

Involvement of male spouse in care during pregnancy in rural areas of district Varanasi

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ABSTRACT

Background: Lack of male spouse involvement can affect the delays in the decision to take health care facilities, these are the main contributing factor for increasing maternal mortality and child death ratio. Men involvement in reproductive and sexual health including child health is important in reducing teenage pregnancy, maternal mortality, infant mortality, risky abortions, and total fertility rate. This study aimed to assess the awareness and practices of male spouse in maternal care services in rural areas. **Methods:** This is a community-based and cross-sectional study which was undertaken in randomly selected four villages of Kashi Vidyapeeth block, Varanasi. Total enumeration of women from the selected villages delivered within last 3 years was done and their husbands were interviewed by using a pre-designed, pretested interview schedule. Data on socioeconomic and demographic characteristics, awareness of various aspects and antenatal and postnatal care were collected and analyzed with SPSS 20 trial version. **Results:** Out of the total 130 interviewed male spouse (respondents), only 9.8% knows about minimum four antenatal visits. 26.9% were aware about the health related problems during pregnancy and only 7.7% were aware about the danger signs. Janani Suraksha Yojna was known to 11.5% only. 22.4% respondents accompanied their wife for antenatal registration and 36.2% for T. T vaccination but 70.2% were present in the hospital during delivery. Logistic regression analysis shows that education of respondents is a key determinant of their involvement during pregnancy. **Conclusions:** This study identified overall low awareness of male spouse about antenatal visits and involvement during antenatal care. Therefore, there is a strong need to re-strategize the involvement of male spouse in reproductive health including antenatal period.

Keywords: Antenatal care, awareness, male involvement

Background

Male participation is a crucial component in the optimization of Reproductive and Child Health (RCH) services. Since the early 1980s, lack of male participation in family planning (FP) has been a topic of research and discussions. "Male participation in reproductive health care" is a priority issue, because the reproductive health services that focus only upon women have limited impact and effectiveness.^[1] The Cairo (International

Conference on Population and Development) 1994 and Beijing, 1995 conferences have brought necessity of involving men as partner under sharp focus. The action plan emphasize the importance of male spouse with shared responsibilities in sexual and reproductive health care.^[2] Men involvement in reproductive and sexual health including child health is important in reducing teenage pregnancy, maternal mortality, infant mortality, risky abortions, and total fertility rate. Until male spouse are mobilized to involve in reproductive and sexual health including child health and support their partner to avail health care facilities before, during and after pregnancy, achieving high coverage of antenatal care (ANC) or delivery by skilled birth personnel, as stated in Millennium Development Goals, will remain a day dream.^[3] Men participation in maternal health is one of the interventions to improve maternal and newborn child health.^[4] Lack of male

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spouse involvement can affect the delays in the decision to take health care facilities, these are the main contributing factor for increasing maternal mortality and child death ratio. This study was aimed “to assess the involvement of male spouse in ANC of his wife in rural areas.” This will help in understanding male’s awareness and involvement in ANC and serve as a guide for primary care physicians and reproductive health targeted programs.

Importance for practice of primary care physicians: Present study showed that male spouse counselled by health workers (ASHAs) were significantly more likely of having awareness regarding ANC.

Materials and Methods

This is a community-based cross-sectional study which was undertaken in randomly selected four villages of Kashi Vidyapeeth block, Varanasi. Total enumeration of women delivered within last 3 years was done in selected villages. Male spouse of these women were interviewed by using a pre-designed, pretested interview schedule. Data on socioeconomic and demographic characteristics, awareness on antenatal, natal, and postnatal care were collected after taking informed consent.

Inclusion criterion: Eligible couples in the reproductive age group (20–54 years) having child below 3 years of age.

Exclusion criterion

- 1- If there were two or more couples with child less than 3 years in a family, only one was selected by lottery method
- 2- Eligible respondents, who refused to participate in the study

Institutional Ethics Committee approval was obtained for the study.

