<b>Current age</b>		
< = 24 years ®		
25-29 years	0.888	1.038
30-34 years	1.161	0.919
> = 35 years	0.932	1.219
<b>Education</b>		
Up to primary school ®		
Greater than primary but less than high school	1.400	2.147***
Greater than high school	2.087**	3.412***
<b>Number of living children</b>		
0-2 children ®		
Greater than 2 children	0.359***	0.455***
<b>Standard of living of household</b>		
Low ®		
Medium	1.441**	1.215
High	3.208***	1.632
<b>Exposure to mass media</b>		
Low exposure ®		
High exposure	0.864	1.037
<b>Type of work</b>		
Others ®		
Agriculturally self employed	1.042	1.170
Service/business	0.991	0.950
<b>Any Pregnancy Complication</b>		
No complication ®		
Had complication	0.911	1.111
<b>Gone for ANC</b>		
No ®		
Yes	3.247***	2.524**
<b>Who decided about the place of delivery</b>		
Husband ®		
Both husband and wife	0.779	0.956
Others	0.287***	0.334**

Note: \*\*\* p < 0.001, \*\* p < 0.05, \* p < 0.10

**Table 6: Men's report of place of delivery and assistance during delivery by their knowledge about delivery complications, Ahmadnagar**

Knowledge of delivery complications	Place of delivery of last child <sup>#</sup>			Assistance during delivery <sup>#</sup>		N
	Government health facility	Private health facility	Home and other places	Assisted by trained health personal	Not assisted by trained health personal	
Knows no complications	32.1	33.3	34.6	80.2	19.8	81
Knows only one complication	20.8	49.4	29.8	76.7	23.3	245
Knows two or more than two complications	17.5	54.0	28.5	87.3	12.7	762

# Chi square significant at p < 0.001

Another indicator of male involvement during delivery is the presence of men at the time of delivery. Only 52 percent of the men were present at the time of delivery of their last child. Wife at her parent's house was the most prominent reason cited by men for their absence. A small proportion of men attributed their absence to their work, i.e. away for work. Another small proportion of men cited other reasons for their absence at the time of delivery of their last child (Figure 2).

