

## **Research Article**

# **Fertility Profile, Anxiety, Depression of Married Women and Its Association with Reproductive Tract Infections in the Rural Area of Surendranagar District**

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**Abstract:** Reproductive tract infections generally seen as a silent epidemic can have severe consequences including infertility, ectopic pregnancy, chronic pelvic pain, miscarriage, neonatal blindness, increased risk of HIV infection and even death. Aims and Objectives of the study was to find out the prevalence of reproductive tract infections; fertility profile, anxiety, depression, to co-relate the findings with reproductive tract infections. The sample size of study as per statistical calculation ( $4pq/l^2$ , where  $p = 50$ ,  $q = 100 - p$  and  $l = 10\%$  of  $p$ ) came out to be 400. Prior enlisting all villages of Surendranagar district, one village was selected randomly. After random selection the village found was Khodu. Women married at the age of 18 yrs and less than that were 2 times more symptomatic (OR=2.090, CI=1.380 to 3.165).. Women having birth spacing of 3 yrs or less than that were 2 times more symptomatic in number (OR=2.194, CI= 1.432 to 3.361). Study has indicated various responsible factors like early marriage, contraceptive usage etc. for the reproductive tract infections.

**Keywords:** Fertility profile, contraception, reproductive tract infections, anxiety, depression

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## **INTRODUCTION**

Reproductive tract infections generally seen as a silent epidemic can have severe consequences including infertility, ectopic pregnancy, chronic pelvic pain, miscarriage, neonatal blindness, increased risk of HIV infection and even death [1]. In our society, especially in rural areas, males are common visitors to the reproductive tract infections / STI clinic than the female who are generally traced as contact [2]. At the time of worldwide financial crises, information on reproductive morbidity is essential to ensure the most appropriate allocation of existing resources and the planning of cost-effective health care strategies [3, 4].

### **Aims and Objectives**

To find out the prevalence of reproductive tract infections, fertility profile, anxiety, depression, to co-relate the findings of the fertility profile in association with reproductive tract infections.

## **MATERIALS AND METHODS**

### **Sample Size**

Various community based studies carried out in the different regions world showed the prevalence of reproductive tract infections 36-84%. Based on the pilot study prevalence was found 50%; .the sample size of

study as per statistical calculation ( $4pq/l^2$ , where  $p = 50$ ,  $q = 100 - p$  and  $l = 10\%$  of  $p$ ) came out to be 400.

### **Method of Sampling**

Prior enlisting all villages of Surendranagar district, one village was selected randomly. After random selection the village found was Khodu. The houses in area were listed and a randomly selected house was taken as the first house to be surveyed.

## **RESULTS**

Table 1 shows that mean age at menarche was  $13.44 \pm 0.558$  (mean $\pm$ SD), Mean age at marriage  $18.13 \pm 2.556$  (mean $\pm$ SD); Mean age at first pregnancy was  $19.46 \pm 2.932$  (mean $\pm$ SD). Women who had first pregnancy before the age of 18 years was 30.8%, Out of 400 women, 43.5% of women took ANC, 9.3% of women gave history of ever having abortion. 5.8% of women gave history of ever having pre term delivery. While 8.0% of women gave history of ante partum complications, 14.0% of women about post partum complications.

Table 2; 56.5% of women reported one or more symptoms of reproductive tract infections, vaginal

discharge (29.7%) was the commonest symptom ;21.5% women had curd like whitish discharge.

**Table 1: Fertility profile of women of reproductive age group (N=400)**

Fertility Profile	No. of women (N=400) Frequency	Percentage
<b>Age at Menarche</b>		
12 yrs	69	17.3%
13 yrs	124	31.0%
14 yrs	169	42.3%
15 yrs	38	9.5%
mean±SD	13.44±0.558	
<b>Total</b>	400	100%
<b>Age at Marriage</b>		
<18 yrs	158	39.5%
18-21yrs	158	39.5%
>21yrs	84	21.0%
mean±SD	18.13±2.556	
<b>Total</b>	400	100%
<b>Age at first Pregnancy</b>		
<18yrs	123	30.8%
18-21yrs	161	40.3%
>21yrs	116	29.0%
mean±SD	19.46±2.932	
<b>Total</b>	400	100%
<b>No. of children</b>		
0	38	9.5%
1	64	16.0%
2	72	18.0%
3	105	26.3%
4	85	21.3%
5	36	9.0%
<b>Total</b>	400	100%
<b>ANC taken</b>		
Yes	174	43.5%
No	210	52.5%
Not applicable	16	4.0%
<b>Total</b>	400	100%
<b>H/O of ever Abortion</b>		
Yes	37	9.3%
No	363	90.8%
<b>Total</b>	400	100%
<b>H/O ever Preterm delivery</b>		
Yes	23	5.8%
No	377	94.3%
<b>Total</b>	400	100%
<b>Ante partum Complications</b>		
Yes	32	8.0%
No	368	92.0%
<b>Total</b>	400	100%
<b>Post partum Complications</b>		
Yes	56	14.0%
No	344	86.0%
<b>Total</b>	400	100%
<b>Birth Spacing</b>		
2 yrs	160	40.0%
3 yrs	111	27.8%
4 yrs	78	19.5%
5 yrs	23	5.8%
Notapplicable	28	7.0%
<b>Total</b>	400	100%
<b>Contraceptive users</b>		
None	169	42.3%*
IUCDs	122	30.5%
OC Pills	40	10.0%
Condoms	33	8.3%
Permanent Sterilization	36	9.0%
<b>Total</b>	400	100%

