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Male participation in ANC and feto-maternal outcomes among patients admitted in post-natal ward of a tertiary care hospital, Imphal

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Abstract: *Male involvement in maternal care has been recognized to have an impact on pregnancy and infant outcomes. Enhancement of male involvement is necessary in Manipur to improve women's health, reduce maternal morbidity and mortality. Thus, this study was conducted to determine prevalence of male participation in ANC and the factors associated with it. A cross sectional study was conducted in the post-natal ward of Obstetrics and Gynaecology Department, RIMS, Imphal from 2nd to 27th September, 2019. A total of 200 women admitted in the post-natal ward were interviewed using a structured questionnaire. Participants were selected by convenience sampling. Descriptive statistics like frequency, mean, proportion were used. Chi Square test was used to see the association between the variables of interest and male participation. A p-value of <0.05 was taken as significant.80 % of the males were found to participate in ANC of their wives. Male participation was found to be more in primigravida women as compared to multigravida (p=0.002). Women whose duration of marriage were less than 5 years and those who came by private mode of transportation for ANC were found to have more male participation (p=0.013 and p=0.010 respectively). Also, there was significant association between women who delivered by Caesarean Section and male participation (p=0.039). Most common reasons for non-participation of male were busy work schedule and being out of station. Further qualitative study should be done to get a better insight of the factors influencing male participation.*

Key words: *Male participation, ANC, post-natal ward*

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I. Introduction

Male involvement is one of the important issues in the reproductive and child health programme (RCH) in all developed as well as developing countries. It includes two components: encouraging men to be more involved in, and supportive of, women's needs, choices and rights in reproductive health; and addressing male's reproductive and sexual health needs and behavior. Male involvement is aimed at encouraging men in general to support women's care from pregnancy to childbirth, and throughout the postnatal period. The likelihood of women utilizing maternal care services is higher when they are accompanied for the visits by their husbands.[1,2] Male involvement enables men to support their spouses to utilize obstetric services and the couple would adequately prepare for birth complications. This would lead to a reduction in all three phases of delay: delay in the decision to seek care; delay in reaching care; and finally, delay inreceiving care. The male partner can play a crucial role especially in the first and second phases of delay indeveloping countries and thereby positively impact birth outcomes.[3,4]The World Health Organization's Recommendations on Health Promotion Interventions for Maternal and Newborn Health recommend interventions to engage fathers during pregnancy, childbirth and the postnatal period.Enhancement of male involvement is necessary in Manipur to improve the women's health and reduce maternal morbidity and mortality. Moreover, little is known about the prevalence and association of male participation in ante natal care and feto-maternal outcome and the socio-demographic factors associated with male participation. Hence, the present study was conducted to determine the prevalence of male participation in ANC and feto-maternal outcome among women admitted in post-natal ward of Regional Institute of Medical Sciences (RIMS), Imphal to determine the socio-demographic factors associated with male participation and to determine the association between feto-maternal outcome and male participation.

II. Material and Methods

This cross-sectional study was carried outon patients of post-natal ward, Department of Obstetrics and Gynaecology, Regional Institute of Medical Sciences, Imphal, Manipur from 2nd to 28thSeptember, 2019. Number of deliveries per day is around 30 to 40 and OPD attendees is 300 per day. A total of 200 participants were included in the study. In this study male participation was said to be present if the husband accompanies wife for at least one time in the ANC check-up.

Study Design: Cross-sectional study.

Study Location: Hospital-based study conducted in post-natal ward of Obstetrics and Gynaecology Department, RIMS, Imphal.

Study Duration:2nd to 28th September, 2019.

Sample size: 200 patients.

Sample size calculation:

Calculated using the formula,

$$N = \frac{4PQ}{L^2}$$

where, P (prevalence of male participation in ANC) = 67 %(According to NFHS-4)

L (absolute allowable error) = 7%

Q = 100-P

So, calculated sample size (N) = 180

Considering 10% non-response rate, final sample size = 198.

Sampling: Convenience sampling was used to select the participants. Women admitted in post-natal ward of RIMS during the study period were included in the study until we reach the sample size.

