

## Does Male Participation in Maternal Health can ensure achieving MDGs in India? Evidences from National Family Health Surveys

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**Abstract:** The paper analyzes individual, familial and contextual factors affecting male involvement in the maternal health of their wives in India using data from National Family Health Survey, 2005-06. The analysis is based on the information collected from the men of age group 15-49, having a living child aged 0-35 months at the time of survey. Findings reveal that over half of such men accompanied their wife for ANC when they were pregnant with their youngest child. Increasing educational gap between husband and wife adversely affects the male participation in maternal health. It varies across different regions of the country; especially central region needs concerted efforts. Analysis of health system response in informing husbands about potential pregnancy complications to their wives and actions to mitigate the impact of complications portrays that rich and urban men are the privileged groups. Men from schedule castes and schedule tribes are the less informed group.

**Key words:** *Male participation, Reproductive health, Pregnancy complications, Safe delivery.*

### Importance of the Problem

Over the years, there has been a growing consensus among policy makers, programme personnel, researchers and health practitioners across the globe that male's involvement has been a key facilitating factor to the women's reproductive health. Milestones in the process of developing these consensus have been the International Conference on Population and Development at Cairo in 1994 and the Fourth World Conference on Women in Beijing in 1995, which emphasized that men's attitude and skills and ways of reaching them influence not only their own but also women's reproductive health. The UN Millennium declaration also outlined the universal access to reproductive health as the key strategy to achieve the MDGs. The key components under the reproductive health are *adolescent health, prenatal care, safe delivery, postnatal care, breast feeding practices, full immunization* etc. Many of these goals are related to pregnant women, and cannot be achieved without the involvement of men in maternal 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 (Drennan, 1998). It not only implies contraceptive acceptance but also refers to the need to change men's attitude and behavior towards women's health make them more supportive of women using health care services and sharing child bearing activities (Helzner, 1998). Participation of men in reproductive health leads to better understanding between husband and wife (Helzner 1998, Karra et al 1998). It reduces not only the unwanted pregnancy but also reduces maternal and child mortality in connection with pregnancy and labour by being prepared in obstetric emergencies. Further, the role of men in reproductive health is also

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considered important in the present day context of high incidence of STD<sub>s</sub> including HIV/AIDS (Drennan et al 1998).

In patriarchal societies, where women lack autonomy in reproductive decision making especially in contraceptive use, men can contribute to the improvement in women's health and consequently overall improvement of women's status (Singh et al, 1998). Taking greater responsibility for their own use of contraception, men can not only reduce the spread of HIV and sexually transmitted infections but also decrease the number of unplanned pregnancies (Pan American Health organization, 2007). By giving women emotional and instrumental support, men can also clearly positively affect women's attitude towards pregnancy (Kroelinger & Oths, 2000). During pregnancy and delivery men can give important psychological and emotional support to the women (Early, 2001). There are evidences suggesting that men's presence in the labour room shortens the period of labour and reduce the number of children ever born with low birth weight (Dudgeon & Inhorn, 2004).

International studies from a Variety of regions have shown that reproductive health programs are likely to be more effective for women when men are involved in some way (Gordon, 1995; Mbizvo and Bassett, 1996). A study conducted in Bombay found that women made a greater number of antenatal maternal health clinic visits when their husband had attended an informational session at the clinic, compared to those whose husbands did not attend any (Bhalerao et.al.1984). Results of most of those studies demonstrate that when men are actively involved and informed, fertility tends to drop and contraceptive acceptance increases (Becker, 1996). An analysis of male involvement in family in five generations of an extended family in south India similarly revealed that the sharpest drops in fertility occurred when men were most involved in family planning decisions (Karra et. al., 1997)

In India, where women's autonomy is particularly low, educating and involving men in reproductive health matters may be one of the effective means of influencing change in the poor health outcomes of women and girls. Results of the intergenerational study of the South Indian family demonstrated that male involvement was not dependent upon better inter spousal communication, but rather the participation of men led to progressive changes in the social roles of spouses over time (Karra et. al., 1997). These findings suggest that involving men in reproductive health interventions might help to foster a better understanding between husbands and wives, which in turn affect the utilization of services and maternal health of women. Of course, ensuring men's involvement in reproductive and child health may be challenging from the programme perspective but it may provide an effective means to successfully translate a policy in programme of action. Past experience about reproductive and child health shows that without the help of men, it is impossible to successfully implement the RCH programme.

