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Original Research Article

A cross-sectional study to assess prevalence and determinants of unplanned pregnancy among eligible couples of rural field practice area: RDGMC, Ujjain

Shikha Sharma*

Department of Community Medicine, Government Medical College, Kota, Rajasthan, India

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***Correspondence:**
Dr. Shikha Sharma,
E-mail: shikhasharma23feb@gmail.com

ABSTRACT

Background: Unplanned pregnancy have emerged as one of key public health indicator affecting women, their families and societies at large. Globally, an estimated 40% pregnancies in 2012 were unplanned jeopardising health of millions of women and children. Unplanned pregnancies are also associated with increased risk of low birth weight and high infant mortality. Need of the study was to obtain information which can lead to improvement in use of available products and resources by addressing social determinants of reproductive health affecting pregnancy intensions.
Methods: Cross- sectional study was conducted in DSS (Demographic Surveillance Site), RD Gardi Medical College, Ujjain. Study included all consenting eligible couples excluding couples not available at time of interview and sterilized couples. "The London Measures of Unplanned Pregnancy" questionnaire (tested and validated for Indian settings) was used to assess pregnancy outcomes.
Results: According to scores 8% pregnancy came out as unplanned, 79% planned and 13% ambivalent. Occurrence of unplanned pregnancy was significantly associated with age ($\chi2=14.216$, $p=0.027$), socio-economic status ($\chi2=19.757$, $p=0.003$) and housing ($\chi2=22.337$, $p=0.000$) conditions of study participants. But when the above factors were further analysed using regression analysis, none was significantly associated.
Conclusions: Prevalence of unplanned pregnancy came out to be 8%. Further, none of the studied social determinants came out to be significantly associated with the occurrence of unplanned pregnancy. More studies with a qualitative nature will be needed to know the reasons for unplanned pregnancy.

Keywords: Unplanned pregnancy, Eligible couples

INTRODUCTION

Unplanned pregnancy in the present day scenario have emerged as one of a key public health indicator affecting women, their families and societies at large. Globally, an estimated 40% of all pregnancies in 2012 were unplanned jeopardizing the health of millions of women and children.[1] Studies conducted in various developed and developing countries revealed that unplanned pregnancy is associated with adverse socio-economic and health outcomes in the form of unhealthy behavior before, during and after pregnancy leading to poor antenatal, postnatal preventive and curative care that manifests as increased risk of low birth weight, high infant mortality, negligence in matters such as child immunization, breastfeeding behavior and place of delivery.[2]

The need of the study was to obtain information that can lead to improvement in the use of available products and resources by addressing social determinants of reproductive health affecting pregnancy intensions.

METHODS

A cross-sectional study was conducted in DSS (Demographic Surveillance Site) of RD Gardi Medical College under the department of Community Medicine which covers 60 villages of three blocks namely Mahidpur, Ghatiya and Tarana of Ujjain district. Study duration along with data collection extended from September 2013 to October 2015. These sixty villages were selected by purposive sampling technique. Out of these, 10% of the villages were selected by simple random method. For uniformity of distribution and population presentation two villages (Jeliyakhed, Ramsara, Samanera, Jhalara, Ralayati, Tulaheda) from the three selected blocks were included in the study.

Study included all the consenting eligible couples (a currently married couple wherein the wife is in the reproductive age, which is generally assumed to lie between the ages of 15 and 45 years).[3] Exclusion was done of couples not available at the time of interview from study villages and sterilized couples (couples who had used permanent contraception methods of either tubectomy or vasectomy).

Independent variables namely age, sex, education etc. were studied. May 2014 modified B. G. Prasad's classification was used to assess the socio-economic status.[4]

The tool used was "The London Measures of Unplanned Pregnancy" questionnaire which had been tested and validated for Indian settings (with a Cronbach's α of >0.70, reliability coefficients of 0.69-0.70 and strong internal structure validity).

Data were analyzed using percentage and proportions. Chi-square test was applied to know the association between dependent and independent factors, Kruskal-Wallis test for knowing the association between LMUP score with SDOH and then multinomial logistic regression analysis (MLR) was applied on the factors showing significant association in chi-square test.

The study was started after obtaining ethical approval from the Institutional Ethic Committee, R.D. Gardi Medical College, Ujjain, M.P. All the study subjects were explained in detail about the purpose and methodology of the study, potential risk and benefits. A written informed consent was obtained in the predesigned institutional format.

RESULTS

The Table 1 describes the planning of pregnancy as per female respondents when asked about their current or last pregnancy status as being planned or unplanned.

Table 1: Planning of pregnancy as per respondents (n=263 female).

Unplanned pregnancy	Frequency	Percentage (%)
Yes	20	7.60
No	230	87.45
Don't know	13	4.94
Total	**263**	**100**

According to Table 1, 7.60% reported the pregnancy status as unplanned, 87.45% as planned and 4.94% as don't know.