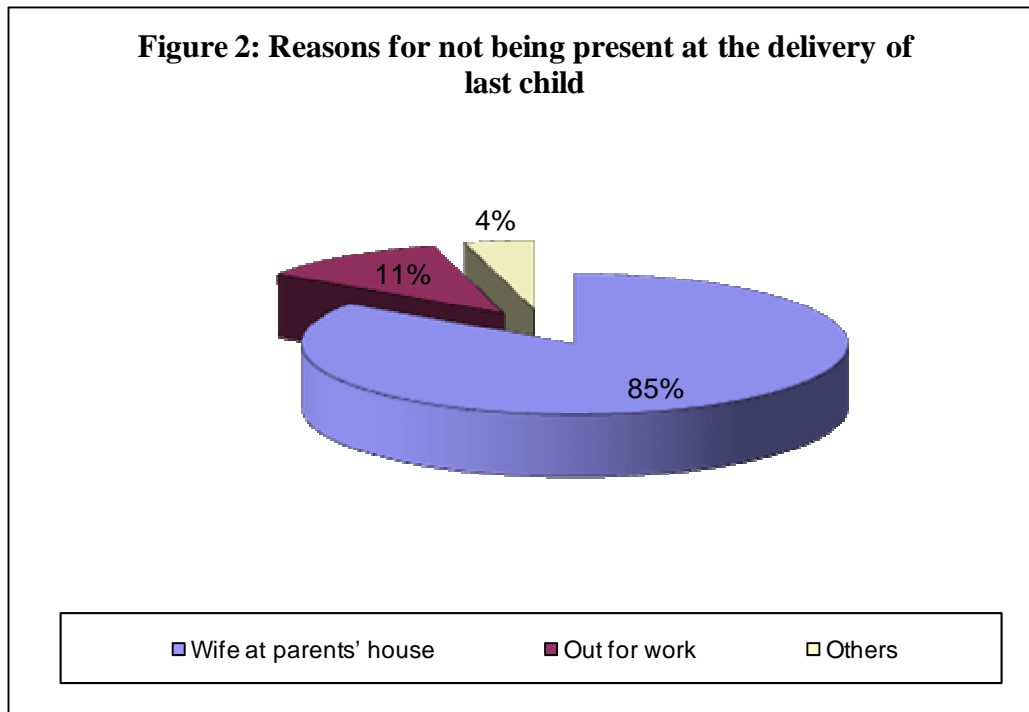


Table 7 presents the percentage of men who were present at the time of delivery of their last child by selected socio-economic and demographic characteristics. Education of the respondent, current age of the respondent, number of living children, and standard of living of household were found to be positively associated with the presence of men at the time of delivery. Seventy percent of the men above age 35 years reported that they were present at the delivery of their last child. On the contrary, only 45 percent of the respondents of age less than 24 years were present at the time of delivery. Increase in educational level of men was also accompanied by increased presence. A larger percentage of men who had more than two living children and who had a high standard of living reported their presence at the time of delivery compared to their respective counterparts. Unlike male involvement during pregnancy, a higher percentage of men living in nuclear households were found to be present at the time of delivery of their last child compared to men living in non-nuclear households. A 12-percentage point difference was found in involvement of men of nuclear and non-nuclear households in terms of their presence at the time of delivery of their last child.

The logistic regression results confirm the findings obtained in the bivariate analysis (Table 8). Even after adjusting for various important variables, men of age 34 years and above were twice more likely to be present than men who were less than 24 years of age. Men who were educated above high school were 1.5 times more likely to be present at the time of delivery of their last child compared to men who were educated only up to primary school. Similarly, men having more than two living children were 30 percent more likely to be present compared to men having two or less than two living children. The likelihood of presence of men having a high standard of living was 1.5 times more than men having low standard of living. The effect of type of household was also found significant in logistic regression analysis. Men in non-nuclear households were significantly less likely to be present compared to men in nuclear households. Men in non-nuclear households were 40 percent less likely to be present than men in nuclear households.

*Table 7: Responses of men on their presence at the time of delivery of their last child by their selected characteristics*

<b>Socio economic and demographic characteristics</b>	<b>Present at the time of delivery</b>	<b>N</b>
<b>Religion</b>		
Hindu	52.5	1047
Others	47.4	38
<b>Caste</b>		
SC/ST	56.2	290
OBC	49.3	136
Others	51.4	658
<b>Current age</b>	***	
< = 24 years	44.8	192
25-29 years	51.1	517
30-34 years	53.0	264
> = 35 years	69.6	112
<b>Education</b>	*	
Up to primary school	52.7	224
Greater than primary but less than high school	48.3	472
Greater than high school	57.1	389
<b>Number of living children</b>	**	
0-2 children	50.2	829
Greater than 2 children	59.4	256
<b>Standard of living of household</b>	**	
Low	53.6	345
Medium	48.0	515
High	60.4	225
<b>Exposure to mass media</b>		
Low	52.5	160
High	52.3	925
<b>Type of work</b>		
Others	55.6	401
Agriculturally self employed	48.5	468
Service/business	54.6	216
<b>Size of network</b>		
No network member	45.4	163
1-2 network members	53.2	809
> 2 network members	56.6	113
<b>Gender role attitudes</b>		
Traditional	51.3	279
Moderate	52.8	559
Egalitarian	53.0	232
<b>Type of household</b>	**	
Nuclear	62.5	192
Non-nuclear	50.2	893

**Table 8: Adjusted odds ratios from logistic regression assessing the association between men were present at the time of delivery of their last child and their selected characteristics, Ahmadnagar**

<b>Socio economic and demographic characteristics</b>	<b>Present at the time of delivery</b>
<b>Religion</b>	
Hindu	®
Others	0.730
<b>Caste</b>	
SC/ST	®
OBC	0.773
Others	0.856
<b>Current age</b>	
< = 24 years	®
25-29 years	1.136
30-34 years	1.080
> = 35 years	2.015**
<b>Education</b>	
Up to primary school	®
Greater than primary but less than high school	0.957
Greater than high school	1.480#
<b>Number of living children</b>	
0-2 children	®
Greater than 2 children	1.342#
<b>Standard of living of household</b>	
Low	®
Medium	0.953
High	1.556*
<b>Exposure to mass media</b>	
Low	®
High	1.010
<b>Type of work</b>	
Others	®
Agriculturally self employed	0.696**
Service/business	0.798
<b>Size of network</b>	
No network member	®
1-2 network members	1.305
> 2 network members	1.498
<b>Gender role attitudes</b>	
Traditional	®
Moderate	1.058
Egalitarian	0.897
<b>Type of household</b>	
Nuclear	®
Non-nuclear	0.656**

