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**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

## 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±0.558 (mean±SD), Mean age at marriage 18.13±2.556 (mean±SD); Mean age at first pregnancy was 19.46±2.932 (mean±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 |
|---|---|---|
| **Age at Menarche** | | |
| 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 | |
| **Total** | 400 | 100% |
| **Age at Marriage** | | |
| <18 yrs | 158 | 39.5% |
| 18-21yrs | 158 | 39.5% |
| >21yrs | 84 | 21.0% |
| mean±SD | 18.13±2.556 | |
| **Total** | 400 | 100% |
| **Age at first Pregnancy** | | |
| <18yrs | 123 | 30.8% |
| 18-21yrs | 161 | 40.3% |
| >21yrs | 116 | 29.0% |
| mean±SD | 19.46±2.932 | |
| **Total** | 400 | 100% |
| **No. of children** | | |
| 0 | 38 | 9.5% |
| 1 | 64 | 16.0% |
| 2 | 72 | 18.0% |
| 3 | 105 | 26.3% |
| 4 | 85 | 21.3% |
| 5 | 36 | 9.0% |
| **Total** | 400 | 100% |
| **ANC taken** | | |
| Yes | 174 | 43.5% |
| No | 210 | 52.5% |
| Not applicable | 16 | 4.0% |
| **Total** | 400 | 100% |
| **H/O of ever Abortion** | | |
| Yes | 37 | 9.3% |
| No | 363 | 90.8% |
| **Total** | 400 | 100% |
| **H/O ever Preterm delivery** | | |
| Yes | 23 | 5.8% |
| No | 377 | 94.3% |
| **Total** | 400 | 100% |
| **Ante partum Complications** | | |
| Yes | 32 | 8.0% |
| No | 368 | 92.0% |
| **Total** | 400 | 100% |
| **Post partum Complications** | | |
| Yes | 56 | 14.0% |
| No | 344 | 86.0% |
| **Total** | 400 | 100% |
| **Birth Spacing** | | |
| 2 yrs | 160 | 40.0% |
| 3 yrs | 111 | 27.8% |
| 4 yrs | 78 | 19.5% |
| 5 yrs | 23 | 5.8% |
| Notapplicable | 28 | 7.0% |
| **Total** | 400 | 100% |
| **Contraceptive users** | | |
| None | 169 | 42.3%* |
| IUCDs | 122 | 30.5% |
| OC Pills | 40 | 10.0% |
| Condoms | 33 | 8.3% |
| Permanent Sterilization | 36 | 9.0% |
| **Total** | 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 | $\chi 2 = 7.10$ d.f. = 1 P value = 0.007 (Statistically significant) |
| 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) |
|---|---|---|---|---|
| **Age at Menarche** | | | | |
| 12 yrs | 69 (17.3%) | 38 (55.07) | | |
| 13 yrs | 124 (31.0%) | 66 (53.23) | 0.596 | |
| 14 yrs | 169 (42.3%) | 101(59.76 ) | (0.367 to 0.912) | 0.717 |
| 15 yrs | 38(9.5%) | 21(55.26 ) | | |
| mean±SD | 13.44±0.558 | | | |
| **Total** | 400(100%) | 226 (56.5%) | | |
| **Age at Marriage** | | | | |
| <18 yrs | 158 (39.5%) | 105(66.45 ) | | |
| 18-21yrs | 158 (39.5%) | 72(45.56 ) | 2.090 | 0.001 |
| >21yrs | 84 (21.0%) | 49(58.33 ) | (1.380 to 3.165) | |
| mean±SD | 18.13±2.556 | | | |
| **Total** | 400(100%) | 226 (56.5%) | | |

