

## **Social network and its impact on decision making to term pregnancy at a low gestational stage: Evidence from India**

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Fertility control is practiced in all societies. The need to regulate the number and timing of births is universal, as are the methods used since ancient time to do so, either by prevention or by termination of pregnancy. However, abortion is possibly the most divisive health issue that policy makers and planners face, particularly in developing countries where safe abortion facilities are not available to most women. Available records indicate that an estimated 50 million induced abortions are performed annually (Berer, 2002); about 20 million are unsafe, and 95 per cent of these take place in the developing world (WHO, 1998). According to World Health Organization (WHO) an estimated 13 per cent of total maternal deaths occurred from pregnancy related causes (WHO/UNICEF, 1996).

However, maternal deaths due to abortion could be prevented by providing access, safe abortion services and the facilities to treat abortion related complications. Studies as far back as 1981 have shown that when restrictions on abortion are lessened, the number of deaths due to abortion related complications is reduced (Tietze, 1981). With the legislation of the Medical Termination of Pregnancy (MTP) Act in 1971 (GOI, 1992), India became one of the first countries legalizing abortion on moderately liberal grounds – particularly ‘failure of contraceptive use’ – for termination of pregnancies. However, MTP act does not permit termination of pregnancy after twenty weeks of gestational age due to detrimental effect of physical health of the women. Medical literature indicates that abortion within first trimester of pregnancy is having comparatively less detrimental

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effect on women's health than abortion in later gestational stage. As Tietze. C (1981) has indicated that second trimester abortion is responsible for a disproportionate share of adverse experiences associated with pregnancy termination. Unfortunately, still recently in India, around 11 percent of registered medical termination of pregnancy occurred after first trimester of pregnancy (GOI, 2003). A significant proportion of women die due to post abortion complications in every year in India (RGI, 1994). One of the major reasons of post abortion complication was delay in decision taking as well as delay in termination of foetus. Thaddeus and Maine pointed out that there are three phases of delay in seeking emergency care for obstetric complications, including abortion: delay in deciding to seek care, delay in reaching the health facility and delay in receiving adequate treatment (1990). Studies have shown that a large proportion of abortions are performed after 18 weeks of pregnancy because by the time a woman decides to go for abortion and identifies a place, the pregnancy is at an advanced stage. However, a community-based study in rural south India indicates that most women underwent abortion in the first trimester of pregnancy (Varkey et al., 2000). Recent community based studies indicate that though in a majority of the cases, decisions for abortion were taken by both the women and husbands, the participation of members from their husband's family in decision making is also noteworthy (Krishnamoorthy et al, 2004; Saha et al, 2004, Malhotra et al, 2003). One hospital-based study has indicated that social network has significant role in decision making for induced abortion in Punjab (Singh and Singh, 1991). However, the relationship between social network and seeking MTP service in Indian context is not very clear from earlier studies. Therefore, the major thrust of the present paper is to examine the impact of social network on gestational duration at termination of pregnancy in India.

## **Data and Method**

Several recent study has been indicating that in West Bengal (Kolkata is capital city) due to extensive use of traditional method of contraception and very low family size preference unplanned pregnancy as well as induced abortion ratio is quite high (IIPS, 2002) and Kolkata the capital of the state where induced abortion ratio among the ever

married women was highest in the state (i.e., around six percent). Government official record reveals that trend of MTP performance at second trimester of pregnancy is quite higher in West Bengal as compared with the country as a whole (graph 1). Therefore, Kolkata has been chosen as study area.

The study is carried out with primary data collected from three medical health facilities in Kolkata city, namely Calcutta Medical College, Nilratan Sarkar Medical College and Parivar Seva Sanstha (Ballyganj) in Kolkata city during October to December 2003. The facilities were selected on the basis of their medical termination of pregnancy (MTP) performance in last six months recorded in Family Welfare Service Office. Share of these facilities was 47 percent of total MTP performance in Kolkata (during April to August 2002). For each of the facility one month was considered as reference period for survey. All women who came during the reference period (for seeking MTP or those who obtained MTP, and women who came for follow up visits after receiving MTP a month prior to the date of interview) to Family Welfare Department or MTP centres were contacted and after receiving consent from them the women were interviewed by open-ended interview schedule.

Interview schedules were checked and approved by the ethical committee of each of the respective selected health facilities. Total 250 MTP clients were initially contacted however, with the help of MTP service provider 235 women agreed to give responses. Two women withdrew after giving half the responses.

To study social network both network size and density of network has been studied, data on number of persons with the respondent discussed about the issue of abortion and number of members in the network discussing within themselves about abortion issues has been collected. To study the network influence information was also gathered on whether the network person had experience of abortion and relationship of respondent with the person. Since experience of abortion could be possible solely among women, hence these partners were only women. Following formula has been utilized in

calculating density of network = (Number Of network partners discussing within themselves about abortion issues)/(net work size).

