

## Original Research Article

# Unplanned pregnancy among married women: an exploratory study in a rural area of Bengal

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### ABSTRACT

**Background:** Globally unplanned pregnancy has emerged as a major public health problem with its impact on demography and economy. Despite being the first country to initiate a nationwide family planning program, contraceptives access and utilization are low in India. As per a study conducted in 35 low- and middle-income countries, India contributed the largest number of undesired pregnancy. Our current study was aimed at determining the proportion of unplanned pregnancy and examining its predictors among currently married women aged 15-35 years, residing in a rural area.

**Methods:** A facility based, observational, cross-sectional study was conducted in a rural area of Bengal. 158 participants were selected by purposive sampling and face to face interviews were conducted using structured schedule ensuring confidentiality. Statistically data were summarized with descriptive statistics and adjusted with binary logistic regression analysis in SPSS (version 16).

**Results:** The proportion of unplanned pregnancy was found to be 28.5%. On multivariable logistic regression, it was observed that there was significant association between unplanned pregnancy and low SE status AOR (CI) 2.523 (1.074-5.926), lack of women's empowerment AOR (CI) 2.971 (1.198-7.367), husbands' lower level of education AOR (CI) 2.673 (1.041-6.866), and no contraception or traditional method of contraception AOR (CI) 2.391 (1.104-5.180).

**Conclusions:** The study revealed alarmingly high proportion of unplanned pregnancy. In addition to the existing strategies of the national program, emphasis should be on IEC activities. All efforts should be made to educate women on hazards of unsafe abortion and unplanned pregnancy.

**Keywords:** Unplanned pregnancy, Currently-married women, Cross-sectional study, Rural area

### INTRODUCTION

The World Conference of the International Women's Year in 1975 declared "the right of women to decide freely and responsibly on the number and spacing of their children and to have access to the information and means to enable them to exercise that right".<sup>1</sup>

Over 200 million women in developing countries who want to delay, space or avoid pregnancy are not using contraceptives, resulting in over 75 million of unplanned pregnancies every year.<sup>2</sup>

According to 2008 global estimates nearly half (48%) of the unintended pregnancies will end in abortion and most of them will be unsafe.<sup>3</sup>

Proper measurement of pregnancy intentions is necessary in less developed regions where levels of contraceptive access and use are still low. LMUP (London Measure of Unplanned Pregnancy) is a psychometric, validated measure of pregnancy intention, developed by Geraldine Barrett and colleagues.<sup>4</sup> LMUP was originally developed in UK and later validated for use in all countries.

Unplanned pregnancy can be either mistimed or unwanted which may culminate into abortion. Unsafe abortion and unmet need for family planning (FP) are preventable.<sup>5</sup>

Early marriage, especially in rural areas, traditional ways of life, preference for a male child and lack of family planning practice add to the population growth in India.<sup>1</sup> Although India promotes freedom of choice of contraceptives, their access and utilization are still low.<sup>1</sup> The Drug Controller of India approved the use of medical abortion in April 2002 and a new era began.<sup>5,6</sup>

In a populous and resource-poor country like India where women's empowerment is still a remote dream and PNDT (prenatal diagnostic techniques) is exploited for foetal sex detection with possibility of female foeticide. The need of the hour is to protect our women from unplanned childbearing and risks of late abortions. Therefore unplanned pregnancy and its predictors must be examined, so that tailored interventions can be formulated. Our current study endeavors to find out the pregnancy intentions and its predictors.

### **Objectives**

1. To determine the proportion of unplanned pregnancy among currently married women aged 15-35 years.
2. To explore the predictors associated with unplanned pregnancy.

## **METHODS**

### **Ethical approval**

As the study was an observational one and no form of intervention was given, a formal ethical clearance was not sought. However, permission was obtained from the Department of Preventive and Social Medicine of a post graduate medical institute, under whose service jurisdiction the study area was located. Written informed consent was obtained from each participant.

### **Study design and setting**

An observational, cross sectional, clinic based study was conducted for 3 months (November 2016-January 2017) in Union Health Centers of Rural Health Unit and Training Centre, Singur, All India Institute of Hygiene and Public Health.

