

## Study of Male Factors for Subfertility amongst Rural Couple

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### ABSTRACT

Infertility, whether male or female, is defined as the inability of a couple to achieve conception or bring a pregnancy to term after a year or more of regular, unprotected sexual intercourse, and there is no other reason (such as breastfeeding or post partum amenorrhea). The term is generally used to denote that the couple has reduced chances to conceive as compared to general population. Semen analysis is a diagnostic tool in the evaluation of the male partners of infertile couples. Careful evaluation of the ejaculate parameters may suggest the possible causes of subfertility and their identification could help to apply appropriate management, if available.

#### Materials and Methods

- Type Of Study- Prospective Cross Sectional Study
- Duration of study :- 2013 August -2015 August
- Place of study :- Department of Obstetrics and Gynaecology JNMC, AVBRH, DMIMS, Wardha

**Sample size:** 100 consecutive couples attending fertility clinic at AVBRH were considered for the purpose of study, after informing them and taking written consent from them, for becoming the part of the study

**Results:** Mean age of the men in this study was 28.19 years. Majority i. e 66% had duration of infertility below 5 years, 24 % between 5-10 years and there were 10% with more than 10 years of Subfertility 42% men had history of substance abuse like smoking, alcohol, tobacco chewing, ganja and charas etc. 1 patient had history of pre mature ejaculation. And varicocele and undescended testes were seen in 2 cases on examination.

Out of 100 men studied, 37 were found to have abnormal seminogram. 16 men had oligospermia, 4% had azoospermia, 5% cases had asthenospermia and combined abnormality was seen in 12% cases (i.e. pyospermia alone, pyospermia with oligospermia, teratospermia).

**Conclusion:** Semen analysis remains the single most useful and fundamental investigation for male infertility. Though it not a test of fertility, but it does provide information about abnormalities of sperm count and morphology. Optimal of age of marriage, refraining from addictions, timely medical assistance can help the couples to have successful pregnancy

**Key words:** Male factors, Subfertility, Rural couple.

### INTRODUCTION

According to WHO [1] Infertility, whether male or female, is defined as the inability of a couple to achieve conception or bring a pregnancy to term after a year or more of regular, unprotected sexual

intercourse, and there is no other reason (such as breastfeeding or post partum amenorrhea). The term is generally used to denote that the couple has reduced chances to conceive as compared to general population.

Female partner was generally blamed for infertility but, the Greeks were aware of male infertility. Various causes are attributed for infertility and it is proved that infertility is due to many factors, in both male and female. It is widely accepted that male factor alone accounts for infertility in about 40% cases, female factor alone in 40% of the cases of infertility, and in 20% cases, there is combined male and female factor. [2]

Semen analysis is a diagnostic tool in the evaluation of the male partners of infertile couples. Careful evaluation of the ejaculate parameters may suggest the possible causes of subfertility and their identification could help to apply appropriate management, if available.

This study aims to assess the semen quality in a rural set up, especially to evaluate the seminal pattern of the male partners of subfertile couples, towards identifying the possible contribution of male factor to overall infertility

**Aims and objectives:**

- To study the prevalence of various etiological factors responsible for male sub-fertility.
- To study the clinical profile of male sub-fertile couple and correlate with etiology

**MATERIALS AND METHODS**

- Type of Study- Prospective Cross Sectional Study
- Duration of study :- 2013august -2015 august
- Place of study :- Department of Obstetrics and Gynaecology JNMC, AVBRH, DMIMS, Wardha
- **Sample Size:** 100 consecutive couples attending fertility clinic at AVBRH were considered for the purpose of study, after informing them and taking written consent from them, for becoming the part of the study.
- Exclusion criteria
- 1) couples not living together.
- Methodology-

- 100 subfertile couples attending obstetrics and gynecology OPD were included in the study.
- Semen collection was done in sterile plastic containers by masturbation after 3 days of abstinence.
- Samples were delivered within one hour of collection and analysed by manual method. Analyses were for volume, viscosity, sperm concentration, motility, and morphology, according to WHO guidelines on semen analysis

