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## Casa-Weili Color Sperm Analysis System and Conventional Methods: Acomparative Study

Abbas Obaid Farhan AL-JANABI<sup>1</sup>

### Keywords

Casa-Weili, Semen, Neubaeur chamber.

### Article History

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### Abstract

Casa- Weili 9000 Color sperm analysis system is fast and provides several important information scientific basis for the male reproductive ability and more details in every parameters of seminal analysis and perfect test. Photo video the sperms and more perfect test and the Neubaeur counting chamber as a conventional method is the simple method less details No Photo or video.

## 1. Introduction

Semen analysis is an important part of the overall evaluation of male infertility. It helps to determine the fertilizing capacity of human spermatozoa. Many methods of examination of semen for many factors (e.g. sperm count, motility, morphology) are considered before conclusions can be drawn regarding the potential fertility status of a man. Semen is made up of spermatozoa (sperms) suspended in seminal fluid. Roughly the total semen volume is composed of:

- Spermatozoa 5% (sperm is derived from the tests).
- Seminal plasma 60% (Seminal plasma or fluid which is derived from seminal vesicles is viscid and yellowish in colour due to its high Flavin content).
- Prostatic fluid 20% (prostatic fluid from the prostates in milky and slightly acidic (pH 6.5) due to its high citric acid content; is also rich in proteolytic enzymes and acid phosphatase).

Other fluids 10-15% (These fluids are derived from epididymis; vasa deferentia and urethral glands). seminal fluid specimens depending on the methods of examination.[ Auroux,1988]. And .[ Keck et al,1998] In eastern and southern parts of Africa, oligospermia and azospermia are the common causes of male factor infertility.[ Ajabor et al,1981, Megafu ,1991].(And according to the World Health Organisation (WHO-1999 and 2010),

This study is therefore aimed at detecting :

<sup>1</sup> Corresponding Author. ORCID: 0000-0001-6533-3875. University of Al-Anbar, College of Medicine, Department of Microbiology, Iraq, dr.abbasal-janabi@uoanbar.edu.iq

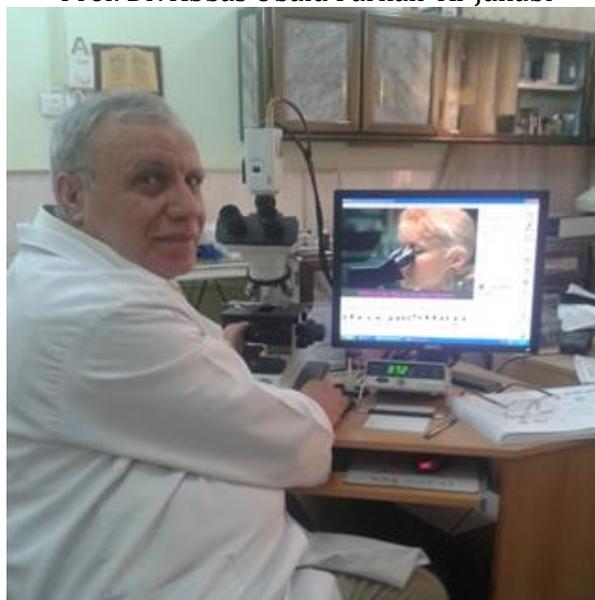
- The sperms count and abnormal forms sperms in male factor infertility by using two methods.
- Study the advantage and disadvantage of two methods

## 2. Material and Methods

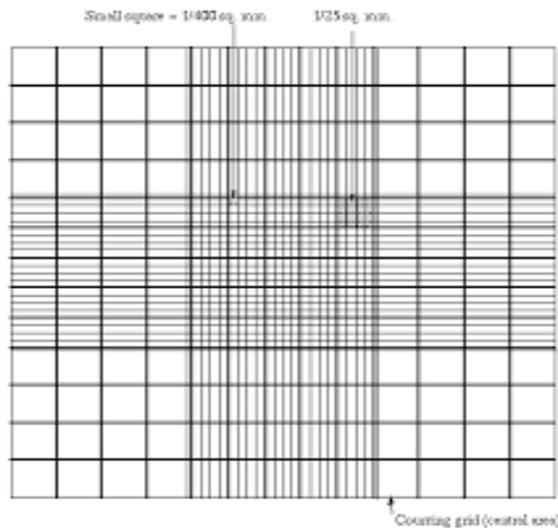
Six hundred seminal fluid specimens from men investigated for infertility over a period of 10 months were analyzed. These were seminal fluids of patients referred to the Al-Gailani Central Medical Laboratory-Ramadi, Al-Anbar province, Iraq from the infertility clinics of the specimen was collected either by self or assisted masturbation into sterile bottle. The subjects were tutored on how to collect the specimens and submit to the laboratory within half an hour of production ( WHO, 2010 and mokpae.1999 ).