\*\*\* p < 0.001, \*\* p < 0.01, \* p < 0.05, # p < 0.10, ® reference category

To cross check the involvement of men in these issues, the same information was collected from one-third of the wives of these men. Around 81 percent of men reported that they accompanied their wives for antenatal checkups. This percentage as reported by wives was around 77 percent. Similarly 25 percent of husbands as against 18 percent of their wives reported that husbands provided assistance during pregnancy. Husbands in general provided higher reports of assistance on 'providing nutritious food during pregnancy' and 'domestic work'. On the other hand, a higher proportion of wives reported that men provided 'emotional support' and 'medicines were made available'. Fifty two percent of men were present during the delivery of their last child. In 52 percent of the cases wives also reported that their husbands were present.

## Discussion and Conclusion

A large percentage of men reported that their wives went for antenatal care. A large majority of men also accompanied their wives for antenatal care. Around one quarter of men reported reasons like 'do not feel necessary', 'woman's cause' or 'other household members did not allow' for not accompanying their wives for antenatal checkups. Men having education above high school and having more than one member in their social networks were found to accompany their wives compared to men who were educated only up to primary school and those who had no network partners in their social network. Gender role attitudes were not found significant in increasing the involvement of men in antenatal care of their wives. Even though men may be interested, the cultural sanctions for accompanying wives for antenatal care may not exist in the rural areas of Ahmadnagar.

A majority of men were found to provide assistance to their wives during pregnancy. About half the men reported assisting their wives in domestic work. Only a small proportion of men assisted their wives in more than two domains. In the multivariate analysis, size of network and gender role attitudes of the respondents were significant in explaining assistance provided by men. Men who had egalitarian gender role attitudes were more likely to assist their wives during pregnancy compared to men who had traditional gender role attitudes. The size of network was also found significant. Another interesting finding is the effect of type of household on the assistance provided by men to their wives during pregnancy. Men from non-nuclear households were more likely to assist their wives compared to men from nuclear households. The chance of assistance by men is very much affected by the chance of receiving help from other members of the household. The help provided by other members of the household may motivate husbands to assist their wives. Other members of the household may also encourage men to assist their wives. Similar results were found in a study done by Carter (2002) in Guatemala. In her study, receiving advice or care from one's mother, and to a lesser extent from one's mother-in-law, increased the chance of also receiving advice or care from one's husband. Our survey instrument did not cover questions on who else advised the woman or provided care during pregnancy. Therefore, it is not possible to establish the association between advice or care given by husband and the advice and care given by other members of the household. However, it would be interesting to examine the association between the advice and care given by husband and advice given by other members of the household.

Two questions were asked to gauge the involvement of men in delivery care. First, who decided on the place where the delivery of their last child took place? Second, were the men present during the delivery of their last child? Only in a quarter of cases, husband and wife jointly decided on the place of delivery of their last child. Pregnancy and delivery are considered family affairs and husbands sometimes have a very minor role to play in such situations, especially in a typical rural setting. The cases where husbands and wives had jointly decided on the place of delivery comprise of mostly those couples who were staying in nuclear families. In nuclear families couples themselves have to take all their decisions. The result shows that the decision-making on place of delivery directly depends on the type of household. In our sample, a majority of households were non-nuclear households. In non-nuclear households, other members of the households were more likely to decide on the place of delivery compared to husbands or husband and wife jointly. In rural settings even if men want to play a crucial role in the delivery care of their wives, they may not have sufficient freedom to achieve the same.

Another key aspect of the study is that it sheds light on the association between decision-making about place of delivery, (1) the choice of place of delivery, and (2) the type of assistance sought during delivery. The deliveries were more likely to be institutional deliveries if husbands or the spouses decide on the place of delivery. Similarly, the deliveries were more likely to be assisted by a trained medical personal if husbands or the spouses decided on the same. The relationship holds even after controlling for important socio-economic and demographic characteristics. This favors at promotion of male involvement in decision-making regarding the assistance required during delivery. Men may have more knowledge about the places where deliveries can take place, less concerned about cultural and traditional beliefs, and may be more concerned about the well being of their wives



and children. Men who were aware about the delivery complications were also more likely to choose a medical institution for the delivery of their wives. Even if they chose a place other than a medical institution for delivery of their child, then also the delivery was most likely to be assisted by a trained medical person. This again points to the need for informing men about pregnancy as well as delivery complications. If men are made aware of these complications they can easily identify the complications when they arise and can promptly decide about medical care instead of adopting a wait and watch policy. Therefore, informing men about maternal health related issues and involving them in decision-making could play an important role in improving maternal health (Abdel-Tawab 1997; Bhalerao et al. 1984; Grady et al. 1996; Singh, Lahiri and Srivastava 2004).