### **Need of the Study and Objectives**

Consistent to the above importance of male participation in maternal health, there has been a growing realization of enhancing male participation in the overall RH programme in general and maternal health in particular in the recent years. A number of researchers have been advocating for the lack of male involvement in the family building process as the major barrier in achieving the effectiveness of RH programme in many demographically backward states in the country (Irudya Rajan and James, 2004). In spite the fact that various large scale surveys have been carried out to capture information on health of

women and children, it is disheartening to note that males have been kept away from most of the RH programmes (Singh 2007). Men's supportive role is an essential component for making women's life better, during antenatal, natal and postnatal care. There is a need to know the level of male involvement in Antenatal care and their awareness level about pregnancy complications in different states of India. This paper aims to analyze the factors that influence the involvement of men in maternal care and to identify the priority areas to intervene for ensuring maternal health. The specific objectives of the study are:

1. To analyze the male participation in maternal health care services.
2. To examine individual, household and contextual level factors, which effect men's involvement in utilization of maternal health services.
3. To analyze the health system response in providing the extent of information about pregnancy complications and potential actions to the husbands.

### **Data and Methodology**

Data used in this study have been obtained from National Family Health Survey conducted during 2005-06 (NFHS-3). NFHS-3 collects information on wide range of topics such as fertility, mortality, family planning, immunization coverage of children, nutritional status, knowledge of AIDS and other issues. In addition to this, information about different aspects of men's involvement in antenatal care was also collected through men's questionnaire. Men were also asked whether at any time during the pregnancy any health worker or health provider told them about the various signs of pregnancy complications (Vaginal bleeding, Convulsion and Prolonged labour) and what to do if the mother had any of these complications. For this analysis we have considered men aged 15-49 years whose youngest living child was less than three years of age at the time of survey.

To study the level of male involvement in maternal health both bivariate and multivariate techniques have been used by taking three dependent variables namely *respondent accompanying their wife during the antenatal checkups, extent of information about different types of pregnancy complications given by health provider to respondent and whether informed about actions in case of any pregnancy complications*. In order to have a comprehensive analysis of all the above three response variables, the paper uses a set of 14 independent variables, which are likely to influences the men's involvement in maternal health either directly or indirectly. These independent variables are further categorized into *individual, household and contextual level factors*. Individual level factors consist of age, education, exposure to mass media, working status, age-gap between husband and wife, and educational gap between husband and wife. However, religion, wealth index, household structure, caste/tribe are the major household level factors included in the analysis. In addition to individual and household level factors, the analysis incorporates four other factors which are likely to influence individual's behavior through the context and environments in which s/he is living. The contextual factors included in the analysis are region, urban-rural place of residence, wife beating attitude and attitude towards wife's sexual rights.

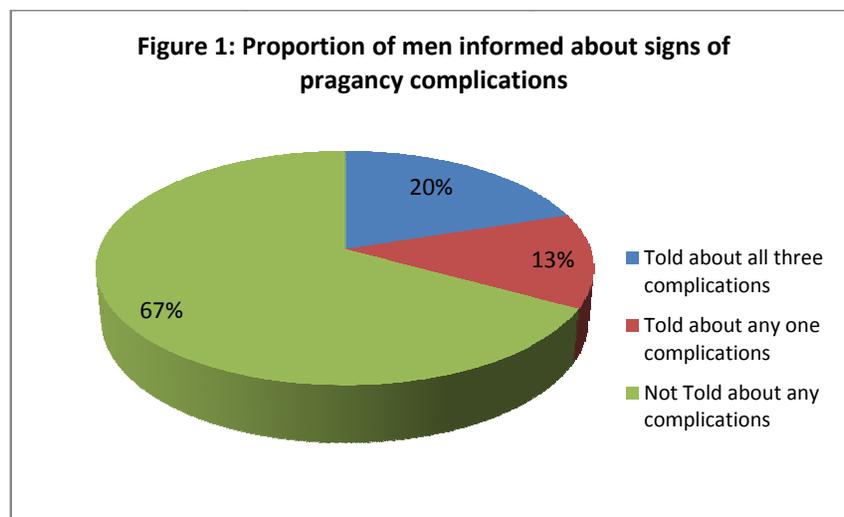
### **Findings and Discussions**

There are several evidences from literature suggesting a wide range of factors responsible for unintentional as well as intentional nutritional discrimination among pregnant women in rural areas of several states. As a result, a substantial proportion of pregnant women suffer from anemia, which

ultimately may result into maternal and child death. Therefore, men should have comprehensive knowledge about nutrition and care of women during pregnancy, different pregnancy complications and about the actions in case of pregnancy complications. In the light of above argument we can say the participation of men in ANC is crucial for ensuring maternal health.