They were told to first pass urine and then wash their hands and penis with soap, then rinse with water prior to masturbation and ejaculation into sterile container (Fowler, 1984) and (Chukwudebelu, 1978). The semen was collected after the patient had abstained from coitus for at least 3days. (Leterrier et al, 2011, Ford, 2010, Jawetz et al, 2007, Ping et al, 2006 and Brunzel, 2004). The analysis was done using a standard Neubaeur counting chamber and The WLJY-9000 TYPE WEILI Color Sperm Analysis System by medical electronic system,. Where the improved neubaeur counting chamber was used, the semen was diluted 1 in 20 with 1% formalin and the spermatozoa counted under the microscope using x40 objective [Sood,2009]. Appropriate quality control measure was observed as recommended by World Health Organization, (2010). has to pass self test before analyses was done. The WLJY-9000 TYPE WEILI Color Sperm Analysis System for density, the percentage of actively motile sperms, the percentage of abnormal forms, the presence or absence of pus cells were evaluated. The average of the two readings was calculated. Analysis was carried out immediately they were received. (Leterrier et al,2011).

**Figure 1.** WLJY-9000 TYPE WEILI Color Sperm Analysis System The researcher Assist. Prof. Dr. Abbas Obaid Farhan Al-Janabi



**Figure 2.** The Neubauer counting chamber as a conventional method.



Wei Li, as a leading medical enterprise with abundant scientific and technological strength, provides to you the product of superb quality-WLJY-9000 WEILI Color Sperm Analysis System WLJY-9000 Wei Li Color Sperm Analysis System applies modern computer and advanced image processing techniques for clinical test of sperm quality. Based on the sperm test standards of the WHO, the system can analyze the characters of sperm motions comprehensively through image processing of sperms in their dynamic or static status.

The system then analyzes these values and generates accurate parameters to reflect sperms' quality. The whole procedure is fast and provides several important information that are important to provide an important scientific basis for the male reproductive ability.

### **2.1. Color Test System**

Deformity of sperm can be investigated and analyzed by the system by using papanicolaon's vaginal smear staining technique. The system can make the analysis process and report printing more clearly in addition to audio-visual documentation. Also the system has provided with the necessary conditions to standardize the elevation of the product for morphological analysis Wide Scope of Sperm Density Test without the Need of Sample Dilution With the aid of powerful software function; the system can analyze more than a thousand sperms in one visual field at the same time. Sperm sample with a density of 0-300 sperm/milliliter can be analyzed without dilution accurately, which facilitates (accelerates) the clinical examination greatly.

### **2.2. Creative Constant-Temperature Operation Desk**

The operation desk makes provides a constant temperature of 37 during sperm testing during the whole test procedure. This in turn eliminates the influence of excessive low outside temperature on the tested sperm such as sperm velocity, sperm vitality etc.

### **2.3. Advanced Demarcating Function**

The system can calibrate the magnifying rate automatically in order to ensure the consistency of the test result under different magnifying rates which improves the flexibility and adaptability of the tests of various magnifying rates.

### **2.4. Unique Virtual Grid Function**

This function has realized the direct comparison of test results between human being and machine in the system. If you wish to use manual counting there is no need to buy an expensive calibrated counting chamber, it is all in your screen with the aid of virtual grid function.

### **2.5. Strong Database Applying the Most Advanced Programming Language**

The system can store a large quantity of patient records and image materials. This will provide detailed information for clinical research. Searching the database for specified cases has never been more easy and fast.

### **2.6. More Convenient Operation**

Realizing the direct dialogue between human being and machine on the windows operation flat-top made it possible to avoid the over elaborate setting of parameters such the setting of various kinds of thresholds made the operation more convenient and easy even for rocky computer users.

### **2.7. Novel State of the Art Design**

Patient now can see the motion of his own sperm directly through a monitor in the waiting room .The video can record and retain the dynamic image at any time with the aim of the analysis, diagnoses and the scientific research in the future.

