



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF  
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1492772>Available online at: <http://www.iajps.com>

Research Article

**INSIGHT INTO MALE INFERTILITY: ASSESMENT OF  
PATTERN OF SEMEN ABNORMITIES**<sup>1</sup>Dr. Taabeer Malik, <sup>2</sup>Dr Anas Ahmad Shah, <sup>3</sup>Dr Fawad Munawar<sup>1</sup>Services Hospital Lahore<sup>2</sup>DHQ Hospital Faisalabad<sup>3</sup>Punjab Medical College Faisalabad**Abstract:**

**Objective:** To estimate the design of deformity of semen is the main objective of this research. This deformity is related to attentiveness, flexibility and framework related to attentiveness, flexibility and framework related to sterile factor of male.

**Method:** At infertility clinic of Jinnah Method Collage Hospital, the cross-sectional study was organized. This study of was organized from February 2015 to Feb 16. This study contains seventy-three continuous males. These male are companions of those females that are visiting the clinic of deform ting for starting workshop. Various criterion was examined after the basic investigation was done. Basic investigation includes a history in detail and examination of semen.

**Results:** The outcomes of this study contains just 12(16.4%) normal sperm, pyospermia counted are 23(31.5%), asthenozoospermia estimated are 15(20.5%) 2 (2.7%) azoospermia and 3(4.1%) oligospermia counted. 2(2.7%) of case are with changed form and structure and 9(12.3%) cases are with reduced movability. These cases are related with pus is semen. In our research, the tobacco chewer was thirty-seven (50%), smokers were 8(11%), alcoholic were 2(2.8%), disorders of thyroid were found in 1(1.4%) diabetic were 3(4.1%) hypertension is seen in 2(2.7%), 3(4.1%) are with history of hernioraphy, 3(4.1%) important, premature ejaculation is observed in 1(1.4%) and psychological problems are present in 1(1.4%).

**Conclusion:** The study illustrated that the most important logic of subfertility in our community is sterile is decreased severely by tobacco chewing, smoking and infection.

**Keyword:** Insight, Male Infertility, Assesment, Pattern, Semen Abnormities.

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Please cite this article in press Taabeer Malik et al., *Insight into Male Infertility: Assesment of Pattern of Semen Abnormities.*, Indo Am. J. P. Sci, 2018; 05(11).

**INTRODUCTION:**

Sterility is a reproductive system disorder and is a universal issue. It is defined when females are not successful to have pregnancy clinically after the period of 12 months or more of ordered undefended sexual association. [1]

Worldwide, almost 10-15% of pairs are effected from sterility. [2]. 20-30% cases of sterility are rewarded to male exclusively. All Over, 50% case are subjected to males. But exactly this figure does not illustrate all areas of world. Certainly, there is scarcity of exact figure on the extent of sterility in males on the universal level. [3] 30% to 5%. Men are counted to have semen of bad quality. The reason for this poor quality of semen has not been indicated. [4,5]. Worldwide and as well as in Pakistan, the issue of male sterility is noticeable. Although, the basic issue of infertility is deflectable sperm but there are other etiological reasons as well. These etiological reasons include absence of testicular tissue, bilateral castration, damaged function and production of sperm, AZF gene deletion(y-deletion), hypogonadotropic hypogonadism (cryptorchidism), testicular cancer and varicocele, age less than 55 years and genitourinary infection. The environment factors responsible for men sterility are temperature extremes, irradiations, occupational exposure ill-use of drugs, alcohol and tobacco. The scarcity of nutrients also contributes to sterility like trace element e-g zinc, vitamins and selenium. There are many other reason for infertility in which may include reduced transport of sperm as observed in autoimmune infertility, epididymitis, stoppage of vasdeferens, failure of ejaculation of sperm, impotence, previous vasectomy and disturbance in sperm oocyte fusion e-g the other logic of male sterility could be abnormal egg binding proteins. Therefore, to point out the person with exact possibility is very hard. [6]

However, earlier the clinical value has been questioned about the assessment of human semen [1]. Analysis of human semen is considered the basic for exploring the sterility in male although it is not the correct method of assessment, [8] It is considered that estimation of semen, physical check-up and basic name and complete information should be noticed to initiate work-up with every male infertility. [9]

The issue was pointed out the world by a report in 2013 "Falling sperm count twenty years on, where we are now". This opens the way to others to explore the circumstances. Whether on the serious notes, there has been a universal reduction in sperm counts in the latest decades is one the most important questions which is elevated. From a universal point of view, there are prominent hardships in initiating the certainty of this condition. These hardships are

due to the differences between studies in term of location, criteria of choosing donor, analytical methods, distribution of age, frequency of ejaculation, socio-economic background and racial composition, independent of any difference in environment or life style exposure that might have effected testicular development and function. Hypothesis of falling sperm count has been approved by several studies. However, other studies are not succeeding to indicate any possible temporal change. [10] To find out the extent of unusual semen framework in sterility clinic of tertiary care hospital in the main objective of this research. The objective also includes to allocate the prominent reason of sterility of male e-g oligospermia, Azoospermia etc.