### **Study participants**

Currently married women, 15-35 years of age, ever pregnant or currently pregnant and who agreed to give informed consent were enrolled in our study. Participants were selected by purposive sampling. Six to 7 women were interviewed each day, twice a week for 3 months. A total of 158 women participated in the study.

### **Working definitions**

#### *Unplanned pregnancy*

An unplanned pregnancy is a pregnancy that is reported to have been either unwanted (i.e., the pregnancy occurred when no children or no more children, were desired) or mistimed (i.e., the pregnancy occurred earlier than desired).<sup>7</sup>

We used LMUP (London Measure of Unplanned Pregnancy) for measuring pregnancy intention. Pregnancy with intention score of 0-3 was considered unplanned or unintended.<sup>4</sup>

#### *Why currently married women of 15-35 years?*

Since young married women are at most risks of unplanned pregnancy, our study focused on women of 35 years of age and below, rather than all women of reproductive age.

### **Study tool**

An interviewer-administered structured schedule was developed that included socio-demographic characteristics and questions relating to women's empowerment. LMUP was adapted to measure pregnancy intention.<sup>4</sup>

#### *London measure of unplanned pregnancy (LMUP)*

LMUP is a six-item measure that retrospectively evaluates the extent to which a woman's most recent pregnancy was planned or intended. LMUP uses responses to questions regarding behaviours (contraceptive use, discussion with husband and pre-pregnancy preparatory behaviour) and attitudes (timing, intent and wantedness) to place women on a continuous pregnancy planning scale (Barrett 2010). Each item has three response categories (0, 1 and 2) and responses are summed into an intentions score ranging from zero to twelve. Scores can be treated as continuous or divided into a minimum of three categories: 10-12 (planned); 4-9 (ambivalent); and 0-3 (unplanned).

In our study the LMUP was translated from English to Bengali language. Certain items required culturally relevant modifications. The translation of LMUP to Bengali required three iterations of forward and back translations, until the final version was reached. The

translated version was pretested on a sample of 30 Bengali knowing respondents, who were asked about any word or expression that they found incomprehensible, offensive or unacceptable. Few of the items e.g., ‘partner’ and ‘preconception health behavior (smoking and alcohol intake)’ required modification with respect to cultural nuances. We computed Cronbach’s alpha for Bengali version of LMUP and it was found to be 0.763

*Women’s autonomy/women’s empowerment*

Participants were asked ten different questions (six domains). It used responses to ten questions to place the women in two categories-1) empowered and 2) not-empowered (each response was awarded a score of 1 and 0). A total score of 5 and above was considered to be ‘empowered’.

- I) Four household decisions (women’s participation in Household decision making)
  - 1) Health care for self or other adult members.
  - 2) Large Household purchase.
  - 3) Visit to family or relative.
  - 4) Child health care.
- II) Ownership of assets/land/property.
- III) Ownership of bank account.
- IV) Employment status (In last 1 year).
- V) Subjected to violence: verbal or physical/ threats of abandonment/ Parda system.
- VI) Decision-making regarding fertility related issues.
  - 1) Family planning practices.
  - 2) Sex composition of living children.

**Study procedure**

The purpose of the study was explained to the study participants. After obtaining informed consent, face to face interviews were conducted at the Union Health Centre in a separate room ensuring confidentiality.

**Data analysis**

Statistical package for social sciences (SPSS) version 16 was used for analysis of data. Measures of central tendency and dispersion were used to summarize numerical data and proportions to summarize categorical variables. Association between unplanned pregnancy and different variables was estimated in univariate and multivariable logistic regression. Odds ratio (OR) with 95% CI was computed. Explanatory variables found to be statistically significant in univariate logistic regression were entered into multivariable logistic regression. A p value of <0.05 was considered statistically significant.

**RESULTS**

As shown in Table 1, forty five (45) out of all (158) participants reported unplanned pregnancy. Therefore, proportion of women with unplanned pregnancy was as high as 28.5%. Out of 45 unplanned pregnancies 33 were mistimed and 12 were unwanted (Table 1).