### **2.8. Test Items (26 item )**

Total No. of sperm, Sperm density ,Movable sperm rate, No. of moving sperm, Moving sperm density, No. of sperm of curve line motion ,Wobble(WOB),Velocity of Straight Line(VSL),Wobble scope ,No. of active sperm ,Velocity of curve line, Mean Angle Degree (MAD),Deformity rate ,Density of active sperm ,Velocity of Average Path(VAP),Beat and Collision Frequency (BCF),Live sperm rate of straight line motion, No. of sperm of straight line motion, Linear quality(LIN),Straight line motion rate of sperm, Sperm density of straight line motion, Straight quality (STR), –Class A|| sperm, lass B|| sperm, –Class C|| sperm, –Class D|| sperm

## **3. Results and Disscution**

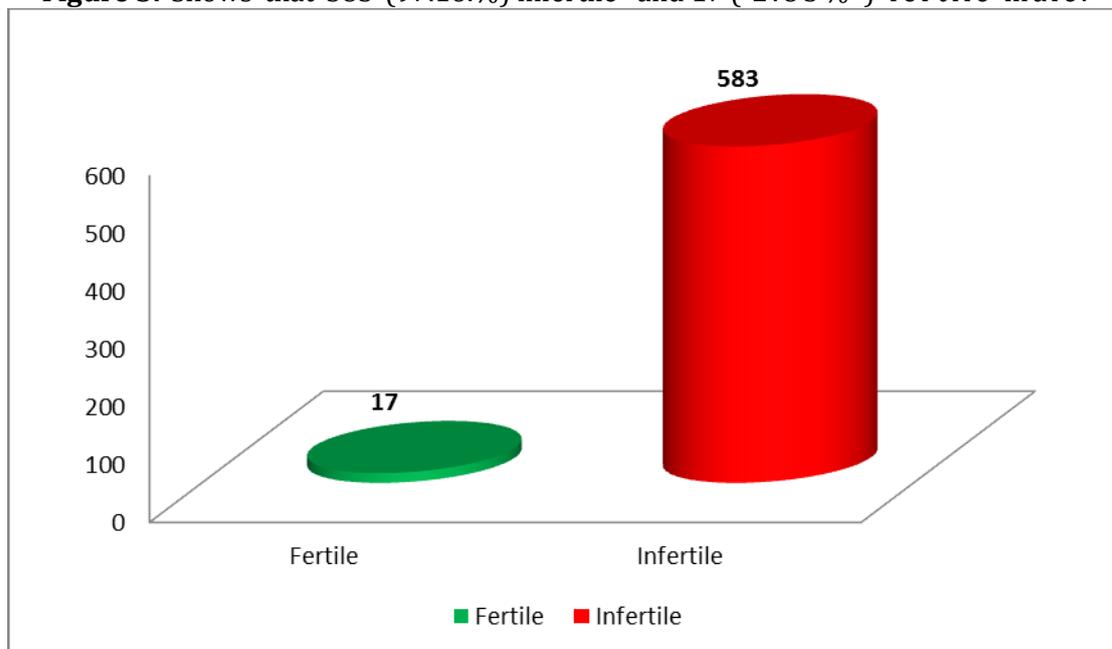
Fig.(3) shows that 583 (97.16.%) infertile and 17 ( 2.83% ) fertile male of the subjects had abnormal seminal fluid sperm density. Fig. (4) show the compere total count sperms analysis in casa- Weili 9000 Color sperm analysis system and the Neubaeur counting chamber as a conventional method were ( 135 ) and (123) respectively.