**MATERIAL AND METHODS:**

The study includes about seventy-three men who come to see the sterility clinic for starting workup. These men are companions of females those visiting the sterility clinic. The marriage time of these men was at-least twelve months. These men have organized undefended sexual associated. The selection of male companions was done from the infertility clinic of department of obstetrics and gynecology at Jinnah Medical College Hospital. The selection was done February 19, 2015 to Feb 19, 2016. By using the formulas, 25% was the proportion of presence of male sterility and 10% was the margin of error. The result indicates the sample size to be seventy-two. Complete information about age, time period of marriage, kind of sterility, any offspring from other companion, consanguineous marriage, combined living, profession, past medical, surgical history, coital history, any psycho-sexual dysfunction and impotence, any medical addiction and family background was taken from the male companion. As starting step of workup, men were taken to the laboratory for the assessment of semen. The assessment was done after complete information about men. Those who were unable to give semen assessment was removed from study. Those are also removed who could not pass sample by masturbation and those who had two reports available for semen assessment from genuine laboratory. Those male are suggested for urological tests and more development and management who had acute irregularity of semen, importance or psycho-sexual issue. Comprehensive commandment was given related to gathering of sample. The instruction includes the requirement of temperance for three to four days. Five genuine laboratories were choosed for assessment of semen. These includes Agha Khan Universities Hospital, Sindh Constitutes of Reproductive Medicine, Concept Fertility Centre, Australian Concept. Fertility Centre, and Baqai

Institutes of Reproductive Disease. The questionnaire was attempted after taking verbal well-educated agreement. There are three parts of questionnaire. First part comprises of demographic information and detailed history, second consists of assessment of semen and last contains diagnosis. World Health Organization (WHO) performed the assessment of semen, low reference limits (5<sup>th</sup> centiles and 95% confidence intervals) for qualities of semen (World Health Organization, 2010) [9]. This include 105ml (1.4-1.7) volume, 15 million/ml<sup>2</sup> concentration of sperm, 32(31-34) progressive motility (PR+NP%), 4(3.0-4.0) Sperm morphology (normal forms%). By using SPSS version 20, information was assessed. For volume, concentration, active motility, slow motility, form and structure and number of White Blood Cell (WBC), the calculation of frequency, percentages, mean and standard deviation (SD) was done.

The oral agreement and oral analysis before initiating the research study was provided by research committee of Jinnah Medical and College.

### RESULTS:

There were 73 patients in total. Out of these, age limit of 31 (42.5%) patients were between 26-30 years, 14 (19.2%) patients were between 19-25 years, 12(16.4) was between 31-35 years and 13(17.8%) was 36-40 years. This information is indicated in Table 1. Different people visited subfertility clinic in different times after marriage 42(65%) visited within 1-5 years of marriage, 11(17%) within 6-10 years Table 1

These people belong to different professions. Factory workers were 15(25.3%), 7(11.9%) were drivers, 5(8%) were Quran teacher and 3(5.1%) were shop keeper. The people with the usual number of sperms are just 12(16.4%). Unexpectedly unusual presence of white cells in semen is observed in various people 23(31.5%). This unusual presence is preceded by reduced motility are 9(12.3%) and 2(2.7%) with changed morphology among cases are due to pus in semen.

Unexpectedly, in our study tobacco chewer in form of pan and guthka were more in number 37(50%). While 8(11%) were addicted to smoking and 2(2.8%) were alcoholic.

As far as medical and surgical problems are concerned, 1(1.4%) patients were suffering with thyroids disease 3(4.1%) were diabetic patients, 2(2.7%) had hypertension and 3(4.1%) are associated with history of herniorrhapy.

3(4.1%) people were impotent 1(1.4%) were having the untimely ejaculation and physiological problems were observed in 1(1.4%) related to the sexual issue.