Table 3 shows that symptoms of reproductive tract infections having association with anxiety and depression.

Table 4 shows that a significant association between age at marriage and symptoms; a significant association between age at first pregnancy and women having symptoms. Women who did not take ANC were 4 times

more symptomatic in number as compared to those women who took ANC. (OR=4.701, CI=2.882 to 7.666); a significant association between women present with symptoms and their history of post partum complications; a significant association between birth spacing and symptoms. Women who were IUCD users were 5 times more symptomatic compared to other contraceptive users.

**Table 2: Prevalence of reproductive tract infections amongst married women in the rural area of Surendranagar district (N=400)**

Findings (Symptoms/Signs)	Frequency (N=400)	Percentage (%)
Symptoms present	226	56.5
1. Vaginal discharge	105	26.3
Type of discharge		
1.1 Curd like whitish	86	21.5
1.2 Purulent	19	4.8
1.3 Frothy foul-smelling Greenish	08	2.0
1.4 Blood along with pus	06	1.5
2. Vulval itching	35	8.8
3. Low backache	28	7.0
4. Lower abdominal pain	10	2.5
5. Genital ulcerations	03	0.8
6. Burning micturition	13	3.3
7. Menstrual problems	11	2.8
8. Dyspareunia	07	1.8
9. Multiple responses	14	3.6

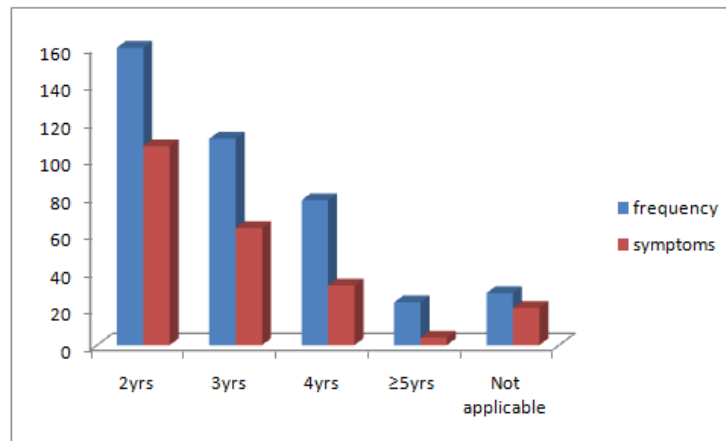
**Table 3: Association of anxiety and depression with the symptoms of reproductive tract infections (clinical interview technique by a qualified psychiatrist)**

Symptoms	Reproductive tract Infections		$\chi^2 = 8.43$ d.f. = 1 P value = 0.03 (Statistically significant)
Anxiety	Yes	No	
Yes	102	94	
No	124	70	
Total	226 (56.5%)	174 (43.5%)	
Depression	Yes	No	
Yes	152	138	
No	74	36	
Total	226 (56.5%)	174 (43.5%)	

**Table 4: Distribution of symptomatic patients in relation to fertility profile of women (N=400)**

Fertility Profile	No. of women (N=400) Frequency (percentage)	No. of women Having Symptoms (percentage)	OR 95% CI	At 5% Significance Level (P value)
<b>Age at Menarche</b>				
12 yrs	69 (17.3%)	38 (55.07)	0.596 (0.367 to 0.912)	0.717
13 yrs	124 (31.0%)	66 (53.23)		
14 yrs	169 (42.3%)	101(59.76)		
15 yrs	38(9.5%)	21(55.26)		
mean±SD	13.44±0.558			
<b>Total</b>	400(100%)	226 (56.5%)		
<b>Age at Marriage</b>				
<18 yrs	158 (39.5%)	105(66.45)	2.090	0.001
18-21yrs	158 (39.5%)	72(45.56)		