Data generated from quantitative survey were analyzed with the help of SPSS version 20th software (Trial Version). Logistic regression was done for the analysis.

Results

Table 1 shows that out of 130 interviewed respondents, more than two third (66.2%) were 20–30 age group, followed by 31–40 years age (33.8%) and caste wise distribution shows that more than half (52.3%) were SC/ST followed by OBC (32.3%) and General (15.4%).

Regarding education, around less than one fifth (15.4%) of the respondents were illiterate, whereas 11.5% primary, 22.3% middle, 16.2% high school, 15.4% intermediate, 19.3% graduation, and above. Occupation wise distribution shows that two third (60.0%) of the respondents were laborer followed by business (20.0%). The family structure of the respondents shows that majority (74.6%) belonged to joint families. While

Table 1: Back-ground characteristics of Respondents

Variable		Number	Percentage
Age (in years)	20-30	86	66.2
	31-40	44	33.8
Religion	Hindu	126	96.9
	Muslim	4	3.1
Caste	General	20	15.4
	OBC	42	32.3
	SC/ST	68	52.3
Education	Illiterate	20	15.4
	Primary	15	11.5
	Middle	29	22.3
	High school	21	16.2
	Intermediate	20	15.4
	Graduation and above	25	19.3
Occupation	Laborer	78	60.0
	Farm owner	12	9.3
	Business	26	20.0
	Service	14	10.8
Type of Family	Joint	97	74.6
	Nuclear	33	25.4
Economic status	High class	1	0.8
	Upper middle class	10	7.7
	Middle class	26	20.0
	Lower middle class	68	52.3
	Lower class	25	19.2
	Total	130	100%

*BG Prasad classification, 2016

one fourth (25.4%) were from nuclear families, more than half (52.3%) of the respondents belonged to lower middle class followed by middle class (29.05).

From Table 2, it can be seen that only 40% of the respondents were aware about the antenatal visits and only 9.8% were aware of the four visits. Regarding awareness about health related problems during pregnancy, one fourth of the respondents (26.9%) were aware about the health related problems during pregnancy, out of which majority (88.8%) were stated anemia as a main health related problems during pregnancy, followed by bleeding before delivery (11.4%) and weakness (8.5%), vomiting (5.7%). Only 7.7% were aware about danger sign, out of which one third (30.0%) told that slow movement of the fetus as a main danger sign followed by excess vomiting (20.0%) and pain in lower abdomen (20.0%). When the respondents were asked about awareness of birth preparedness only 30.0% of them were aware and out of which majority stated that it is about arrangement of personal funds to cover the costs of travelling and delivery with a skilled providers.

Table 3 shows that majority of the respondents’ wife (75.4%) were registered, only 24.7% were not registered and 6.2% were not aware of their ANC registration. When they were asked about the reasons for not registration, one fourth of the respondents (25.0%) told that ASHA were not visited at the time of pregnancy. More than one fifth (22.4%) of the respondents accompanied their wife for ANC registration and 43.1% of the

Table 2: Awareness of the Respondents on Antenatal Care

Variables		n	%
Awareness about ANC visits	Yes	52	40.0
	No	78	60.0
Number of Recommended minimum visits (n=52)	Correct answer (4 visits)	19	9.8
	Incorrect answer (less or more than 4 visits)	33	90.2
Awareness about the health related problems during pregnancy	Yes	35	26.9
	No	95	73.1
Awareness about specific health related problems during pregnancy (n=35)*	Anaemia	31	88.8
	Pain in abdomen	5	14.2
	Weakness	3	8.5
	Vomiting	2	5.7
	Bleeding before delivery	4	11.4
	Others	5	14.2
Awareness about danger/warning sign during pregnancy	Yes	10	7.7
	No	120	92.3
If yes, specify danger sign (n=10)	Bleeding from vagina	1	10.0
	Bleeding from vagina and slow movement of the fetus	1	10.0
	Slow movement of the fetus	3	30.0
	Problem in breathing	1	10.0
	Excessive vomiting	2	20.0
	Pain in lower abdomen	2	20.0
Awareness about Birth preparedness	Yes	39	30.0
	No	92	70.0
If yes, specify components of Birth preparedness (n=39)*	Four Antenatal visits	6	15.3
	Awareness about nearby health facility for child birth	11	28.2
	Arrangement of personal funds	36	92.3
	Awareness regarding danger sign	2	5.1
	Arrangement of support	3	7.6
	Making a plan for emergencies i.e., transport, money, blood donor etc	1	2.5