Due to smoking, 6(26%) people were found with

pyospermia and 1(6.7%) were observed with reduced motility. The lower number as well as reduced motility and changed morphology (oligo-asthenoteratozoospermia) is observed in larger population 1(50%).

Chewing of tobacco also causes many problems. These includes pyospermia in 14(60.9%) azoospermia in 1(50%) oligozoospermia inn 1(13%), asthenozoospermia in 2(100%) pyospermia as well as astheno-zoospermia is observed in 5(55.6%). 2(8.7%) people were observed with infection in semen 1(4.3%) people were with hypertension whereas 1(11.1%) were with inflection and with decreased motility in both diabetic and hypertensive patients as far as disorder of diabetes is concerned.

### DISCUSSION:

This study was about the assessment of semen of seventy-three men. These men were companions of sterile couple. Volume of semen, number of sperm, motility, morphology and number of white cells were measured in the assessment of basic semen.

There were 31(42.5%) people was between the age limit of 20-30 years as the data illustrates. This number can be compared the G. Merreino et al study. The study of G-Meriono et. Al, showed that motility of sperm and men morphology is reduced along the age over the age of forty [11]. 12(16.4%) were the usual sperm count in the recent study. This value is in contrast 14.5% in the research done in Islamabad (Pakistan) [6]. If comparison is made with the study in population in Bangladesh, normo-zoospermia was 38.5% [12]. Universally, in about one-third pairs influenced by sterility, male is responsible for this. [13]. Much attention is caught by the real meta-assessment and it creates many controversies. This assessment states that, during the past fifty to sixty years there is 50% reduction in density of sperm on a global level. [14,15]. was Although, sterility of male is not an operation but it is important to note that it indicate many different pathogenic procedures. [16]. Males are counted for 70% cases of sterility according to illustration of study done on population of South Africa [17]. On the basic of concentration, motility, morphology and WBC in semen, 84% framework of unusual sperm is illustrated by this study which can be put in contrast (our research. From 2004-2009, another research was conducted in Rome (Italy). This research was organized on 2935 couples which was sterile. This study indicated the male that had normozoospermia were 35%. In other words, changes in at least one seminal framework was shown by 65% [18].

The study held in Nalka K.P showed that during the assessment of in sterility, more authentic knowledge is given by motility of sperm as compare with

morphology (WHO and Tygerberg's criteria). There could be remarkable enhancement in ordered assessment of semen by reviewing reference concentration and morphology [19]. The relationship between motility and fertilization rate has been illustrated by various researches in vivo and vitro. An indicator of fertility result in vivo, named Krause W also observed concentration and percentage of sperm of motile spermatozoa [20]. In the resent research, acute asthenozoospermia has been indicated in 15(20%) and asthenozoospermia as well as increased number of WBC has been observed in 9(12.3%). Another study in which 24% of patients experiencing

in sterility assessment has been mentioned can be compared to the above study. This study in turns can be placed in contract to the studies done Islamabad (Pak) and Central India [6, 12]. The part of usual morphology in male sterility and its place in the assessment and administration of the sterile men in a proceeding discussion [22]. The outcome of this study is 2(2.7%) Asthenoterato-zoospermia, 2(2.7%) are with changed morphology with inflection. These results can be compared with the study which indicated 3.3% of teratozoospermia in total. Teratozoospermia, oligoterato-zoospermia are included in teratozoospermia [18%].

**Table 1:** Demographic data of male infertility subjects with semen abnormalities.

Age	Frequency	Percentage%
19-25	14	19.2
26-30	31	42.5
31-35	12	16.4
36-40	133	17.8
Married since	Frequency	Percentage%
1-5	42	57.5
6-10	11	15.1
11-15	6	8.2
16-20	5	6.8