**Table 1: Distribution of study participants according to the LMUP\* intension score (n=158).**

Category: pregnancy intention	LMUP score	Number (%)
Planned	10-12	72 (45.6)
Ambivalent	4-9	41(25.9)
Unplanned (mistimed- 33+ unwanted- 12)	0-3	45 (28.5)
<b>Total</b>		158

\*Cronbach’s alpha for Bengali version of LMUP was 0.763.

As shown Table 2, the mean age of study participants was 25.07 years (SD=4.46 years) and it ranged from 19 years to 35 years. Majority (88.6%) belonged to Hindu religion while 41.8% belonged to SC, ST, and OBC category. Nearly 45.6% of the participants had low educational level, either illiterate, primary or below middle level. Nearly 61.4% belonged to low socio-economic class (BG Prasad class IV and V). Majority (73.4%) were homemaker.

Association between unplanned pregnancy and different variables was examined employing univariate logistic regression (Table 2).

From Table 2 it was evident that lack of women’s empowerment, their husbands’ low level of education, low SE class, and no contraception or traditional method of contraception were associated with unplanned pregnancy in univariate logistic regression and the association was statistically significant.

All those four explanatory variables found to be associated with unplanned pregnancy were entered into multivariable logistic regression for adjustment (Table 3).

From Table 3 it was obvious that, in the multivariable logistic regression analysis, all the four explanatory variables retained their significance even after adjustment. Value of Nagelkerke being 0.267 with non-significant Hosmer-Lemeshow test supported good fit of the model.<sup>2</sup> Women who belonged to lower SE class had 2.523 times higher odds of experiencing unplanned pregnancy when compared to those who belonged to higher SE class. Women who were not empowered had 2.971 times higher odds of experiencing unplanned pregnancy as compared to those who were empowered, while those with traditional method of contraception or no contraception were 2.391 times more likely to have unplanned pregnancy than those with modern methods of

contraception. Women whose husbands had lower education level were 2.673 times more likely to have

unplanned pregnancy than those who had either secondary or higher level of education.

**Table 2: Univariate logistic regression between unplanned pregnancy and different variables (n=158).**

Variables	Participants N (%) (Total=158)	Unplanned pregnancy N (%) (Total=45)	OR (95% CI)	P value	
<b>Age in years</b> Mean (SD)= 25.07±4.46	≥25	83 (52.5)	22(26.5)	1	0.398
	<25	75 (47.5)	23(30.7)	1.331 (0.698-2.558)	
<b>Religion</b>	Hindu	140 (88.6)	38 (27.1)	1	0.303
	Non- Hindu	18 (11.4)	7(38.9)	1.708 (0.617-4.729)	
<b>Caste</b>	Others	92 ( 58.2)	25 (27.2)	1	0.667
	SC, ST, OBC	66 (41.8)	20 (30.3)	1.165 (0.580-2.341)	
<b>Education of woman</b>	Middle and above	86 (54.4)	23 (26.7)	1	0.395
	Below middle	72 (45.6)	22(30.6)	1.326 (.692-2.538)	
<b>Occupation</b>	Homemaker	116 (73.4)	33 (28.4)	1	0.988
	Works for pay	42 (26.6)	12 (28.6)	1.006 (0.460-2.198)	
<b>SE class (BG Prasad scale)</b>	Class I, II, III	61(38.6)	10 (16.4)	1	0.009
	Class IV, V	97 (61.4)	35 (36.1)	2.879 (1.301-6.372)	
<b>Type of family</b>	Nuclear	75 (47.5)	20 (26.7)	1	0.631
	Joint	83 (52.5)	25 (30.1)	1.185 (0.592-2.373)	
<b>Women's empowerment</b>	Empowered	61 (38.6)	8 (13.1)	1	0.001
	Not empowered	97 (61.4)	37(38.1)	4.085 (1.748-9.547)	
<b>Education of husband</b>	Secondary & above	55 (34.8)	7 (12.7)	1	0.002
	Below secondary level	103 (65.2)	38 (36.9)	4.009 (1.649-9.745)	
<b>Method of contraception</b>	Modern method#	89 (56.3)	16 (18)	1	0.001
	Nil/traditional method##	69 (43.7)	29 (42)	3.308 (1.607-6.809)	

#OCP, Condom, IUCD; ##Safe days/calendar method, LAM (Lactational Amenorrhoea Method); \*P value less than 0.05 was considered statistically significant.