Table 2 shows that according to the calculated LMUP scores, 7.98% pregnancy came under the unplanned category, 79.46% under planned and 12.54% under ambivalent category.

Table 2: Planning of pregnancy assessed by London measure of unplanned pregnancy (LMUP) (n=263 female).

LMUP score	Frequency	Percentage (%)	Mean	S.D.	Range
Planned (10-12)	209	79.46	8.9	2.48	12
Ambivalent (4-9)	33	12.54			
Unplanned (0-3)	21	7.98			
Total	263	100			

It is evident from Figure 1, that maximum female respondents score fall within the range of 9 to 12 with the peak at the score of 10.

The occurrence of unplanned pregnancy was significantly associated with age of the study participants (χ^2= 14.216, p-value= 0.027) and was seen to be reported maximum in the age group of 21-25 years (12.5%) {table 3}. Socio-economic status (χ^2= 19.757, p-value= 0.003) and housing (χ^2= 22.337, p-value= 0.000) were also highly significantly associated and as the SES of the respondents decrease the occurrence of unplanned pregnancy increases and was seen to be more prevalent in people living in pucca house (15%) as compared to semi-pucca (7%) and kutcha (2.6%) house (Table 3).

When Kruskal – Wallis test was applied between pregnancy score and demographic variables (Table 4), there was no significant association.

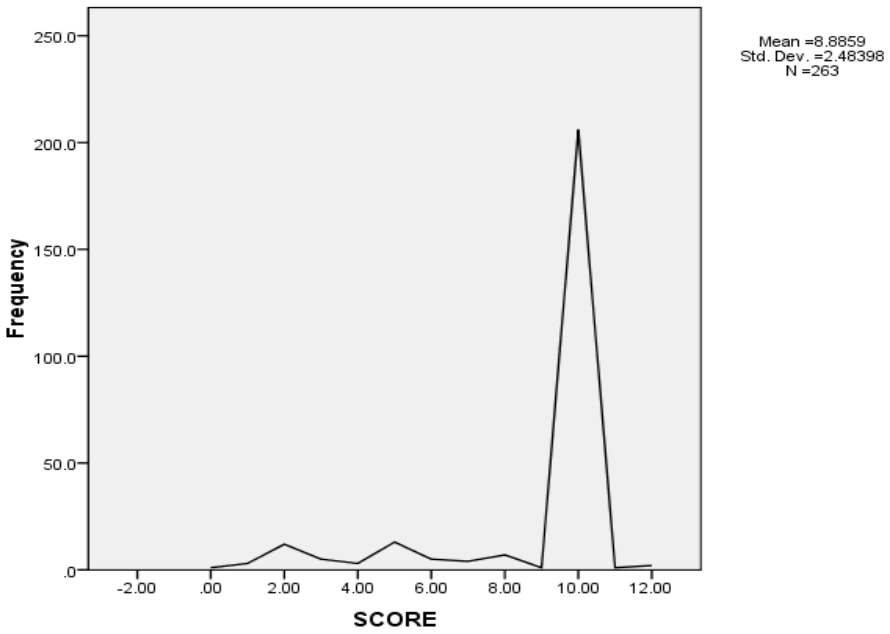

Figure 1: London measure of unplanned pregnancy score as per the frequency of participants.

Table 3: Association between planning of pregnancy and social determinants (n=263 females).

Social determinant		Pregnancy planning				χ^2 value	df	P value
		Planned N (%)	Ambivalent N (%)	Unplanned N (%)	Total			
Age	15-20	42 (20)	12 (37)	2 (10)	56	14.21	6	0.027*
	21-25	87 (42)	11 (33)	14 (66)	112			
	26-30	59 (28)	10 (30)	5 (24)	74			
	> 30	21 (10)	0 (0)	0 (0)	21			
	Total	209 (100)	33 (100)	21 (100)	263			
Education	Primary	64 (30	13 (39)	5 (24)	82	3.83	6	0.698
	Secondary	66 (32)	7 (21)	9 (42)	82			
	Higher/college	13 (6)	2 (6)	2 (10)	17			
	Illiterate	66 (32)	11 (33)	5 (24)	82			
	Total	209 (100)	33 (100)	21 (100)	263			
Category	General	92 (44)	15 (45)	15 (72)	122	11.84	6	0.066
	SC	36 (17)	5 (15)	4 (19)	45			
	ST	9 (4)	4 (12)	0 (0)	13			
	OBC	72 (34)	9 (27)	2 (10)	83			
	Total	209 (100)	33 (100)	21 (100)	263			
BPL card status	Yes	102 (49)	22 (67)	10 (48)	134	3.74	2	0.154
	No	107 (51)	11 (33)	11 (52)	129			
	Total	209 (100)	33 (100)	21 (100)	263			
Number of family members	2	6 (3)	1 (3)	1 (5)	8	12.10	8	0.147
	3	32 (15)	3 (9)	2 (10)	37			
	4	33 (16)	11 (33)	2 (10)	46			
	5	71 (34)	13 (39)	11 (52)	95			
	> 5	67 (32)	5 (15)	5 (24)	77			
	Total	209 (100)	33 (100)	21 (100)	263			
House	Kutcha	90 (43)	24 (73)	3 (14)	117	22.33	4	0.000*
	Pucca	83 (40)	4 (12)	15 (72)	102			
	Semipucca	36 (17)	5 (15)	3 (14)	44			
	Total	209 (100)	33 (100)	21 (100)	263			

Continued.