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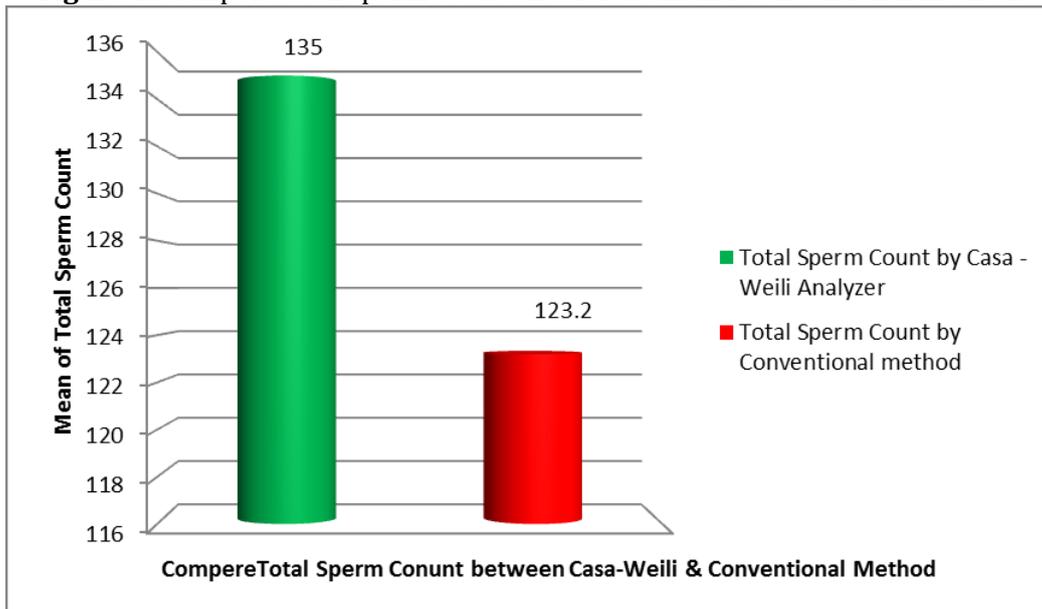
techniques for clinical test of sperm quality. Based on the sperm test standards of the WHO, the system can analyze the characters of sperm motions comprehensively through image processing of sperms in their dynamic or static status. The system then analyzes these values and generates accurate parameters to reflect sperms' quality. The whole procedure **is fast and provides several important information that are important to provide an important scientific basis for the male reproductive ability**. The WLJY-9000 TYPE WEILI Color Sperm Analysis System for density, the percentage of actively motile sperms, the percentage of abnormal forms, the presence or absence of pus cells were evaluated. The average of the two readings was calculated. Analysis was carried out immediately they were received.

**Figure 5** Shows that Motility of sperm according to the Velocity (speed) /sec., grade (A,B,C,&D)

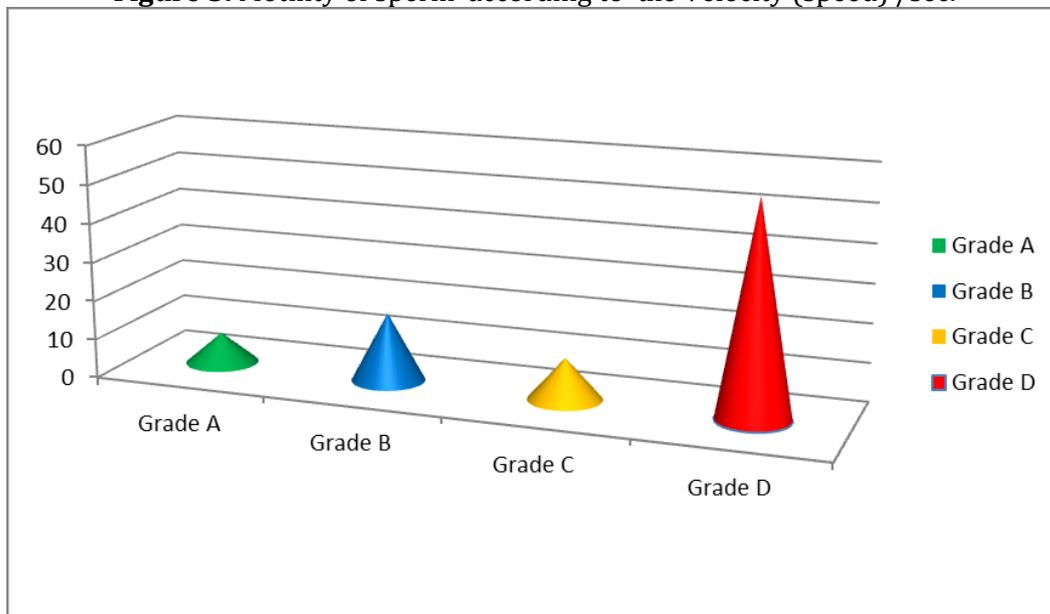
**Figure 3.** Shows that 583 (97.16%) infertile and 17 ( 2.83% ) fertile male.



**Figure 4.** Compare total sperm between Casa-Weili and Conventional method.



**Figure 5.** Motility of sperm according to the Velocity (speed) /sec.



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