*Multiple responses

respondents accompanied their wife for ANC visit. Regarding T. T. vaccination, almost two fifth (36.2%) of the respondents accompanied their wife for T. T vaccination, out of which majority (74.4%) visited two times for T. T vaccination.

It was seen that [Table 3] during pregnancy almost two fifth (37.6%) of husbands ensured that their wives were taking IFA tablets during antenatal period. Majority (77.6%) encouraged their wives to consume green vegetables and fruits. Around a quarter (26.1%) did not allow their wives to do heavy work, 15.3% helped with daily household activities, 14.6% took their wives to health facilities in case of illness and only 4.6% encouraged her to have rest.

Table 4 shows that more than one fifth (21.5%) of the respondents told that ASHA had counseled them for ANC, out of which majority (89.2%) stated about proper nutrition followed by advantages of institutional delivery, avoid lifting heavy weight (64.2%) during pregnancy.

Figure 1 depicts that 77.5% respondents stated media as a main source of their ANC followed by health workers and neighbors and friends 48.3%.

Table 4 shows the result of logistic regression analysis for predicting the likelihood of having awareness and involvement

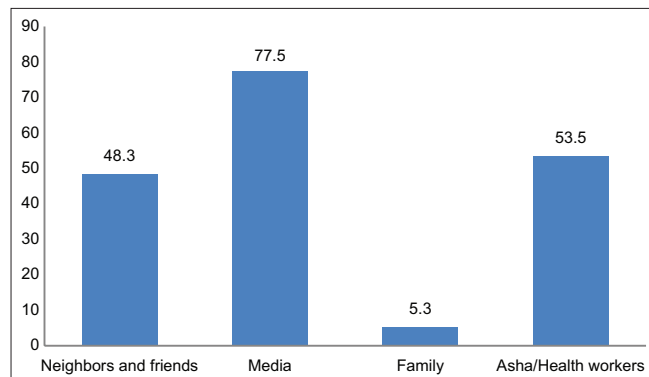
with socioeconomic and demographic factors, that is, age, caste, education, occupation, type of family, socioeconomic status and counseled by ASHA regarding ANC. The unadjusted and adjusted (adjusted with demographic status, counseled by ASHA regarding ante-natal care and socio-economic status) odds ratios are separately displayed in the table. The respondents belong to higher age-group and of OBC and SC/ST categories show increase in adjusted odds of having awareness regarding ANC services although the difference was not found statistically significant. On the other side, interestingly, the higher age-group respondents were less likely to involve in ANC services. Similarly, regarding involvement in services, the differences in odds ratios among the caste of the respondents were not statistically significant.

The educational level was found to be one of the important contributory factors in explaining the likelihood of having awareness and involvement in ANC. In the present study, the respondents who were highly educated (educated up to high school or intermediate) were significantly more likely of having awareness as well as involved in ANC services. The occupation of the respondents was not found significantly associated with awareness or involved antenatal services after the adjustment of other factors. As concerned with type of family and economic status of the respondents, no statistical differences were observed