Three models of logistic regression analyses has been carried out to explain the linkages between social networks on gestational duration (completed weeks) at termination by controlling effect of different characteristics of women like age, number of children ever born, educational status, place of residence, menstrual history, reasons for induced abortion, contraceptive failure and type of health facility.

## **DISCUSSION**

### **Social network**

The average network size of all the study women was around four (Table 1). Though eight women did not have any network partner, but 85 percent of women had at least three partners. The density of network among such partners was 0.376. Since, abortion is comparatively much socially stigmatized than contraceptive use, so disclosing about personal abortion experience would be lower, so mean density of abortion network shows comparatively lower picture than other studies regarding density of contraceptive network studies show (Kohler, Behrman, and Watkins, 2001).

Present study reveals that adolescent women and other than currently married women had less than three network partners with whom they used to discuss different issues of abortion (table 2). Illiterate women from low standard of living families also had less number of network partners. Higher parity women and those were staying in inner city had limited number of network partners. Moreover, women those had no exposure to television and radio a higher proportion of them had less than three abortion network partners, than those who had regular exposure to television and radio. Lastly, it is evident that women those who first disclose their current pregnancy to their mother or mother in law around 30 percent of them had very limited network partners, and, women those whose decision for terminating a pregnancy was taken by other than her spouse or herself around 39 percent of them had reported having less than three network partners. In

summarizing whole it could be said that in Indian society younger women especially in lower socio-economic strata had very little option for having communication with others regarding sexual as well as reproductive life, because society looks down upon such kind of discussion. As age proceeds women in general get the social permission to discuss many issues related to their reproductive life. However, in general women from lower socio-economic strata, with less educational background even in their ages considered discussing about such issues is shameful therefore they rarely have a discussion with others about abortion.

### **Gestational duration at termination of pregnancy**

Mean duration of gestational age at time of termination of pregnancy for the study women was 9.4 weeks, which indicates that a majority of women opted for MTP mainly within first trimester of their pregnancy, which is comparatively safer than termination of pregnancy during second trimester. Though 17.5 per cent women opted MTP at a later gestational stage (Table 3).

Table 4 indicates that timing of service seeking for termination of a pregnancy significantly varies with the size of social network that a woman had. Women those were having three or more network partners around 79 percent of them opted for MTP during first trimester. In a contrary, a fair proportion of women having less than three network partners obtained MTP after 12 weeks of gestational duration.

Study also reveals that lower parity, educated women and those were belonging in high standard of living families considerably a higher proportion of them obtained medical termination of pregnancy within first trimester than their counterparts (Table 4). Women those who opted for MTP services because pregnancy occurs out of wed lock among them 90 percent sought services during first trimester. Whereas, women those who had irregular menstruation or those who considered themselves in fecund or was in post partum amenorrhoea, a fair proportion of them obtained MTP at a late gestational stage than those were having normal menstrual history.

### **Linkage between social network and timing of MTP service seeking**

As the timing of MTP service seeking varies largely with social network size of a woman, so it is very important to know the linkage between these two. In graph 1, the distribution of gestational age at MTP (graphically presented as box and whisker plots) of women with social network size has been presented. The lower and upper borders of the boxes represent 25<sup>th</sup> and 75<sup>th</sup> interquartile range, within which 50 per cent of the values fall. The horizontal line inside the box represents the median (50<sup>th</sup> percentile) gestation age at MTP. The whiskers are the lines that extended from lower and the upper end of the box to the lowest and highest value respectively, excluding the outliers. They represent the distribution from the 25<sup>th</sup> and 75<sup>th</sup> percentile to the lowest and highest value, which falls within 1.5 times the interquartile range. These are the tails of the distribution. As it has been seen from the same graph, mean duration of terminating pregnancy of those who had three or more network partners were lowest (around nine weeks); those were having one or two partners for them mean gestational duration was twelve weeks and women those who did not have any network partner, their mean duration of terminating pregnancy was sixteen weeks.

From table 5 it is evident that after controlling the effect of age of the women in Model 1 in logistic regression analysis the variable 'size of the network' shows highly significant impact on gestational duration at termination of pregnancy. From this model, it could be said that in relation to women with large number of network partners women with less than three network partners were 4.4 times more likely to go for late abortion.

After controlling some important individual factors like children ever born, marital status, educational status, menstrual history and place of residence in Model 2, it has been noticed that odds of 'network size' was still 4.4, indicating the importance of network partners remain same. Although in model 3, after introducing three program variables like type of health facility, contraceptive failure and reason for abortion, the odds of social network becomes 3.9.