**Result of semen analysis according to who reference 2000**

- Volume 2.0ml
- Ph 7.2 or more
- Sperm concentration 20 million spermatozoa per ml or more
- Total sperm number 40 million spermatozoa per ejaculate or more
- Motility 50% or more motile (grade a\* and b\*\*)or more with progressive
- Motility (grade a)with In 60 minutes of ejaculation
- Vitality 75% or more live
- White blood cells: fewer than 1 million per ml.
- Morphology 15% or 30%\*\*\*

\*grade a: a rapid progressive motility (sperm moving swiftly, usually in a straight line)

\*\*grade b: slow or sluggish progressive motility (sperm may be less linear in their progression)

\*\*\*currently being reassessed by WHO. In the interim, the proportion of normal forms accepted by lab in UK is either the earlier WHO lower limit of 30% or 15% based on strict morphological criteria. [3]

**OBSERVATION AND RESULTS**

Mean age of the men in this study was 28.19years. Majority i. e 66% had duration of infertility below 5 years, 24 % between 5-10 years and there were 10% with more than 10 years of Subfertility.

### 1) Demographic profile

Age	No Of Cases N=100	Percentage
21-25yrs	11	11%
26-30yrs	33	33%
31-35yrs	27	27%
More than 35yrs	29	29%
Total	100	100
Mean age	28.19	32.78
<b>Education</b>		
Primary	39	39%
Higher	29	29%
Secondary	32	32%
<b>Socio economic status</b>		
Class1	6	6%
Class 2	29	29%
Class3	41	41%
Class4	23	23%
Class5	1	1%
<b>Area</b>		
Rural	53	53
Urban	47	47

### 2) Distribution of Cases According To The Duration Of Subfertility

Duration(Years)	No of cases	%
2-3 yrs	38	38
>3-5 yrs	28	28
>5-10 yrs	24	24
>10 yrs	10	10
Total	100	100.0
Mean ±SD		5.84±5.90 years

### 3) Distribution of the Cases According To The Frequency of Coitus

Frequency of coitus/wk	No of cases	%
1-2/wk	42	42
3-4/wk	53	53
>4/wk	5	5
Total	100	100

### 4) Distribution of Cases According To Substance Abuse

Sub Abuse	No Of Cases	%
YES	42	42
NO	58	58

### 5) Distribution of Male Cases According To History

Significant male history	No of cases	%
PRE MATURE EJACULATION	1	1
MUMPS	0	0
Trauma/accident	0	0

### 6) Distribution of Male Cases According To Examination

Male examination	No of cases	%
Varicocele	1	1
Undescended testes	1	1
hernia	0	0

### 7) Distribution of Cases According To Seminogram

Seminogram	No of cases	%
Normospermia	63	63
Oligospermia	16	16
Azoospermia	4	4
Asthenospermia	5	5
Combine	12	12

42% men had history of substance abuse like smoking, alcohol, tobacco chewing, ganja and charas etc.

1 patient had history of pre mature ejaculation. And varicocele and undescended testes were seen in 2 cases on examination.

Out of 100 men studied, 37 were found to have abnormal seminogram. 16 men had oligo spermia, 4% had azoospermia, 5% cases had asthenospermia and combined abnormality was seen in 12% cases (i.e. pyospermia alone, pyospermia with oligospermia, teratospermia).

## DISCUSSION

In the present study 42% patients had history of substance abuse and 37% patients were reported to have abnormal semen parameter. According to a study by Samal et al, [4] the abnormality of the semen analysis report was found in 35.49%, 86.49% and 53.75% in smokers, alcoholics and in combinations of these addictions respectively. This shows that cigarette smoking has detrimental effects on spermatogenesis and they thereby impairs fertility. Hence men should be encouraged to stop smoking especially while trying to conceive. Excessive alcohol consumption has been associated with poor reproductive function. Alcohol has profound effects on leydig cell function by reducing testosterone synthesis and its metabolite, acetaldehyde, causing membrane damage and the formation of leydig cell auto antibodies.