**Table 2:** Semen parameter in various group of male infertility.

Group	Age	Volume	Parameter				
			Concentration	Active Motility(RLP)	Grade 2	Morphology	WBC
Lukospermia							
Pyospermia	31.5+_6.0	2.7+_1.6	70.6+_32.7	56.6+_20.0	21.7+_11.2	73.1+_9.9	7.4+_5.8
Azospermia	27+_4.2	2.5+_2.1	0	0	0	0	1+_0
Oligozoospermia	32.3+_4.6	2.8+_1.0	9.3+_3.1	26+_21.3	26.7+_7.6	51.7+_2.9	2.5+_0.7
Polyzoospermia	0	0	0	0	0	0	0
Normo-							
Zospermia	27.7+_6.1	2.7+_1.2	92.8+_65.8	47.6+_19.1	37.3+_10.8	59+_19.1	1+_0.6
Astheno-							
Zoospermia	26.7+_7.5	3.8+_1.0	9.0+_2.6	1.7+_2.1	42+_13.1	36.4+_16.3	1.3+_0.5
Oligospermia							
Tozoospermia	31+_1.4	2.5+_0.7	10.5+_3.5	2.5+_3.5	10+_0	2.5+_2.1	1+_0
Oligotertoz							
Oospermia	0	0	0	0	0	0	0
Astheno-							
Tozoospermia	28+_4.2	3.3+_1.1	80+_14.1	0	45+_7.1	2+_0	4.5+_0.7
Pyospermia							
Asthenozoos	31.6+_4.7	2.5+_1.2	29.4+_12.6	11.1+_9.3	46.9+_7.7	28.8+_11.4	4.3+_2.6
Pyospermia							
teratozoospermia	25.5+_0.7	4+_0	107+_102.5	30+_35.4	50+_0	6+_5.7	3.5+_0.7

According to the study, the occurrence of azoospermia is shown in to be 2(2.7%). If this value is compared to Kenya and Nigeria, these are low 11.35% [23] and 12% [24] are the value reported by study of Kenya and Nigeria respectively. In research held in USA of 1350 sterile pairs, the extent azoospermia is found to be 4% when the comparison is made, the research in USA can be compared with our study. The occurrence of azoospermia is 122.32% and 13.3% [6] as reported by the studies organized in Pakistan. As compare to our study, these value is higher. According to the studies conducted in three French regions high difference is observed between 5-59% of sterile men [26].

There are many frameworks that may be unusual. Deformity of one factor that leads to be connected with a better prediction is a remarkable guide towards the prediction. So one factor prediction is better than two factors and in the same way two factor is better than the three factors. Deformity factors are count, motility and morphology [27]. In recent study, 2(2.7%) is observed value of oligoasthenotozoospermia. It cannot be compare with the study in which its spreading is reported to be 11%(28) but the study reported to be 1.39% [28] is able to compare.

A significant factors contributing to depression is the infection of male genital tract. It is believed that through a straight action on Spermatozoa or their surrounding which also includes local instigative response, seminal standard may be influenced by this infection [6]. According to the present study 9(12.3%) of the case are connected with asthenozoospermia and 2(2.7%) of cases are associated with changed morphology teratozoospermia study.

The outcomes of the Stutz G et al showed the severe effect on the seminal framework could be due to alcohol, tobacco and aspirin. Males should be informed about these effect who want to propagates. According to the result of this research, pyospermia is related to 2(26%), asthenozoospermia in (6.7%) and iligoasthenoteratozoospermia is related to 1(50%). Whereas the result of tobacco chewing was pyospermia in 14(60.9%) azoospermia in 1(50%) oligospermia in 1(33%) and astheno in 46.7%, asthenoteratozoospermia in 2(100%) and astheno with pyospermia in remaining 5(55%). These values are able to compare with the study which illustrated that standard of semen may be altered by lunges use of tobacco and smoking. Azoospermia was found in 62% oligozoospermia in 46% and normal count is observed in just 2% on the assessment of semen [30]. We must eliminate difficulty and ethical faith from

our community. Where normally sterility of man is not checked fully and females are counted for sterility. This elimination is good as for as guidance is concerned. About sterility of man, we must give proper reasons as a community. In addition, people could be made aware about the problem through media. General community is not included in this study because most patients are bound to Korangi industrial area, so this is cross-sectional study and study bored at industrial level.

### CONCLUSION:

As far as health problem is concerned, sterility in man is a prominent issue. The foundation of made starting workup schedules is estimation of sterility of man by easy, inexpensive and acute standard semen assessment. Unusual assessment of semen was observed in 84% of man in this study. This indicate that due to esthetical and traditional limitations, sterility factor in men has not been re-absorbed or studied for correct understanding of its extent and widespread. This is ignored specially in our community. The major dispute is related to point-out recognition, avoidance and treatment. The hypotheses of falling sperm count in favored by this research. Even though for an ultimate result, there is need of more complicated research which is organized at different places. Smoking and chewing of tobacco are main reason of problem in our community.

### CONFLICT OF INTEREST:

For this study, authors have not shown any conflict of interest and no grant funding from any organization.

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