Table 3: Involvement of Respondents in Antenatal care

Variables		n	%
Registration during pregnancy	Yes	98	75.4
	No	32	24.7
Reasons for no registration (n-32)	Delivery at home	5	15.6
	No Visit of ASHA	8	25.0
	Delivery at BHU	3	9.4
	No faith on block delivery	4	12.5
	Delivery in private hospital	2	6.3
	Do not know	10	31.3
Accompanied wife for ANC registration (n-98)	Yes	22	22.4
	No	76	77.6
Accompanied wife for ANC visits	Yes	56	43.1
	No	74	56.9
Accompanied wife for T. T vaccination (n-130)	Yes	47	36.2
	No	83	63.8
If yes, No of visits for Tetanus toxoid vaccination (n-47)	1 times	12	25.5
	2 times	35	74.4
Taken care during pregnancy*	Ensured about consumption of IFA tablets	49	37.6
	Encouraged to have green vegetables and fruits	101	77.6
	Encouraged her to take rest	6	4.6
	Advice her not to lift heavy weight	34	26.1
	Helped her in daily household chores	20	15.3
	Accompanied her to health facility during illness.	19	14.6
	Others	7	5.3

*Multiple responses

**Figure 1: Sources of information about antenatal care***
*multiple responses (N-123)

although the respondents belong to higher economic classes were more likely of having awareness and knows benefits of ANC services. One of the interesting findings in the study related with the respondents counseled by ASHA. It has been seen that the respondents counseled by ASHAs were significantly more likely of having awareness regarding ANC and no significant difference was found among the respondents if they were counseled or not regarding involvement in antenatal services.

Table 5 shows that about one fifth (21.5%) of the respondents told that ASHA had counseled them for ANC, out of which majority (89.2%) were advised about proper nutrition during pregnancy, 60.7% about importance of delivering in a health facility, 7.1% were informed about importance of ANC visits and avoid use of stairs, 25.0% were advised for distance

from wife and 64.2% about avoid lifting heavy weight during pregnancy.

Discussion

Findings shows that more than two third respondents were 20–30 age group followed by 31–40 years age (33.8%) and gender wise distribution shows that more than half were SC/T followed by OBC and General. This is similar to the study Sinha K. C. *et al.*, 2014.^[5]

Regarding education around less than one fifth of the respondents were illiterate, whereas 11.5% primary, 22.3% middle, 16.2% high school, 15.4% intermediate, 19.3 graduation, and above. According to Census 2011,^[6] literacy rate among males in rural Varanasi was 84.2% which corresponds to the finding in this study. It was also seen in NFHS-4,^[7] that literacy rate of men in rural Varanasi was 88.1%. Kamal M. *et al.* 2013^[8] reported 20.4% of respondents as illiterate, 20.2% studied till primary level, 18.6% till secondary, 20.6% studied till intermediate level and 20.2% were graduates and above.

Occupation wise distribution shows that two third of the respondents were laborer followed by business. The family structure of the respondents shows that majority belonged to joint families, while one fourth were from nuclear families. According to Census 2011,^[6] in Uttar Pradesh, 64% of the households are single couple household. However, these 64% constitute both rural and urban Uttar Pradesh. So, in rural areas, the percentage of joint family is comparatively more than State average. This study was conducted in the rural setup and

Table 4: Regression analysis of likelihood of Awareness and Involvement in Antenatal Care