**Table 3: Multivariable logistic regression between unplanned pregnancy and explanatory variables (n=158).**

Variables	OR (95% CI)	AOR (95% CI)	P value	
<b>SE class (BG Prasad)</b>	Class I, II, III	1	1	0.034
	Class IV, V	2.879 (1.301-6.372)	2.523 (1.074-5.926)	
<b>Women's empowerment</b>	Empowered	1	1	0.019
	Not empowered	4.085 (1.748-9.547)	2.971 (1.198-7.367)	
<b>Education of husband</b>	Secondary & above	1	1	0.041
	Below Secondary level	4.009 (1.649-9.745)	2.673 (1.041-6.866)	
<b>Method of contraception</b>	Modern methods	1	1	0.027
	Nil/traditional methods	3.308 (1.607-6.809)	2.391 (1.104-5.180)	

\*P value less than 0.05 was considered statistically significant. Value of Nagelkerke R<sup>2</sup> was 0.267.

## DISCUSSION

In our current study proportion of unplanned pregnancy was found to be 28.5%. Out of 45 unplanned pregnancies 33 (73.3%) were mistimed and only 12 (26.7%) were unwanted.

Lindsey et al in their study in Bihar and Jharkhand showed unintended pregnancy to be as high as 31%.<sup>7</sup>

Sedgh et al showed in 2012 that globally 40% of all pregnancies were unplanned.<sup>8</sup>

Hall et al in their study conducted in Mchinji district, Malawi found that 32.6% of all pregnancies were unintended.<sup>9</sup> They used LMUP to measure pregnancy intention. Hall JA et al also showed that higher levels of maternal and partner's education were associated with pregnancies that were more planned, whereas low socio-economic status and absence of women empowerment were associated with unplanned pregnancy.<sup>9</sup> These findings are consistent with the findings of our study.

Habib et al in their study based in Pakistan found that 'never use of contraceptive methods' (AOR 2.3 1.4-5.1) remained significantly associated with unplanned pregnancy.<sup>10</sup> They also showed that being illiterate (AOR 1.9 1.1-3.4) was associated with unplanned pregnancy and association was statistically significant.<sup>10</sup> These findings are consistent with our findings.

Wellings et al in their study showed that unplanned pregnancy was significantly associated with lower educational attainment.<sup>11</sup> This finding is also consistent with our study.

Dixit et al in their case control study in India found that women with high school education and above and whose partners had a similar level of education had less chance of having unwanted pregnancy.<sup>12</sup> This finding is consistent with that of our study.

#### **Limitation of the study**

Socioeconomic factors found in the study area make it difficult to generalize this study to the remaining rural population of Bengal. Information collected for this study, relied mainly on the participants' self-report who might under-report about their pregnancy intention, hence the observed proportion of unplanned pregnancy might be underestimated. Therefore, it may be said that the study may have suffered from social desirability bias, recall bias and lack of generalizability in addition to small sample size. Moreover it was a clinic based study.

#### **Strength of the study**

This study has brought out the true picture of high prevalence of unplanned pregnancy among currently married women in a rural area of Bengal. Our current study also examined the predictors associated with unplanned pregnancy.

#### **CONCLUSION**

The study revealed alarmingly high prevalence of unplanned or unintended pregnancy and successfully examined its predictors among the women of Singur block. The findings of the study may be used in designing tailored intervention programme in our field practice area. A large proportion of women was found to be dependent on traditional method of contraception e.g., LAM (Lactational Amenorrhoea Method) and SDM (Safe

Days Method). However the correctness of their use of these methods was not explored. Many of them were not using any contraceptives. Emphasis should be given on IEC (information, education and communication) activities in addition to the existing strategies of the national program. All efforts should be made to educate them on hazards of unsafe abortion and unintended pregnancy.

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