### ***Factors affecting male participation in utilization of ANC***

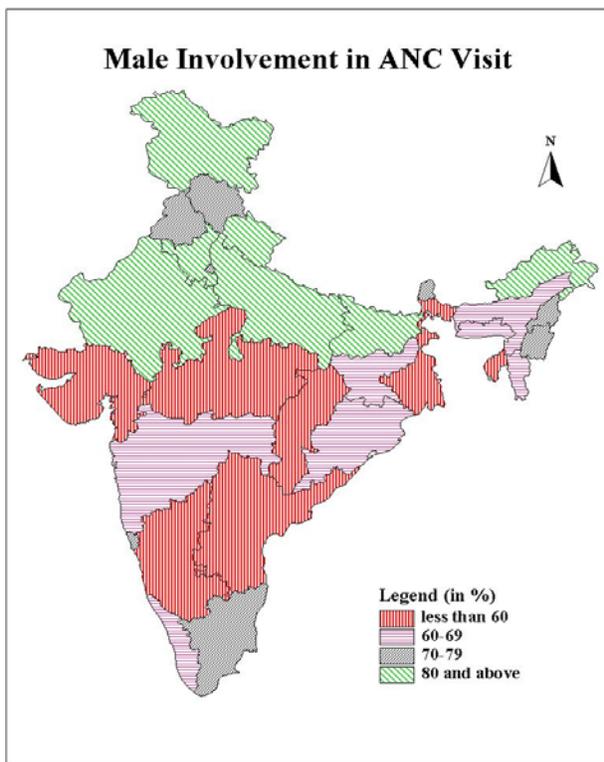
Presence of men during ANC plays a very vital role in reproductive health. In India men are often the primary decision makers regarding women's health care and hence information on male participation in ANC will be vital for enhancing safe motherhood programme in the country. This section aims to analyze the factors affecting participation of men in antenatal checkups when their wives were pregnant with the youngest living child age 0-35 months. It is evident from **Figure 1** that nearly one-third of men aged 15-49 years reported that their wives did not receive antenatal check-ups when pregnant with their youngest child. Further, it is seen that in more than 50 percent of the pregnancies the father said that he was present at the time of ANC visit, while for 17 percent of the pregnancies, the mother went for antenatal check-ups but the father was not present. As expected, men's participation in ANC has been a function of their educational attainment and exposure to mass media. However, the proportion of men accompanying their wife in the utilization of ANC services is inversely related with the age gap and education gap between husband and wife (data not shown).



The issue of male participation in maternal health is expected to be a function of cultural and traditional values, beliefs and perceptions across different regions, especially in the country like ours which is known for its unity in diversity. Variation in men's involvement in maternal health across different cultural settings is clearly demonstrated by the spatial distribution of proportion of men reported to accompany their wives for ANC across different states of India (**Map-1**). The map pertaining to the presence of husbands during ANC visit is shown by four types of legends i.e. the states where the presence of husbands during ANC visit is *less than 60 percent*, *between 60-69 percent*, *70-79 percent* and *80 percent or above* respectively. The spatial pattern clearly depicts that in majority of states in India, the proportion of husband accompanying their wives during ANC visit at the time of pregnancy with their youngest child ranges between 70 to 79 percent. Of course these patterns are not unexpected for the demographically developed states but it is encouraging to find substantially higher proportion of husbands accompanying their wives for ANC even among demographically less developed states such

as Jharkhand, Orissa and Jammu & Kashmir, etc. On the other hand, three states namely Haryana, Meghalaya and Mizoram are showing relatively lower proportion of husbands accompanying their wives (below 60 percent). However, the exact reasons for these variations may be seldom known as there may be a number of local and regional factors operating behind the process including other family members accompanying pregnant women for their ANC, especially among younger women living in joint family system.