Variable	Awareness		Involvement	
	OR (95% CI)	AOR (95% CI)	OR (95% CI)	AOR (95% CI)
Age (years)				
20-30	REF	REF	REF	REF
31-40	1.22 (0.58-2.55)	1.69 (0.36-7.81)	0.96 (0.44-2.10)	0.42 (0.15-1.19)
Caste				
General	REF	REF	REF	REF
OBC	0.71 (0.25-1.95)	3.21 (0.68-15.09)	0.37 (0.13-1.06)	1.17 (0.23-5.90)
SC/ST	0.77 (0.35-1.70)	1.28 (0.45-3.63)	0.45 (0.19-1.04)	0.70 (0.22-2.18)
Education				
Illiterate	REF	REF	REF	REF
Upto high school	3.94* (1.13-13.70)	4.36* (0.69-27.63)	3.50* (1.00-12.17)	3.90 (0.60-25.37)
Intermediate	5.14** (1.90-13.92)	6.59* (1.39-31.08)	7.36*** (2.62-20.62)	9.80** (1.92-49.93)
Graduate and above	2.59 (0.76-8.77)	4.87 (0.93-25.40)	1.50 (0.45-4.91)	2.34 (0.41-13.12)
Occupation				
Laborer	REF	REF	REF	REF
Farm owner	4.05* (1.22-13.37)	1.41 (0.27-7.32)	4.57* (1.38-15.12)	1.43 (0.27-7.42)
Business	0.90 (0.177-4.56)	0.40 (0.05-2.81)	2.00 (0.40-9.83)	1.21 (0.19-7.44)
Service	2.45 (0.64-9.39)	1.69 (0.36-7.84)	0.52 (0.14-1.98)	0.19 (0.03-0.94)
Type of family				
Joint family	REF	REF	REF	REF
Nuclear family	0.47 (0.19-1.11)	0.64 (0.22-1.85)	0.72 (0.30-1.74)	2.02 (0.63-6.47)
Economic status**				
Lower class	REF	REF	REF	REF
Middle class	2.15 (0.63-7.30)	1.69 (0.32-8.84)	2.24 (0.66-7.54)	1.05 (0.19-5.66)
High class	2.80 (0.67-11.66)	3.58 (0.55-23.19)	2.42 (0.57-10.18)	1.63 (0.25-10.42)
Counseled by ASHA				
No	REF	REF	REF	REF
Yes	2.44* (1.04-5.72)	3.43* (1.25-9.36)	1.80 (0.76-4.25)	1.27 (0.42-3.78)

For the analysis purpose some variables were merged- *Educational status- primary and middle, graduate and post graduate & above. **Socio-economic status of the respondents was classified according to B. G. Prasad classification, Lower middle and middle, upper middle and high class. *P<0.05, **P<0.01, ***P<0.001

Table 5: Received Counseling by Health workers during antenatal visits

Received Counseling during ANC	Yes	28	21.5
	No	102	78.5
Advice received during counseling*	Proper nutrition during pregnancy	25	89.2
	Advantages of Institutional delivery	17	60.7
	Importance of ANC visit	2	7.1
	Distance from wife during pregnancy	7	25.0
	Avoid lifting heavy weight during pregnancy	18	64.2
	Avoid use of stairs	2	7.1

*Multiple responses

it was found that the proportion of joint or extended families was more as compared to nuclear families. Similar finding was seen in the study of Jogdand *et al.*, 2013,^[9] which was also conducted in a rural area in which 62.9% of the study subjects belonged to joint or extended families and 37.1% belonged to nuclear families.

More than half of the respondents belonged to lower middle class followed by middle class. This is coherent with the study of Kamal M. *et al.* 2013.^[8] Two fifth of the respondents told that they know about the number of visits required while only 9.8% were aware of the four visits.

More than one fifth of the respondents told that ASHA had explained about some care during pregnancy, out of which 54.0% were told about green vegetables and fruits, less than half of the respondents were told about delivering in a health facility, take dry fruits, get proper rest, maintain proper weight and avoid heavy work, avoid stairs, take meat and eggs, etc., According to NFHS-4 (2015-2016)^[4] data, in rural area of Uttar Pradesh 42.6% were told about benefit of delivering in a health facility, 46.4% respondents were told about proper nutrition, 34.8% were told about family planning and birth spacing, and 31.2% were told about breastfeeding the baby immediately after birth.