Study tool: A pre-designed interview schedule was conducted using a structured questionnaire which consists of -

- ✓ Part A: Background characteristics which included age (in completed years),education, occupation, age at marriage, gravida, parity, no. of living children, type of family, duration of marriage, religion, monthly family income (in Rs), time taken to reach RIMS, mode of transportation to RIMS for ANC and delivery.
- ✓ Part B: Questions on male participation.
- ✓ Part C: Questions onfeto-maternal outcome which were also verified with the case sheets.

Inclusion criteria:

Those women admitted in the post-natal ward of Department of Obstetrics and Gynaecology, RIMS, Imphal.

Exclusion criteria:

1. Those participants who were not willing to participate.
2. Those who were critically ill.

Procedure methodology

Data was collected by interview using a pre-designed structured questionnaire. Prior to the interview participants were explained about the purpose of the study and informed verbal consent was obtained. Eligible participants were interviewed in the ward and care was taken to maintain privacy. After collecting, questionnaire was checked for completeness and consistency.Approval was obtained from the Research Ethics Board, RIMS, Imphal before the beginning of the study. Permission from the Medical Superintendent of RIMS was sought before starting the data collection.To maintain confidentialitycollected data were kept locked, were utilized only for the purpose and not disclosed to anyone outside the research team.

Statistical analysis

Data was entered and analyzed by using IBM SPSS Statistics for Windows,Version 21.0. Armonk, NY: IBM Corp. Descriptive statistics like frequency, mean, percentage was used. Chi square test and Fisher's exact test were used to find the association between the socio-demographic factors which are the main independent variables and male participation which is the dependent variable. A p value < 0.05 was considered as significant.

III. Result

A total of 200 women participated in our study. The minimum age of the participants was 18 years and maximum age was 42 years with mean (SD) of 27.0 (±5.7) years. The minimum age of the participants husband

was 19 years and maximum age was 53 years with mean (SD) of 31.1(±6.2) years. The mean age of the participants at the time of marriage was 22 ±4.2 years.

Table1 shows the socio-demographic characteristics of the participants. Majority of the participants (57%) as well as participants husband (47.5%) had their education up-to 10th standard. Occupation of most of the participants were home-maker (79%) and 76.5% of the husbands were self-employed. More than half of the participants were multigravida (61.5%) and multiparous (52.5%). Monthly family income (in Rs.) of majority of the women were up-to Rs.10000. By religion most of them were Hindu followed by Sanamahi (Sanamahism is the indigenous religion of Manipur) and 66.5% of the participants belong to joint family. Majority of the women were married for less than 5 years (52.5%). Most of the participants came by public mode of transport for their ANC to RIMS (71.5%) whereas for delivery at RIMS, majority of them came by private mode of transport (52.5%).

Table 1: Distribution of participants by their socio-demographic characteristics (N=200)

Socio-demographic characteristics	Frequency	Percentage
Education of participants		
Illiterate	18	9.0
Up-to Class X	114	57.0
Up-to Class XII	37	18.5
Graduate and above	31	15.5
Education of participants husband		
Illiterate	10	5.0
Up-to Class X	95	47.5
Up-to Class XII	56	28.0
Graduate and above	39	19.5
Occupation of participant		
Home-maker	158	79.0
Self-employed	34	17.0
Private sector employee	2	1.0
Govt. employee	6	3.0
Occupation of participants husband		
Unemployed	4	2.0
Self-employed	153	76.5
Private sector employee	20	10.0
Govt. employed	23	11.5
Gravida		
Primigravida	77	38.5
Multigravida	123	61.5
Parity		
Primiparity	80	40.0
Multiparity	105	52.5
Grand-parity	15.5	7.5
Monthly family income (in Rs.)		
Up-to 10000	79	39.5
10001-15000	43	21.5
15001-20000	31	15.5
Above 20000	41	20.5
Religion		
Hinduism	72	36.0
Sanamahism	64	32.0
Islam	34	17.0
Christianity	30	15.0
Type of family		
Nuclear	67	33.5
Joint	133	66.5
Duration of marriage (in years)		
<5	105	52.5
≥5	95	47.5
Time taken to reach RIMS (in mins)		
≤60	103	51.5
>60	97	48.5
Mode of transportation to RIMS for ANC*		
Public	46	23.0
Private	143	71.5
Ambulance	1	0.5
Mode of transportation to RIMS for delivery		
Public	76	38.0
Private	105	52.5
Ambulance	19	9.5