The logistic regression odds ratios portraying the adjusted effects of individual, familial and contextual factors affecting men's accompanying their wives during the utilization of ANC services when they were pregnant with the youngest child are presented in table1 under three different models. The first model which includes only individual level factors reveals that men in the age group 30-39 are 24 percent more likely to participate in anti natal checkups compared to men less than 30 years of age. Men from the age group 40 and above are 26 percent more likely to participate in ANC service of wives in comparison to reference category. Men having at least secondary education are 1.3 times more likely to be present at the



time of antenatal checkups of their wives and men having higher education are 2.6 times more likely to participate in ANCs services of their wives in comparison to reference category. The contribution of increasing exposure to mass media in enhancing male participation in ANC is statistically established. A significantly higher proportion of men with partial exposure (AOR= 1.5,  $p<0.01$ ) and full exposure to mass media (AOR= 2.0,  $p<0.01$ ) as against those who were not exposed to any mass media reported to accompany their wives for ANC. Men with a moderate educational gap with their wives are 20 percent less likely to participate in the ANC visit than those with low or no educational gap and the difference is significant. However, age discordant does not emerge as a significant predictor of the male involvement in the utilization of ANC services.

When a set of household level factors are included in the generalized linear model, the adjusted effects of age, education, educational gap between husband and wife and exposure to mass media remain significant predictors, while household structure i.e. nuclear and non-nuclear type of family, emerge as another significant predictor of male participation where men from non-nuclear households are less likely to accompany their wives for ANC (AOR= 0.85,  $p<0.10$ ). The pattern remains by and large the same even if we add a set of contextual factors in the model. As shown in Map1, there is a significant variation in proportion of men accompanying their wives for ANC across different regions in the country after adjusting for a number of individual, familial and contextual factors. These findings are consistent, where men from the central region are significantly less likely to accompany their wives for ANC. Wife beating attitude has been another significant predictor of male participation in ANC

(AOR=0.77,  $p < 0.01$ ), which needs immediate attention of researchers as well as policy makers as it bears serious implications on not only the maternal health but also is detrimental to the overall quality of life of women in the country. The log likelihood value of third model is less (4015.11) in comparison to first model (4300.99) and second model (4070.46), which shows that logistic regression for third model which include individual level, household and contextual level variables is appropriate and better fit to examine the adjusted effect of different predictors.

### ***Health system responsiveness in informing husbands about pregnancy complication to their wives***

Information about types of pregnancy complications and potential actions are important to minimize the chances of emergency obstetric problems, which in turn may be useful in achieving the millennium development goals pertaining to maternal and child health. In the existing socio-cultural set-ups, where males are largely responsible for decision relating to health care for women including their pregnancy and child birth, it should be mandatory to educate them to impart comprehensive knowledge of danger signs of pregnancy and pregnancy complications along with the potential emergency care actions in order to have better maternal health outcomes. This section presents the extent of information given to the husbands by health provider on different signs of pregnancy complications. It is evident from the results presented in **Table 2** that over two-thirds of men (67 percent), who accompanied their wives for ANC visit, were not informed by health providers about any pregnancy complications. Merely one-fifth of men were informed about all the three major complications normally occurring during pregnancy and 13 percent were told about any one of these complications.

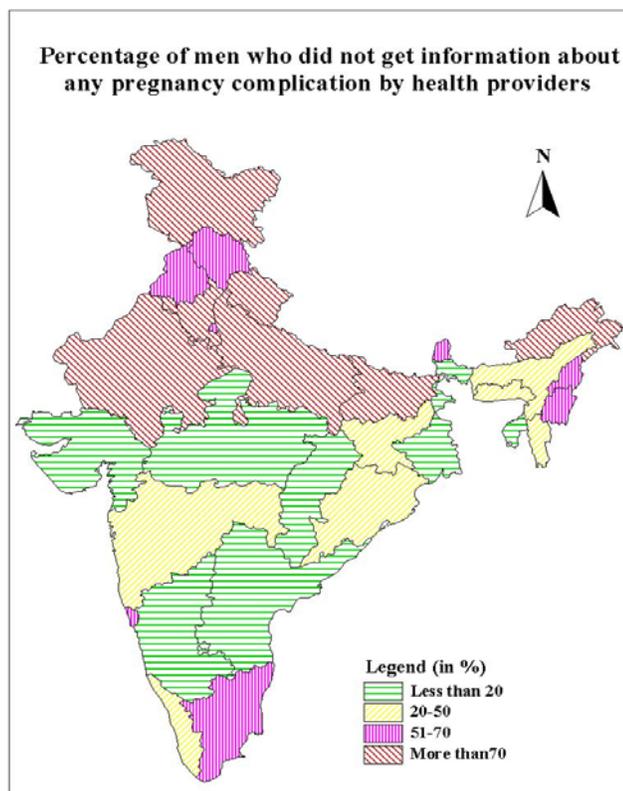
The pattern of variation is not uniform across different background characteristics included in the analysis. Increasing educational qualification of men has a significant association with the proportion of men who were informed about pregnancy complications by the health providers (Chi-square= 548,  $p < 0.00$ ). The information regarding the complications is three times higher among highly educated men (28 percent) than among the uneducated (9 percent). Thirteen percent of highly educated men were told about any one of the pregnancy complications where as only 6 percent among uneducated were informed about these complications. Further, the extent of media exposure is also positively related with the proportion of men who were informed about pregnancy complications (Chi square =300,  $p < 0.00$ ). Proportion of men who reported to have been informed about all the three most common pregnancy complications is three times higher (32 percent) among those having higher media exposure as compared to those who were not exposed to any mass media. Similarly, the corresponding proportions having knowledge about any one of the three complications are two times higher (19 percent) among those having fully exposed to mass media as against those not exposed to any form of mass media. Similarly, those living in urban areas are over one and half times more likely than their rural counterparts to be informed about all the three most commonly reported pregnancy complications.