Both the National Population Policy 2000 and the National Health Policy 2002 aim to achieve 100 percent assisted deliveries to achieve demographic targets (GOI 2000; GOI 2003). Therefore, the program managers and policy makers must assure that men are informed about the preparations that need to be made for delivery of their child. Men should know about the importance of delivering in a medical institution and the delivery conducted by a trained medical professional. The health personnel should provide them some information about the places where men can take their wives in case of emergency. Having such information will help men in deciding on the place of delivery and deciding on the assistance to seek during delivery. One strategy to provide this information to men would be to request the women to bring their husbands with them at least once during their antenatal visits or during any other visit to health facilities. During such visits health personnel can counsel the husbands on the reproductive health issues while the wives undergo the routine antenatal checkups.

More than half the men were present at the time of delivery of their last child. A majority of men among those who were absent at the time of delivery reported that their wives were at their parents' house. Going for delivery to the parents' house is a very common feature in rural areas of India. Especially the birth of first child generally takes place at the parental home. If those cases where wives were in their parents' house were removed, the proportion of men attending delivery becomes very high. Therefore, a large percentage of men were found to be actively involved during delivery. Men who were older in age and men who had more than two living children were more likely to be present at the time of delivery compared to their counterparts. This is typical because of the fact that the women might be delivering their higher order children at their husbands' house instead of their parents' house. Further, with an increase in their age, men may have more say in household decision-making or may become head of the households or may become more concerned about their wives' health. With increasing age, women may also gain more power in their households and can request their husbands to be present at the time of delivery.

Men from non-nuclear households were significantly less likely to be present compared to men from nuclear households. Husbands' involvement at the time of birth is also related to the presence of other people who might attend. In non-nuclear households, there may be many other members who might be available. So, men in such households may be less concerned about the delivery compared to men from nuclear households where they are themselves the household heads. It is possible that husbands who lack other household support make greater efforts to attend than those husbands who know that there are other people to assist their wives if they are themselves unavailable during that time (Carter 2002).

The variables on size of network and gender role attitudes that were considered most important for this analysis were not found significant in explaining the presence of men at the time of delivery. Though the presence of men increased with an increase in the number of network partners, it was not found significant in the multivariate analysis. This means that with an increase in the number of network partners, men become more aware about maternal health related issues. But this increase in awareness is not adequate to exert much influence on the presence of men during delivery. It is possible that the weight exerted by the increase in size of network is not sufficient to pull down the weight exerted by the cultural and traditional beliefs prevailing in the community. A similar situation may arise in the case of gender role attitudes. The influence of the modernizing effect of gender role attitudes may not be strong enough to overcome the influence generated by other cultural and

traditional factors. The evidence to support such arguments comes from the fact that only age of the respondent, number of living children, education, standard of living, and type of household were significant in explaining the presence of men. These are the variables that have direct links with the status of men in their households in terms of decision-making and control over resources. At the same time these are the variables whose effects are least confounded by unexplained factors operating in the community.

Apart from the presence of men at the time of delivery, gender role attitudes and size of social network were found significant in explaining men's involvement during pregnancy and child birth. Therefore, men should be informed and counseled on gender related issues. Efforts are also needed to promote gender equity among the men. Men should be encouraged to discuss reproductive health issues with their network partners so that they become more informed about reproductive health issues. For discussion among the network partners to be beneficial, the network partners also need to be informed about the advantages of family planning and utilization of other maternal and child related services. Therefore, it is not only the husbands of the eligible women that need to be counseled, but their friends and peers also need to be counseled. The strategies to provide counseling to peers and friends could include using community outreach workers in locations where men generally assemble in rural areas; mass media campaigns showing the advantages of family planning and other maternal health related services; and organizing community meetings with the help of panchayat members informing the men folk about the reproductive health issues of women.