*Missing=10 (participants who did not come to RIMS for ANC visit)

Table 2 shows the distribution of participants by male participation in ANC and feto-maternal outcomes. Prevalence of male participation in ANC was found to be 80%. Most common reason for not accompanying wives for ANC visit was being busy at work. More than 90% of the husbands accompanied their wives for delivery. For those who did not accompany for delivery, the most common reason was being out of station followed by busy at work. It was found that 95% of the participants had 4 or more ANC visits.Majority (65%) of the participants husband accompanied their wives for 4 or more ANC visits. During the pregnancy 73.5% of the husbands helped their wives in domestic chores. Majority (80%) of the husband arranged money for delivery. Only 4% of the participants had pre-term babies, 93% of the fetal birth weight was normal and 55.5% of them delivered by normal vaginal delivery. Only 4.5% of the mothers had adverse maternal outcomes out of which gestational hypertension was the most common.

Table3 shows the association between socio-demographic factors and male participation in ANC. It was found that there was no significant association between the age of the husband, occupation and male participation. Those husband who had higher education of graduate and above were found to participate more in ANC but it was not statistically significant. There was significant association between gravida of the women and male participation where husbands of primigravida wives were more involved in ANC than those of multigravida (p=0.002). Male participation was more in those participants whose duration of marriage was less than 5 years and it was found to be significant (p=0.013). There was significant association between mode of transport to RIMS for ANC and male participation where those who came by private transport (own vehicles) had their husband more involved in the ANC (p=0.010).

Table4 shows the association between feto-maternal outcomes and male participation. There was statistically significant association between male participation and women who underwent delivery by Caesarean section (p=0.039). There was no significant association between gestational age at birth and male participation. Also, male participation was more in women who did not have any adverse outcome but this was found to be not significant.

Table 2: Distribution of participants by male participation in ANC and feto-maternal outcomes (N=200)

Male participation	Frequency	Percentage
Husband accompanying wife in any ANC		
Yes	160	80.0
No	40	20.0
Reasons for not accompanying wife in any ANC*		
Busy at work	29	72.5
Out of station	9	22.5
Came with ASHA	2	5.0
Husband accompanying wife for delivery		
Yes	187	93.5
No	13	6.5
Reasons for not accompanying wife for delivery†		
Out of station	6	46.1
Busy at work	5	38.5
He was looking after the kids	1	7.7
He was sick	1	7.7
Person making decision for having child		
Both husband and wife	189	94.5
Husband alone	8	4.0
Family members	3	1.5
Husband helped in domestic chores during pregnancy		
Yes	147	73.5
No	53	26.5
Person arranging money for delivery		
Husband	161	80.5
Both husband and wife's family	16	8.0
Wife's family	9	4.5
Husband's family	7	3.5
Both husband and wife	5	2.5
Wife alone	2	1.0
Gestational age at birth		
Term	192	96.0
Pre-term	8	4.0
Fetal birth weight		
Normal	186	93.0
Low birth weight	13	6.5
Macrosomia	1	0.5
Mode of delivery		
Normal vaginal delivery	111	55.5
Caesarean section	89	44.5

Adverse maternal outcomes‡		
Yes	9	4.5
No	191	95.5

*n=40 (Those participants whose husbands did not accompany for any ANC visit)

†n=13(Those participants whose husbands did not accompany for delivery)

‡Adverse maternal outcomes – Gestational hypertension, anaemia, gestational diabetes, ante-partum haemorrhage

Table 3: Association between socio-demographic factorsand male participation (N=200)