Of course, the caste-wise variation does not seem to be profound but there is a significant variation in the proportion of men who reported to have received information from health care providers about all the three complications across different caste groups (Chi-square= 112,  $p < 0.00$ ). Wealth index of the household to which men belong to, has a positive association with the extent of knowledge of pregnancy complications received from the health providers. It is clear from the table that as we move towards rich persons from poor a substantial increase in the knowledge about all three complications is seen. Rich men (28 percent) are almost three times more likely to be told about all the three complications than the poor (11 percent). Further, it is evident from **Table 2** that percentage of men who are told about all three

complications regarding pregnancy is substantially higher (35 percent) in the southern region followed by western region (29 percent). Northern, Eastern and Central regions are relatively unprivileged regions in the context of the information given by health providers and workers regarding the pregnancy complications.

Regional variation in the proportion of men who were informed by the health providers about different pregnancy complications is an issue of utmost importance for the maternal health programme and hence the proportion of men who reported to never have been informed about these issues has been presented across different Indian states in **Map- 2**. The proportion of men are categorized in four groups ranging from *below 20*, *20-50*, *51-70* and *70 percent and above* for presentation as the legend. The spatial analysis shows a distinct picture where most of the men in northern states of India were seldom told by health providers about their partner’s pregnancy complications. However, few middle and eastern states like Madhya Pradesh, Chhattisgarh, West Bengal, Tripura etc, portrays substantially higher proportion of men who were told about their partner’s pregnancy complications. Except in Tamil Nadu and Goa, most of the men belonging to southern states were told about their partner’s pregnancy complications. Overall, the spatial patterns of male involvement in maternal health show a wide variation across the different states and hence form an important issue for programme and intervention in order to strengthen the maternal health programme in the country.

The logistic regression odds ratios portraying the adjusted effects of individual, familial and contextual factors affecting husbands being informed by health care providers about actions in case of any pregnancy complications to their wives are presented in table3 under three different models. The first model ,which includes only individual level factors reveals that men between age group 30-39 and above age 40 are 15 and 28 percent more likely than those age less than 30 years to be informed by health providers about the potential actions in case of any pregnancy complication. Educational qualification is positively and significantly associated with the information provided by health providers about actions in case of any pregnancy complications (for those completed higher secondary and above AOR=1.93,  $p < 0.01$ ). Men who have got secondary education are 67 percent more likely to be informed than those who are uneducated. Similar to the earlier findings, exposure to mass media is another prominent factor affecting chances of being informed by health care providers about actions in case of any pregnancy complication (AOR=2.48,  $p < 0.01$ ). Men with moderate educational gap



with their wives are 14 percent less likely to get the information by health providers about actions in case of any pregnancy complications compared to those with low educational gap. Thus, husband -wife discordance on educational attainment work as impediment in ensuring maternal health programmes in the ways more than one. However, the exact causation behind this process may be seldom to know with the help of secondary data analysis.

When a set of household level factors are included with the individual level factors in the generalized linear model, the adjusted effects of age, education, educational gap between husband and wife and exposure to mass media remain significantly associated, while household structure i.e. nuclear and non-nuclear type of family, and wealth index emerge as another significant predictors, where men from non-nuclear households are less likely to be informed by health providers about actions in case of any pregnancy complication (AOR= 0.86,  $p<0.01$ ). The pattern remains by and large same even if we add a set of contextual factors in the model.