Sometimes traditional beliefs and cultural contexts may also prevent men from getting involved in reproductive health matters of their wives. A small proportion of men reported that their family members did not allow them to accompany their wives for antenatal care or they thought that antenatal care was a matter related merely to women. Again, in India, women generally go to their parent's house for the delivery of their first child. In such cases men may not be allowed to go to their in-laws house to assist their wives even if they wished to do so. A considerable proportion of men reported that they were not present at the time of delivery of last child because their wives were at their parents' house. The cultural and traditional beliefs may not allow these men to get involved in reproductive matters of their wives even if they wish to do so. In such cases, male involvement may be beyond men's hand. Raju and Leonard in their systematic review note that many men wanted to become sensitive to women's special needs during pregnancy, childbirth and lactation, but that they feared social ridicule if they stepped outside accepted gender norms (Raju and Leonard 2000). Men should be informed about the importance of prenatal and natal care. They should be told that bringing children is the shared responsibility of both men and women. So, the issues surrounding pregnancy and child birth should be seen as the collective responsibility of both husbands and wives.

The issue that is of central concern is the quality of reporting by men about their involvement in reproductive health issues. Overall, we find differential reporting by men and women on involvement of men during pregnancy and childbirth. The differences in the reporting of men's involvement by husbands and wives are not large enough to doubt the reports of the men. The differential may also depend on the perception of the respondent. Therefore, a little higher report by men of their involvement need not be taken as a serious bias in reporting.

Overall, we find that a majority of men clearly provide support to their wives, such as assisting their wives during pregnancy and delivery. The involvement of men in women's health during pregnancy and delivery is notable. Therefore, men cannot be viewed as simply 'the problem' and also cannot be cast as merely a source of multiple barriers to better health of women. Similar findings emerge from a study conducted by Carter in rural Guatemala (Carter 2002).

Informing men about maternal care and involving them in decision-making could play an important role in improving maternal health. As rightly pointed by Carter (2002), male involvement during pregnancy and child birth is multi-dimensional. The study clearly brings out the fact that the dynamics of men's involvement vary as the context does: pregnancy care and presence at the time of birth engage different elements of gender and household structure and produce distinct patterns of male

involvement . Programme managers and policy makers should recognize this fact and should try to bring in this multi-dimensional nature of male involvement into policies and programmes for better utilization of the maternal and child health related services.

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## Appendix 1 and 2

**Appendix 1: Scores assigned to different household amenities and household possessions used in computation of standard of living of a household**

Components	Categories	Scores
Source of drinking water	1. Tap (own)	3
	2. Tap (shared)	2
	3. Hand pump + well	1
	4. Others	0
Type of house	1. Pucca	4
	2. Semi pucca	2
	3. Kachcha	0
Source of lighting	1. Electricity	2
	2. Kerosene	1
	3. Other	0
Fuel for cooking	1. LPG	2
	2. Kerosene	1
	3. Others	0
Toilet facility	1. Own flush toilet	4
	2. Own pit toilet	2
	3. Shared toilet	2
	4. No toilet	0
Ownership of items	1. Fan	2
	2. Radio/Transistor	2
	3. Sewing machine	2
	4. Television	3
	5. Telephone	3
	6. Bicycle	2
	7. Motor cycle/Scooter	3
	8. Car	4
	9. Tractor	4

**Appendix 2: Items included in the final Gender Equitable Men Scale (GEMS)**

Traditional gender norms	Egalitarian gender norms
Woman's most important role is to take care of her home and cook	A man should know what his partner likes during sex
Man's decision is final in his home	A couple should decide together if they want to have children
Mother's responsibility is changing diapers, bathing, feeding the kids	Woman can suggest using condoms just like a man
A woman should tolerate violence in order to keep her family together	Women have the same right as men to study and work outside of the house
Man decide the type of sex to have	A woman and man should decide together the type of contraceptive to be used
There are times when women deserves to be beaten	It is good to have a male friend with whom you can talk about your problems
It is okay for a man to hit his wife if she would not have sex with him	If a man sees another man beating a woman, he should stop it
It is a woman's responsibility to avoid pregnancy	Above all a man needs respect
Men need more sex than women	
Men are always ready to have sex	
You do not talk sex, just do it	
A man always deserves respect from his family	

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