>21yrs mean±SD	84 (21.0%) 18.13±2.556	49(58.33 )	(1.380 to 3.165)	
<b>Total</b>	400(100%)	226 (56.5%)		
<b>Age at first Pregnancy</b>				
<18yrs	123 (30.8%)	87(70.73 )	2.240 (1.431 to 3.568)	0.0001
18-21yrs	161 (40.3%)	71(44.09 )		
>21yrs mean±SD	116 (29.0%) 19.46±2.932	68(58.62 )		
<b>Total</b>	400(100%)	226 (56.5%)		
<b>No. of children</b>				
0	38(9.5%)	21(55.26 )	2.0194 (1.342 to 3.637)	0.008
1	64 (16.0%)	46(71.87 )		
2	72 (18.0%)	48(66.67 )		
3	105 (26.3%)	56(53.33 )		
4	85 (21.3%)	39(45.88 )		
5	36(9.0%)	16(44.44 )		
<b>Total</b>	400(100%)	226 (56.5%)		
<b>ANC taken</b>				
Yes	174 (43.5%)	67(38.51)	3.967 (2.608 to 6.035)	0.0001
No	210 (52.5%)	151(66.81 )		
Not applicable	16(4.0%)	8(50.0 )		
<b>Total</b>	400(100%)	226 (56.5%)		
<b>H/O of ever Abortion</b>				
Yes	37(9.3%)	24( 64.86)	1.471 (0.726 to 2.981)	0.281
No	363 (90.8%)	202(55.64 )		
<b>Total</b>	400(100%)	226 (56.5%)		
<b>H/O ever Preterm delivery</b>				
Yes	23(5.8%)	14(60.87 )	1.210 (0.511 to 2.866)	0.663
No	377 (94.3%)	212(56.23 )		
<b>Total</b>	400(100%)	226 (56.5%)		
<b>Ante partum Complications</b>				
Yes	32 (8.0%)	18( 56.25)	0.989 (0.477 to 2.048)	0.976
No	368(92.0%)	208( 56.52)		
<b>Total</b>	400(100%)	226 (56.5%)		
<b>Post partum Complications</b>				
Yes	56(14.0%)	31( 55.35)	15.822 (8.130 to 30.791)	0.0001
No	344(86.0%)	25(7.27 )		
<b>Total</b>	400(100%)	226 (56.5%)		
<b>Birth Spacing</b>				
2 yrs	160 (40.0%)	107(66.88 )	2.194 (1.432 to 3.361)	0.0003
3 yrs	111 (27.8%)	63(56.76 )		
4 yrs	78 (19.5%)	32(41.02 )		
5 yrs	23(5.8%)	4(17.39 )		
Notapplicable	28(7.0%)	20( 71.42)		
<b>Total</b>	400(100%)	226 (56.5%)		
<b>Contraceptive users</b>				
None	169 (42.3%)*	101(59.76 )	4.701 (2.882 to 7.666)	0.0001
IUCDs	122 (30.5%)	95(77.87)		
OC Pills	40 (10.0%)	11(27.50 )		
Condoms	33(8.3%)	3( 9.09)		
Permanent Sterilization	36(9.0%)	4(11.11 )		
<b>Total</b>	400(100%)	226 (56.5%)		



**Fig. 1: Women having symptoms and their association with birth spacing between two children**

## DISCUSSION

Significant association was found in between age at marriage and women having symptoms of reproductive tract infections. A similar result found in study by A Parashar *et al.* [5]. Women who had taken ANC had lower prevalence of reproductive tract infections (43.3%) as compared to women who had not taken ANC (72.38%). Women having history of past abortion were 1.5 times more symptomatic as compared to without history.

Women who were using IUCDs had 5 times more symptoms as compared to women who were using other methods of contraception. A similar result was found in the study carried out in Shimla City [5]. A study carried out in Goa by V Patel *et al.*; a study conducted in rural Labenon, showed the similar results [7, 8]. Savita Sharma *et al.* reported that in which a total of 61.9% of women using intrauterine devices and the 51.1% of women who had tubectomies had reproductive tract infections [6].

A significant association found with women having symptoms of reproductive tract infections with their anxiety and depression; a similar result found in the studies carried out by Vikram Patel *et al.* and study by Cai WD [9, 10].

## CONCLUSION

Women with history of ever abortion, pre-term delivery and post-partum complications had higher prevalence. IUCDs users had maximum and condom users had the lowest prevalence.

## RECOMMENDATIONS

Accurate health education about gynaecological and reproductive morbidity would reduce stigma and embarrassment of reproductive tract infections. Health services should be made more accessible so that women feel more comfortable in seeking treatment and not deterred by concerned over privacy and confidentiality. Information on RTI's and the use of condoms to prevent STIs should be imparted

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