Men in southern and western regions are significantly more likely than northern region to be informed by health providers about actions in case of any pregnancy complications. However, situation in central, eastern and north -east are by and large the same as observed in case of northern region. These adjusted differentials cut across demographic development in different regions of the country. Thus, male involvement in maternal health both in terms of accompanying their wives during ANC and informed with signs of pregnancy complications and potential actions will be extremely useful in achieving the NRHM and MGD goals in the country. These differentials are further pronounced in case of urban rural place of residence. Men belonging to rural areas are 23 percent less likely to get the information about actions in case of any pregnancy complications than those who are residing in urban areas. Thus, these differentials may be vital for any suitable programme and interventions. The log likelihood value of third model is less (6145) in comparison to other two models, which shows that logistic regression for third model which include individual level, household and contextual level variables provides an appropriate and better fit.

### **Conclusions and Recommendations**

In view of the findings that every second man in India, having a living child below age 36 months, accompanied his wife for ANC when she was pregnant with the youngest child, it is essential to commission few area specific studies to find the major barriers in male participation in utilization of ANC services across the country. The findings showing significantly positive associations of male participation in maternal health programme suggests to strengthen the individual level interventions especially addressing male gender role attitudes and perceptions. In fact, any educational interventions may be time consuming though it may have a long lasting impact and hence suitably developed interventions for media exposures will be the right strategy to change males attitude and behaviours in terms of their participation in maternal health programmes. Another equally thought provoking finding is the significantly negative association of male participation in maternal health with educational and social discordance between husband and wife. Again, audience specific messaging of male's role in minimizing gynecological and obstetric morbidities may be right strategy to address these issues and ensure maternal health. Regional variation in male participation in reproductive health paints a consistent pattern where men in Southern and western regions are more likely to play a pro active role in maternal health than those living in north, central, east and north east regions. These associations reveal co variation in male

participation in maternal health with the exiting demographic transition in the country. Therefore, strategizing male participation in maternal health will be beneficial not only for the reproductive health of the women but also in achieving the demographic transition in the regions where the pace of transition is not so encouraging.

Another equally important issue is the health system responsiveness in enhancing husband's knowledge and awareness of danger signs of pregnancy complications and potential actions to minimize any delay in treatment seeking. Consistent with the men's participation in maternal health, proportion of men informed by health providers about actions in case of any pregnancy complications also increases with the increase in educational level and their exposure to mass media. Socio-economically marginalized groups are less likely to be informed by health providers about actions in case of any pregnancy complications. Men from economically better off households are the relatively privileged groups who are given the information by health providers about actions in case of any pregnancy complications. Rural men are under privileged in getting the information about pregnancy complications than their urban counterparts.

In fact, there is no dearth of evidences that men themselves are the best source of information about effective outreach and service delivery strategies. As a result, it would be ideal to involve men throughout program designing and implementation in order to ensure the materials and services addressing their needs and concerns. Therefore, any strategy to translate maternal health policies in to programme should emphasize increasing male involvement as a central issue and an effort should be made to increase male involvement through coordination and collaboration between agencies involved at different levels. Best example for this recommendation may be the exiting Janani Suraksha Yojna (JSY), which is predominantly relying on Accredited Social Health Activists (ASHAs). The effectiveness of the JSY may increase many fold if it has a provision of encouraging husbands to actively support their wives to ensure their maternal health by minimizing both gynecological and obstetric morbidities, which may be achieved through projecting husbands as an excellent support system and creating enabling environment for service utilization. Another equally important strategy may be developing the responsible fatherhood program.

Over the last five decades IEC campaigns in India has been an important means of raising people's awareness, improving knowledge and encouraging male support for family planning and hence the same with expanded domain of mass media can be used to project importance of male involvement in ensuring maternal health which in turn may result in achieving millennium development goals by the country. These findings on heterogeneity in the health system responsiveness in informing husbands about pregnancy complications and potential actions suggest an urgent need to develop institution based interventions. The first step in this direction may be developing educational materials and training for doctors, nurses, midwives and other health care professionals focusing at the importance of involving men, especially husbands in ANCs. These opportunities can also be exploited in enhancing their knowledge and awareness to danger signs of emergency obstetric complications and minimize the delay in transferring such cases from home to hospital. This recommendation has a strong potential to minimize the maternal mortality ratio in the country and increasing the pace of achieving millennium development goals.

## Limitations of the Study

The present study is based on information available with NFHS -3, which is very limited to understand the process and pathways through which male participation may enhance maternal health. Therefore, analysis of the issues is primarily indicator based and variation in those indicators by individual, familial and contextual predictors.