Social determinant		Pregnancy planning				χ^2 value	df	P value
		Planned N (%)	Ambivalent N (%)	Unplanned N (%)	Total			
Socio-economic status (SES)	Class II	10 (5)	3 (9)	2 (10)	15	19.75	6	0.003*
	Class III	35 (17)	3 (9)	8 (38)	46			
	Class IV	59 (28)	3 (9)	7 (33)	69			
	Class V	105 (50)	24 (73)	4 (19)	133			
	Total	209 (100)	33 (100)	21 (100)	263			
Family planning knowledge	Yes	175 (84)	26 (79)	16 (76)	217	1.11	2	0.573
	No	34 (16)	7 (21)	5 (24)	46			
	Total	209 (100)	33 (100)	21 (100)	263			
Male child preference	Yes	41 (20)	9 (27)	29 (10)	52	2.564	2	0.277
	No	168 (80)	24 (73)	19 (90)	211			
	Total	209 (100)	33 (100)	21 (100)	263			

*p<0.05 is significant.

Table 4: Kruskal – Wallis test for association between pregnancy score (LMUP) and significant socio-demographic variables (n=263 females).

Social determinants	χ^2 value	df	P value
Age	5.114	3	0.164
House	0.772	2	0.680
SES	4.241	3	0.237

*p<0.05 is significant.

Table 5: Regression analysis of factors predicting planning of pregnancy (n=263 females).

Pregnancy Planning	Category	B	S.E.	Wald	df	Sig.	O.R.	95% confidence interval	
								Lower bound	Upper bound
Ambivalent (4-9)	Intercept	-0.219	1.500	0.021	1	0.884			
	Age	-0.465	0.231	4.034	1	0.045*	0.628	0.399	0.989
	House	-0.630	0.325	3.768	1	0.052	0.532	0.282	1.006
	SES	0.154	0.253	0.371	1	0.542	1.167	0.710	1.916
Unplanned (0-3)	Intercept	0.958	1.513	0.401	1	0.527			
	Age	-0.251	0.298	0.709	1	0.400	0.778	0.434	1.395
	House	0.188	0.355	0.281	1	0.596	1.207	0.602	2.423
	SES	-0.395	0.250	2.496	1	0.114	0.674	0.431	1.100

reference category is planned (10-12), *p<0.05 is significant.

Factors (age, housing, socio-economic status) which appears to play significant role independently were analyzed together to know their effect in presence of each other, and after analysis it came out that they don't appear be significantly associated with unplanned pregnancy (Table 5).

Ambivalent category was analyzed so as not to miss the useful information in the category. As it is observed from the above table that no significant association is observed between social determinants and ambivalent category other than age which is also borderline significant (p=0.045).

DISCUSSION

Study was conducted for the period of one month i.e. 1st when asked about the planning of current/ last pregnancy status only 8% of the female respondents reported their pregnancy as unplanned, 87% said it to be planned and when it was assessed by using LMUP (London Measure of Unplanned Pregnancy) tool, according to calculated scores 79% pregnancies were classified planned, 8% as unplanned and 13% as ambivalent. This huge difference might have occurred due to the reason that people of rural areas have many traditional beliefs and do not use contraceptives to prevent pregnancy, they consider

children as God's gift and considered them as wanted. (supported by the findings of Ghike et al).[5]

The findings were similar to the NFHS-3 data, where total wanted births reported were 79%, and unplanned were 21% (unplanned plus ambivalent).[10]

The matched case-control study done by Dixit et al on the determinants of unwanted pregnancies in India also had similar findings as prevalence of planned and unplanned pregnancies came out to be 79% and 22% respectively.[6]

Also sociodemographic factors namely age (21-25 years), type of house (pucca house) and socio-economic status (low SES) were statistically significant association with unplanned pregnancy.

Further on regression analysis, age (O.R. 0.628, C.I. 0.399-0.989) of the respondents came out to be the social determinant of pregnancy planning in case of ambivalent category whereas none of the social factors came out to be significantly associated with unplanned category.

Prevalence of unplanned pregnancy came out to be 8%. Further, none of the studied social determinants came out to be significantly associated with the occurrence of unplanned pregnancy. More studies with a qualitative nature will be needed to know the reasons for Unplanned Pregnancy

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