Socio-demographic factor	Male participation		p-value
	No n (%)	Yes n (%)	
Age of participant's husband(in completed years)			
<25	6 (22.2)	21 (77.8)	0.953
25-34	21 (19.6)	86 (80.4)	
35 and above	13 (19.7)	53 (80.3)	
Educational level of participant's husband			
Illiterate	3 (30.0)	7 (70.0)	0.092
Up-to Class X	25 (26.3)	70 (73.7)	
Up-to Class XII	8 (14.3)	48 (85.7)	
Graduate and above	4 (10.3)	35 (89.7)	
Occupation of participant's husband			
Unemployed	0 (0.0)	4 (100.0)	1.000*
Self-employed	29 (19.0)	124 (81.0)	
Private-sector employed	7 (35.0)	13 (65.0)	
Govt. employed	4 (17.4)	19 (82.6)	
Gravida			
Primigravida	7 (9.1)	70 (90.9)	0.002
Multigravida	33 (26.8)	90 (73.2)	
Monthly family income (in Rs.)			
≤10000	21 (26.6)	58 (73.4)	0.371
10001-15000	7 (16.3)	36 (83.7)	
15001-20000	6 (19.4)	25 (80.6)	
>20000	6 (14.6)	35 (85.4)	
Type of family			
Nuclear	13 (19.4)	54 (80.6)	0.881
Joint	27 (20.3)	106 (79.7)	
Duration of marriage (in years)			
≤5	14 (13.3)	91 (86.7)	0.013
>5	26 (27.4)	69 (72.6)	
Mode of transportation to RIMS for ANC			
Private	3 (6.5)	43 (93.5)	0.010
Public	34 (23.8)	109 (76.2)	

*Fisher's exact test

Table 4: Association between feto-maternal outcomes and male participation (N=200)

Feto-maternal outcome	Male participation		p-value
	No n (%)	Yes n (%)	
Gestational age at birth			
Preterm	2 (25.0)	6 (75.0)	0.662*
Term	38 (19.8)	154 (80.2)	
Mode of delivery			
Normal vaginal delivery	28 (25.2)	83 (74.8)	0.039
Caesarean section	12 (13.5)	77 (86.5)	
Adverse maternal outcomes			
No	38 (19.9)	153 (80.1)	1.000*
Yes	2 (22.2)	7 (77.8)	
Birth weight			
Normal	1 (7.7)	12 (92.3)	0.472*
Low birth weight	39 (20.9)	148 (79.1)	

*Fisher's exact test

IV. Discussion

The prevalence of male participation in ANC and feto- maternal outcome in RIMS, Manipur was found to be 80% and it was found higher than the study conducted by Joshua et al[5] and Awasthi et al[6]. Our study further indicated that males who had above primary education and who wereaged 25 years and above had more participation and similar findings was found from the study conducted by Bhattaet al[4] and Ongesuetal[2]. The higher prevalence of male participation may be because educated men have more access to information about services and possess better understanding of ANC and are able to make positive decisions seeking services as partners while uneducated men are perceived to hold on to traditional beliefs which negatively influences inter spousal communication.In our study, 80% of husbands accompanied for ANC but only 18.33% in a study conducted by Awasthi et al[6]in urban slums, Agra. There, the belief that it was a woman's duty, being preoccupied at work and feeling embarrassment were the reasons for lack of participation in ANC.

In our study 73.5% of the husband supported household chores during the wife's pregnancy and this finding was similar to a study conducted by Giboreet al[8].

In our study, significant association was found between primigravida women and male participation as compared to multigravida. This could be due to more involvement of husband in ANC during the early period of marriage. There was also significant association with those women who came for ANC by private mode of transportation. There were significant association between male involvement in ANC and those women who underwent delivery by caesarean section which was similar to a study conducted by Joshua et al[5].

Long waiting time and long duration of ANC clinics were reported as the reason for inability and decrease in interest in participating in ANC check-ups in studies of Vermeulen E et al[7]. Most common reasons for not being able to participate in ANC in our study was given to be "busy at work" or "out of station".

The strength of our study is that probably it is one of the first study conducted to find the factors associated with male participation in ANC and feto-maternal outcome in Manipur.Limitations in our study is that socially desirable answers might have been there for some of the questions which might have led to over estimation of the results. Moreover, absolute privacy could not be maintained in few patients which might have hindered honesty in answering some of the questions.

V. Conclusion

Male participation was found in every four out of five participants. Most common reasons for non-participation of male as given by the participants were busy work schedule and being out of station. Primigravida, duration of marriage less than 5 years and those who came by private mode of transportation for ANC were found to be significantly associated with male participation. Women who underwent CS delivery were found to be significantly associated with male participation. Further qualitative study should be done to get a better insight of the factors influencing male participation.

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