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**Table 1: Factors affecting male participation in utilization of ANC services**

Logistic regression odds ratios portraying major correlates of men accompanying their wives during the utilization of ANC services when they were pregnant with the youngest child, India 2005-06

<b>Background characteristics</b>	<b>Model-1</b>	<b>Model-2</b>	<b>Model-3</b>
<b>Individual level</b>			
<b>Age groups</b>			
< 30 years®	1.00	1.00	1.00
30-39 years	1.24***	1.21**	1.14
40 above	1.26*	1.34*	1.30*
<b>Education</b>			
No education®	1.00	1.00	1.00
Primary	0.76	0.75	0.73
Secondary	1.34*	1.23	1.18
Higher Secondary and above	2.59***	2.31***	2.32*
<b>Working status</b>			
Not Working®	1.00	1.00	1.00
Working	1.19	1.18	1.18
<b>Exposure to mass media</b>			
Not at all Exposed®	1.00	1.00	1.00
Partially Exposed	1.49***	1.38**	1.39**
Fully Exposed	1.98***	1.68**	1.65**
<b>Age Gap between husband and wife</b>			
Low®	1.00	1.00	1.00
Moderate	0.96	0.98	0.98
High	0.92	0.90	0.89
<b>Education Gap between husband and wife</b>			
Low®	1.00	1.00	1.00
Moderate	0.80***	0.81**	0.82**
High	0.88	0.86	0.84
<b>Household level characteristics</b>			
<b>Caste/Tribe</b>			
Scheduled caste®		1.00	1.00
Scheduled Tribe		0.93	1.06
Other backward class		1.10	1.07
Others		1.12	1.15
<b>Religion</b>			
Hindu®		1.00	1.00
Muslim		0.80*	0.79**
Others		0.76**	0.82
<b>Wealth index</b>			
Lower®		1.00	1.00
Middle		0.93	0.92
Upper		1.21	1.13
<b>Household structure</b>			
Nuclear®		1.00	1.00
Non nuclear		0.85*	0.89
<b>Contextual variables</b>			
<b>Region</b>			
North®			1.00
South			1.47**
East			1.43*
West			1.39**
Central			0.74**
Northeast			0.99
<b>Place of residence</b>			
Urban®			1.00
Rural			0.95
<b>Wife beating attitude</b>			
Agree with none of the reason®			1.00
Agree with at least of the reason			0.77***
Agree with all the reasons			0.68
<b>Attitudes towards wife's sexual rights</b>			
Agree with none of the reasons®			1.00
Agree with at least of the reasons			0.84
Agree with all the reasons			0.66
<b>-2 Log likelihood</b>	<b>4300.99</b>	<b>4070.46</b>	<b>4015.11</b>

**Table 2: Men who were ever told by health providers about different signs of pregnancy complications**

Percentage distribution of men age 15-49, having the youngest child age 0-35 months and wife received antenatal care (ANC) when pregnant with the youngest child, according to information received on signs of pregnancy complications from the health providers, *by some background characteristics*, India, 2005-06