| | | | | |
|---|---|---|---|---|
| **Age at first Pregnancy** | | | | |
| <18yrs | 123 (30.8%) | 87(70.73 ) | | |
| 18-21yrs | 161 (40.3%) | 71(44.09 ) | 2.240 | 0.0001 |
| >21yrs | 116 (29.0%) | 68(58.62 ) | (1.431 to 3.568) | |
| mean±SD | 19.46±2.932 | | | |
| **Total** | 400(100%) | 226 (56.5%) | | |
| **No. of children** | | | | |
| 0 | 38(9.5%) | 21(55.26 ) | | |
| 1 | 64 (16.0%) | 46(71.87 ) | | |
| 2 | 72 (18.0%) | 48(66.67 ) | 2.0194 | 0.008 |
| 3 | 105 (26.3%) | 56(53.33 ) | (1.342 to3.637) | |
| 4 | 85 (21.3%) | 39(45.88 ) | | |
| 5 | 36(9.0%) | 16(44.44 ) | | |
| **Total** | 400(100%) | 226 (56.5%) | | |
| **ANC taken** | | | | |
| Yes | 174 (43.5%) | 67(38.51) | 3.967 | |
| No | 210 (52.5%) | 151(66.81 ) | (2.608 to | 0.0001 |
| Not applicable | 16(4.0%) | 8(50.0 ) | 6.035) | |
| **Total** | 400(100%) | 226 (56.5%) | | |
| **H/O of ever Abortion** | 37(9.3%) | 24( 64.86) | 1.471 | |
| Yes | 363 (90.8%) | 202(55.64 ) | (0.726 to 2.981) | 0.281 |
| No | | | | |
| **Total** | 400(100%) | 226 (56.5%) | | |
| **H/O ever Preterm delivery** | | | | |
| Yes | 23(5.8%) | 14(60.87 ) | 1.210 | 0.663 |
| No | 377 (94.3%) | 212(56.23 ) | (0.511 to 2.866) | |
| **Total** | 400(100%) | 226 (56.5%) | | |
| **Ante partum Complications** | | | | |
| Yes | 32 (8.0%) | 18( 56.25) | 0.989 | 0.976 |
| No | 368(92.0%) | 208( 56.52) | (0.477 to 2.048) | |
| **Total** | 400(100%) | 226 (56.5%) | | |
| **Post partum Complications** | | | | |
| Yes | 56(14.0%) | 31( 55.35) | 15.822 | 0.0001 |
| No | 344(86.0%) | 25(7.27 ) | (8.130 to 30.791) | |
| **Total** | 400(100%) | 226 (56.5%) | | |
| **Birth Spacing** | | | | |
| 2 yrs | 160 (40.0%) | 107(66.88 ) | | |
| 3 yrs | 111 (27.8%) | 63(56.76 ) | 2.194 | |
| 4 yrs | 78 (19.5%) | 32(41.02 ) | (1.432 to 3.361) | 0.0003 |
| 5 yrs | 23(5.8%) | 4(17.39 ) | | |
| Notapplicable | 28(7.0%) | 20( 71.42) | | |
| **Total** | 400(100%) | 226 (56.5%) | | |
| **Contraceptive users** | | | | |
| None | 169 (42.3%)* | 101(59.76 ) | | |
| IUCDs | 122 (30.5%) | 95(77.87) | 4.701 | 0.0001 |
| OC Pills | 40 (10.0%) | 11(27.50 ) | (2.882 to 7.666) | |
| Condoms | 33(8.3%) | 3( 9.09) | | |
| Permanent Sterilization | 36(9.0%) | 4(11.11 ) | | |
| **Total** | 400(100%) | 226 (56.5%) | | |

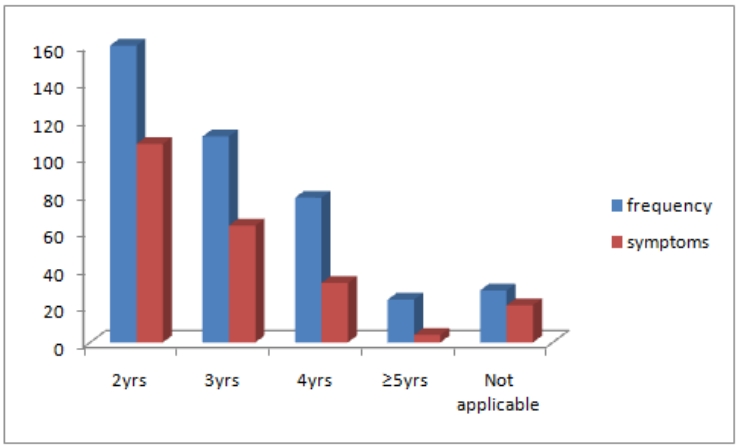


**Fig. 1: Women having symptoms and their association with birth spacing between two children**

## 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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