Regarding health related problems during pregnancy, one fourth of the respondents were aware about the health related problems during pregnancy, out of which majority were stated anemia as a main health related problems during pregnancy followed by bleeding before delivery. Only 7.7% were aware about danger sign, out of which one third told that slow movement of the fetus as a main danger sign followed by excess vomiting and pain in lower abdomen. This is similar with a study conducted by Bej P. *et al.* (2018).^[10] A study from Ghana by Umar SU (2015)^[11] revealed that 65% of respondents had no knowledge of danger signs in pregnancy, this may because of the study conducted in different areas. This is similar with some studies conducted by Rahman M. *et al.* (2011).^[12]

One third of the respondent were aware about awareness of birth preparedness, out of which majority (92.3%) told birth preparedness is arranging personal funds to cover the costs of travelling to and delivering with a skilled provider (28.2%), this is coherent with the study conducted by Wai KM. *et al.*, 2015.^[13]

In the present study, majority of the respondents' wife were registered during pregnancy. More than one fifth of the respondents accompanied their wife for ANC registration. This is coherent with the study Chakrabarti S. *et al.* (2017).^[14] More than two fifth of the respondents went with their wives for ANC visit during pregnancy. This is coherent with the study Wai KM *et al.*, 2015^[14] and Umar SU, 2015.^[11] About two third of the respondents were accompanied their wife for T. T vaccination. Some respondents haven't believed in the block visit and delivery, so their wives were not registered in the pregnancy register, so they accompanied their wife for TT vaccination in the private hospital.

It was seen that, during pregnancy, almost two fifth of husbands ensured that their wives were taking IFA tablets during antenatal period. Majority encouraged and provide their wives to consume green vegetables and fruits. Around a quarter did not allow their wives to do heavy work, 15.3% helped with daily household activities, 14.6% took their wives to health facilities in case of illness, and only 4.6% encouraged her to have rest. This is coherent with the study Olayemi O, *et al.* 2009,^[15] and Olayinka Falade-Fatila *et al.* 2020.^[16]

About one fifth of the respondents told that ASHA had counselled them for ANC. Majority were told about proper nutrition during pregnancy followed by an advice to avoid lifting heavy weight during pregnancy (64.2%). The emphasis on importance of institutional delivery by health care providers or workers is also evident from the study of Kumar S. *et al.* 2014^[17] and Shivalli S. *et al.* 2012.^[18] Majority of the respondents stated media as a main source of their ANC followed by health workers and neighbors and friends 48.3%.

The respondents belonging to higher age-group and of OBC and SC/ST categories show increase in adjusted odds of having awareness regarding ANC services. This is similar to the study conducted by Mohammed S, *et al.* 2020.^[19] On the other side, interestingly, the higher age-group respondents were less likely to involve in ANC services. The educational level was found to be one of the important contributory factors in explaining the likelihood of having awareness and involvement in ANC services. In this study, the respondents who were highly educated (educated up to high school or intermediate) were significantly more likely of having awareness as well as involved in ANC services. One of the interesting findings in the study related with the respondents counseled by ASHA. It has been seen that the respondents counseled by ASHAs were significantly more likely of having awareness regarding ANC. This is almost coherent with the study conducted by Wai KM, *et al.* 2015.^[13] The study included only 110 participants. Larger sample size would have been more reflective.

Conclusions: This study identified overall low awareness of male spouse about antenatal visits and involvement during ANC. Therefore, there is a strong need to re-strategize the involvement of male spouse in reproductive health including ante natal period.

New message: The findings of present study shows that educational level was found to be one of the important contributory factors in explaining the likelihood of having awareness and involvement in ANC. Male spouse counseled by ASHAs were significantly more likely of having awareness regarding ANC. Hence, Involvement of male spouse in ANC may be one of the key determinants of reduction in maternal morbidity and mortality.

Key points

- Majority (66.2%) of the male spouse were of 21–30 years age group and more the half (51%) were educated up to high school and above.
- Only 10% were aware of minimum 4 antenatal visits
- 43.4% accompanied their wives for antenatal visits.
- Only 21.5% were counseled by health workers

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Ethical approval

Institutional Ethics Committee approval was obtained for the study.

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Conflicts of interest

There are no conflicts of interest.

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