Background characteristic	Percentage who were told by a health provider or worker about specific signs of pregnancy complications (virginal bleeding convulsion, & Prolonged labour)			Chi-square	P-Values
	Told about all 3 complications	Told about any one of pregnancy complications	Not told about any Pregnancy complications		
<b>Age in groups</b>					
< 30 years	19.5	12.6	67.9	22.69	.000
30-39 years	21.7	12.7	65.5		
40 above	17.1	13.2	69.6		
<b>Education</b>					
No education	9.5	6.3	84.0	547.8	.000
Primary	15.2	9.4	75.4		
Secondary	21.4	12.0	66.6		
Higher Secondary and above	28.4	13.3	58.3		
<b>Working status</b>					
Not Working	21.8	13.3	64.9	45.69	.000
Working	33.7	18.6	47.7		
<b>Total</b>	22.3	13.5	64.2		
<b>Exposure to mass media</b>					
Not at all Exposed	10.9	9.1	80.0	299.7672	.000
Partially Exposed	21.5	13.1	65.4		
Fully Exposed	31.6	18.6	49.8		
<b>Total</b>	19.2	12.3	68.5		
<b>Age Gap</b>					
Low	20.3	12.8	66.9	6.57	.1603
Moderate	21.7	13.1	65.2		
High	18.2	11.6	70.2		
<b>Education Gap</b>					
Low	25.9	14.9	59.1	6.660	.155
Moderate	24.2	14.6	61.2		
High	22.5	15.8	61.8		
<b>Caste/Tribe</b>					
Scheduled caste	17.8	10.6	71.5	111.72	.000
Scheduled Tribe	16.7	15.5	67.7		
Other backward class	20.2	11.5	68.2		
Others	24.4	14.0	61.6		
<b>Religion</b>					
Hindu	20.6	12.0	67.4	65.53	.000
Muslim	19.6	11.1	69.3		
Others	19.7	18.1	62.3		
<b>Wealth index</b>					
Lower	11.3	8.8	79.9	670.78	.000
Middle	17.5	13.8	68.6		
Upper	27.9	15.1	57.0		
<b>Household structure</b>					
Nuclear	19.3	12.7	68.0	8.585	.014
Non nuclear	21.2	12.8	66.0		
<b>Region</b>					
North	18.8	8.9	72.3	1208.34	.000
South	34.7	15.2	50.1		
East	16.2	8.5	75.2		
West	29.4	15.7	54.9		
Central	8.8	7.2	84.0		
Northeast	16.6	19.2	64.3		
<b>Place of residence</b>					
Urban	26.1	14.5	59.3	300.12	.000
Rural	15.8	11.4	72.8		
<b>Wife beating attitude</b>					
Agree with none of the reason	21.3	11.0	67.8	42.510	.000
Agree with at least of the reason	19.5	14.2	66.3		
Agree with none of the reasons	20.5	12.7	66.8		
Agree with any of the reasons	19.6	12.5	67.8	6.331	.176
<b>Total</b>	<b>20.3</b>	<b>12.8</b>	<b>66.9</b>		

**Table 3: Husbands being informed by health providers about actions in case of any pregnancy complications**

Logistic regression odds ratios portraying the major correlates of husbands being informed by health providers about actions in case of any pregnancy complication to their wives, India, 2005-06

<b>Background characteristics</b>	<b>Model-1</b>	<b>Model-2</b>	<b>Model-3</b>
<b>Individual level Characteristics</b>			
<b>Age in groups</b>			
< 30 years®	1.00	1.00	1.00
30-39 years	1.15**	1.08	0.98
40 above	1.28**	1.24*	1.18
<b>Education</b>			
No education®	1.00	1.00	1.00
Primary	0.99	0.95	0.87
Secondary	1.67***	1.45***	1.39**
Higher Secondary and above	1.93***	1.58***	1.69***
<b>Working status</b>			
Not Working®	1.00	1.00	1.00
Working	1.07	1.17	1.16
<b>Exposure to mass media</b>			
Not at all Exposed®	1.00	1.00	1.00
Partially Exposed	1.60***	1.41***	1.34**
Fully Exposed	2.48***	2.14***	1.85***
<b>Age gap between husband and wife</b>			
Low®	1.00	1.00	1.00
Moderate	0.96	0.96	0.95
High	0.86	0.85	0.83
<b>Education gap between husband and wife</b>			
Low®	1.00	1.00	1.00
Moderate	0.86**	0.87**	0.85**
High	0.91	0.89	0.83
<b>Household level characteristics</b>			
<b>Caste/Tribe</b>			
Scheduled caste®		1.00	1.00
Scheduled Tribe		0.95	1.17
Other backward class		1.18*	1.14
Others		1.12	1.28***
<b>Religion</b>			
Hindu®		1.00	1.00
Muslim		1.09	0.96
Others		1.06	1.07
<b>Wealth index</b>			
Lower®		1.00	1.00
Middle		1.05	0.92
Upper		1.49***	1.13
<b>Household structure</b>			
Nuclear ®		1.00	1.00
Non nuclear		0.86***	0.98
<b>Contextual Characteristics</b>			
<b>Region</b>			
North®			1.00
South			2.20***
East			0.82
West			1.89***
Central			0.67*
Northeast			1.00
<b>Place of residence</b>			
Urban ®			1.00
Rural			0.77***
<b>Wife beating attitude</b>			
Agree with none of the reason®			1.00
Agree with at least of the reason			1.00
Agree with all the reasons			1.14
<b>Attitudes towards wife's sexual rights</b>			
Agree with none of the reasons ®			1.00
Agree with any of the reasons			0.92
Agree with all the reasons			0.84
<b>-2 Log likelihood</b>	<b>6759.10</b>	<b>6379.61</b>	<b>6144.81</b>

Note: \*\*\* P<0.01, \*\* P<0.05 and \* P<0.10, First category of each predictor has been taken as a reference category for application of logistic regression