The regression analyses also indicate that apart from social network, type of health facility, children ever born and menstrual history also have significant impact on MTP at a late gestational stage. Although, the relationship between attending a public facility and obtaining MTP at a late gestational stage is positively associated. The reason might be that private facility rarely allows the women with higher gestational stage at pregnancy for abortion because of complicacy. They were rarely equipped to conduct MTP at a late gestational duration of pregnancy. Women with a large number of children also delayed in seeking MTP service because, many a time they could not decide what to do at the time they understood that they already conceived. Because for them opportunity cost for an additional child is not so high as it is for a woman with one or two children. Like bivariate analysis, logistic regression also indicates that in relation to women with complicacy in menstruation/infecund/ amenorrheic, women with normal menstrual history has less chance to obtain a MTP during second trimester.

### **Concluding Remarks**

From the above discussion it could be said that women those were having large number of network partners were more exposed to different kind of health services regarding induced abortion and probable complications after abortion. Therefore, they could be able to decide when should seek abortion service. Delay in selecting a facility to term pregnancy also did not take place, because many of them might be aware of different facilities where they could get MTP services, as their network partners might get service from there. The study reveals that a majority of such women had discussed with their spouse about their current pregnanacy and a fair proportion of them took decision to term pregnancy jointly with their spouse, as they involved in decision making so they could take decision when to go and where to go. While women those who had limited number of partners mainly delayed in opting for ultimate service, many of them did not inform other about their current conception, which might lead to limited exposure about abortion services. A many of them were not sure about their decision, and, for someone, other person on be half of them took decision to term pregnancy. These women were least exposed to mass media and were least educated.

So it could be concluded that to eliminate the health risk among the least exposed women about medical termination of pregnancy, proper IEC should be intensely promoted and Mahila Mandaul (Women association) should take initiative to educate this section of women about reproductive issues.

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**Table 1**  
**Network structure of the respondent ever discussing about abortion issues**

Characteristics	
Uncensored network size (mean)	3.9 (233)
% of women having no network partner	3.4 (8)
% of women having at least three network partner	84.5 (197)
Average density of network among partner	0.735(197)

**Table 2**  
**Selected characteristics of MTP seeking women by social network size**

Factors	Less than three partner	Three or more partners	Total
<b>Age of respondent</b>			
Less than 20	20.0	80.0	30
20-29	14.7	85.3	129
30 or above	14.9	85.1	74
<b>Children ever born (excluding unmarried)</b>			
0 thru 2	13.9	86.1	165
3 or higher	17.3	82.7	52
<b>Marital status</b>			
Currently married	12.8	87.2	203
Other	33.3	66.7	30
<b>Educational status</b>			
Illiterate	29.8	70.2	57
Literate, <middle school	13.1	86.9	84
Middle school completed	5.1	94.9	39
High school or above	11.3	88.7	53
<b>SLI</b>			
Low	25.7	74.3	74
Medium	10.7	89.3	122
High	10.8	89.2	37
<b>Place of residence</b>			
Inner city	16.1	83.9	161
Suburb	13.8	86.2	58
Other	14.3	85.7	14
<b>Exposure to Television and radio</b>			
Yes	10.2	89.8	88
No	18.6	81.4	145
<b>Occupational status</b>			
Working	15.2	84.8	46
Non working	15.6	84.4	186
<b>To whom first disclose current pregnancy?</b>			
Spouse	11.2	88.8	169
Mother /mother in law	30.0	70.0	40
Other	20.8	79.2	24
<b>Who mainly took decision for MTP?</b>			
Both couple	6.5	93.5	62
Spouse	14.1	85.9	78
Other person	39.3	60.7	28
Respondent	15.4	84.6	65
<b>Total</b>	<b>15.5</b>	<b>84.5</b>	<b>233</b>

**Table 3.**

**Gestational duration of pregnancy at termination of pregnancy**

<b>Gestational duration</b>	
Mean duration of gestation at the time of termination of pregnancy	9.44 weeks
Standard Deviation	4.06
MTP at first trimester (% of women)	82.5
MTP at second trimester (%of women)	17.5
Total sample size	234
First trimester: pregnancy within 12 weeks of gestational duration	
Second trimester: pregnancy between 12 to 20 weeks of gestational duration	