In the present study 100 males underwent semen analysis 16% cases reported to have oligospermia followed by 12% cases had combine abnormality (pyospermia, teratospermia alone or with oligospermia), 5% cases were reported to have asthenozoospermia, 4% cases had azoospermia which was similar to the study conducted by Patel et al [5] which reported that 23.5% cases had oligospermia, 50% cases had azoospermia, 17.4% cases had asthenospermia and 9% were reported to have combined abnormality. Samal et al [4] reported 33.17% cases had oligospermia,

9.89% cases were reported to have azoospermia and 1.83% cases reported to have asthenospermia. %. Thus, education about male infertility and investigating males can be helpful in finding the factor and further management

In another descriptive cross-sectional survey, carried out at the Department of Gynaecology and Obstetrics, Sharif Medical City Hospital, Lahore, from June 2009 to June 2010 by BUTT.F. [6] A total of 500 consecutively consenting male partners of women fulfilling the inclusion criteria between 20 and 40 years of age were approached. Semen analysis was performed according to methods and standards defined by the World Health Organisation (WHO). Samples were categorised into normospermia, oligospermia and azoospermia on the basis of sperm count. After exclusion of azoospermic samples, normospermic and oligospermic samples were compared for ejaculated volume, pus cells, motility and morphology. SPSS 10 was used for statistical analysis. Out of the 500 males approached, 104 (20.8%) had to be left out either because of their unwillingness or inability to pass semen. The study sample comprised of 396 (response rate 79.2%); normospermia was observed in 293 (73.99%) males, azoospermia in 59 (14.89%), and oligospermia in 44 (11.11%). The oligospermic samples had low ejaculated volume, but significantly higher percentage of non-motile sperms 62% +/- 23.9% and abnormal morphology 55% +/- 15.6% in comparison to normospermic samples (p 0.0001). Asthenospermia was observed in 37 (25.81%), teratospermia in 11 (3.26%) and oligoasthenoteratospermia in 4 (9.09%) of samples and concluded that Semen analysis is the cornerstone for the evaluation of infertility in men. Sperm

concentration, motility and morphology are related to each other, factors that cause deterioration of one of them usually also have negative impact on the other two as well. %. Thus, education about male infertility and investigating males can be helpful in finding the factor and further management.

## CONCLUSION

Semen analysis remains the single most useful and fundamental investigation for male infertility. Though it not a test of fertility, but it does provide information about abnormalities of sperm count and morphology. Optimal of age of marriage, refraining from addictions, timely medical assistance can help the couples to have successful pregnancy.

## REFERENCES

1. Cooper Tg, Noonam E, Eckardstein S, Et Al. World Health Organization Reference Values For Human Semen Characteristics. *Human. Reprod. Update* 2010; 16(3): 231-45
2. Shubhada Jajoo, Kanika R. Kalyani, Prevalence Of Abnormal Semen Analysis In Patients Of Infertility At A Rural Setup In Central India *International Journal Of Reproduction, Contraception, Obstetrics And Gynecology 2013 Jun;2(2):161-164*
3. Gutfeld O, Wygoda M, Shavit L, Grenader T (2007). "Fertility After Adjuvant External Beam Radiotherapy For Stage I Seminoma". *The Internet Journal Of Oncology* 4 (2)
4. Samal S, Dhadwe K, Gupta U, Gupta Nk. Epidemiological Study Of Male Infertility, *Indian Medical Gazette*, May2012,174-80.
5. Patel M, Jain S Et Al.Prevalence Of Different Factors Responsible For Infertility. *Res J Recent Sci*.2012;1:207-2011.
6. Butt F, Akram N Semen Analysis Parameters: Experiences and Insight into Male Infertility at a Tertiary Care Hospital in Punjab. *J Pak Med Assoc*. 2013 May; 63(5):558-62.

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