**Table 4.**

**Percentage of women by selected characteristics, according to their gestational stage at seeking MTP services**

<b>Factors</b>	<b>Less than 12 weeks</b>	<b>12 weeks or more</b>	<b>Total</b>
<b>Age of respondent</b>			
Less than 20	80.0	20.0	30
20-29	75.4	24.6	130
30 or above	70.3	29.7	74
<b>Children ever born **</b>			
0	80.8	19.2	26
1	80.2	19.8	91
2	75.4	24.6	65
3	67.7	32.3	31
4 or higher	47.6	52.4	21
<b>Marital status</b>			
Currently married	75.4	25.5	204
Other	73.3	26.7	30
<b>Educational status***</b>			
Illiterate	61.4	38.6	57
Literate, <middle school	66.7	33.3	84
Middle school completed	84.6	15.4	39
High school or above	92.6	7.4	54
<b>SLI**</b>			
Low	67.6	32.4	74
Medium	73.2	26.8	123
High	91.9	8.1	37
<b>Place of residence</b>			
Inner city	77.8	22.2	162
Suburb	65.5	34.5	58
Other	71.4	28.6	14
<b>Menstrual history**</b>			
Irregular/post partum amenorrhoea/ considering in fecund	64.9	35.1	97
Other	81.0	19.0	137
<b>Type of health facility***</b>			
Public	63.6	36.4	143
Private	91.2	8.8	91
<b>Contraceptive failure*</b>			
Yes	78.8	21.2	118
No	69.6	30.4	115
<b>Social network size***</b>			
Less than three partner	47.2	52.8	36
Three partner or more	79.2	20.8	197
<b>Reason for abortion*</b>			
Economic/family planning	75.1	24.9	181
Illegitimate conception	90.0	10.0	20
Other	60.6	39.4	33
<b>Total</b>	<b>74.4</b>	<b>25.6</b>	<b>235</b>

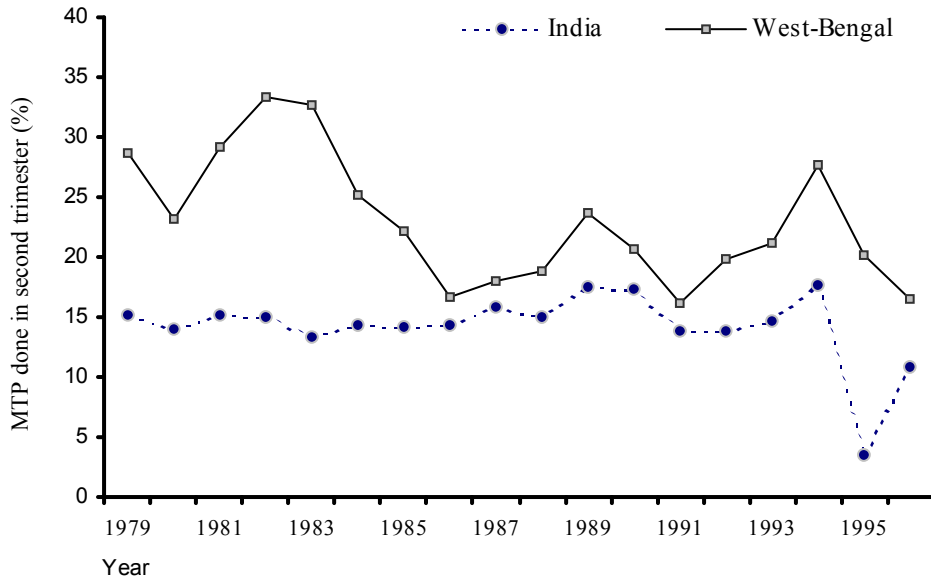
**Table 5**

**Impact of social network on MTP service seeking in late gestational stage: Logistic Regression Analysis**

<b>Factors</b>	<b>Model1</b>	<b>Model 2</b>	<b>Model 3</b>
<b>Social network size</b>			
Less than three	4.401***	4.376***	3.891***
Three or more®			
<b>Children ever born (continuous)</b>		1.418**	1.382*
<b>Marital status</b>			
Currently married		.638	.372
Other ®			
<b>Educational status</b>			
Illiterate		1.218	.912
Literate ®			
<b>Place of residence</b>			
Inner city		.523*	.879
Other ®			
<b>Menstrual history</b>			
Other		.502**	.490*
Irregular/post partum amenorrhoea/ considering infecund®			
<b>Type of health facility</b>			
Public			5.677***
Private ®			
<b>Contraceptive failure</b>			
Yes			1.181
No ®			
<b>Reason for abortion</b>			
Economic/family planning			.437
Illegitimate conception			.190
Other ®			
Constant	.327***	.399***	.396**
-2 Loglikelihood	307.652	270.130	267.451
N	235	235	235
Dependent variable gestational duration at termination of pregnancy Coded as if 12 weeks or more =1, other =0.			

**Graph 1**

**Performance of second trimester MTP over the years in India and West Bengal**



*Sources: Various issues of Family Welfare Year Book: India*

**Graph 2**

**Duration of pregnancy at the time of medical termination of pregnancy by social network size**

