



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>
Journal DOI: [10.21474/IJAR01](https://doi.org/10.21474/IJAR01)

INTERNATIONAL JOURNAL
OF ADVANCED RESEARCH

RESEARCH ARTICLE

ROLE OF SIDDHA DRUGS TO ENHANCE SPERM COUNT IN SELECTED PATIENTS-A SHORT RESEARCH COMMUNICATION.

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Manuscript Info

Manuscript History:

Received: 16 March 2016
Final Accepted: 22 April 2016
Published Online: May 2016

Key words:

Amukkura Churnam, Silasathu Parpam

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Abstract

In this new era of time, a big issue like Oligospermia is one of the most concerning factors for male infertility and threatens a considerable population in the human society. Though it is a challenging one to treat, Siddha drugs assures positive results in this area and thus making need of a mass level research. This study is a short research communication conducted at Siddha Regional Research Institute, Puducherry on five patients who attended the OPD during the period July 2009 to March 2010 retrospectively. A complete clinical history and the Semen analysis were taken before and after treatment to assess the efficacy of the Siddha drugs. The patients were administered the drugs *AmukkuraChurnam* 1 gm with *SilasathuParpam* 200 mg along with 100 ml of cow's milk, b.i.d for a period of three months. The results were tabulated with relevant clinical and laboratory data. There was significant response in increasing the sperm count and motility and it will be carried out in mass number of patients to ascertain its potential efficacy.

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Introduction:-

Siddha literature has described 4 types of infertility occurring in human beings. *AanMaladu* (Male infertility) is one among them. In this type the nature of the semen, motility and some characters has been mentioned. The *AanMaladu* (Male infertility) has been described in *Yugi Vaidya Chinthamani* as follows,

ஆண் மலட் டின் குணம்

பார் க் கவே ஆண் மகனின் விந் து தாலும்
பதமான தித் திப் புயில் லாத தாலும்
ஏற் கவே சலம்தில் மிதந் த தாலும்
ஏழிலாக வயிர் ப் பற் றுயிருப் ப தாலும்
சேர் க் கவே மூத் திரத் தில் நுரை தான் போலும்
செயலான கருவதுவும் தரிக் க மாட் டா
தீர் க் கவே பூக்முனி சிகிச் சா சாரம்
தெளிவாகப் பாடி வைத் தார் திறமி தானே¹

The poem says the characteristic features of sperm/semen which is not capable to fertilize the ovum. If the semen floats on water, less sweet taste, non-motile in character and excessive froth in urine indicates the infertile nature.

Physiology of the Semen:-

Semen is composed of spermatozoa (sperm), produced in the seminiferous epithelium of the testis, and seminal plasma, the components of which are secreted by the excurrent duct system and accessory sex glands. When a spermatozoon is released from the seminiferous epithelium the major structural elements are in place, but additional

changes are induced by exposure to sequential milieus provided by the epididymis and mixture with fluids from the accessory sex glands at ejaculation. The mitochondria, dense fibers and microtubular elements of the axoneme, the acrosome and enzymes therein, and the multi-compartmentalized plasma membrane. Seminal plasma is the fluid portion of an ejaculum, but only one of several distinctly different fluids to which sperm are exposed. Spermatozoa are transmitted from the seminiferous epithelium in a fluid milieu, and the solutes therein are removed and replaced within the efferent ducts and epididymis. Ultimately, sperm in cauda epididymal fluid are conveyed through the vas deferens at the time of ejaculation and mixed with fluids from the accessory sex glands, namely the prostate gland, vesicular glands (i.e., seminal vesicles), and bulbourethral glands. Certain proteins and other molecules in the secretion of one or more accessory sex glands are identical to some components of cauda epididymal fluid, or even blood plasma, and others are unique products of that gland. Thus, seminal plasma includes a broad spectrum of chemical constituents contributed by the epididymis and the accessory sex glands.

The relative contributions of the epididymis or different accessory sex glands to the seminal plasma of a given ejaculum are dependent on many factors including the interval of sexual abstinence, duration of foreplay, pathophysiological processes in the male, and the species. Because semen is a mixture of spermatozoa and fluids moved by emission from the cauda epididymis and vas deferens with fluids from the accessory sex glands, the sperm to fluid ratio is quite variable. The more important attribute is the total number of normal sperm in an ejaculum rather than the concentration of sperm per unit volume. For similar reasons, in analyses of constituents of seminal plasma, the total amount of a component should be considered in parallel with its concentration. A human might ejaculate 40-300 million spermatozoa.

Unfortunately, this goal is not easily achieved. Success in predicting fertility is limited by features of spermatozoa, the process of fertilization, and approaches used for evaluation in vitro of seminal quality. Also, spermatozoal attributes necessary for fertilization will depend on the methodology used to join the gametes, i.e., copulation or in vitro fertilization; on prior history of the sperm, i.e., freshly ejaculated sperm or frozen-thawed sperm; and on female factors, i.e., age or uterine and tubal environments.²

Oligospermia – brief note:-

Oligospermia is also known as a low sperm count or oligozoospermia. In oligospermia there are fewer sperm cells in the ejaculate than normal. Oligospermia is generally defined as less than 20 million spermatozoa per one ml of ejaculate. Normal Sperm count: 20 million / milliliter to 120 million / milliliter. Oligoasthenoteratozoospermia, Polyzoospermia, Oligozoospermia, Oligospermie, Asthenozoospermia, Asthenospermia, Teratospermia, Asthenoteratozoospermia and Teratozoospermia are terms associated with male infertility factor³. Oligospermia, Oligospermaesthesia (Poor Sperm Motility), Oligoasthenospermia and Oligoasthenoteratospermia are the most common type of male infertility factor exist in.

Male Infertility Factor is responsible in 30 % of infertile couple, and addition to this additional 20 % there is contributing male factor. Oligospermia is one of the main causes of male infertility or sub-fertility. Sub-fertility is a reduced ability to achieve a pregnancy while infertility is defined as the complete inability to produce a pregnancy after about one year of unprotected sexual activity. Oligospermia can be the result of many factors, some are permanent and some are reversible. Causes of Oligospermia include an obstruction of the normal flow of sperm due to such conditions as testicular trauma and vasectomy. Oligospermia may also result from scarring due to surgery on the male reproductive system or from infection and diseases. A decrease in sperm production is another cause of Oligospermia. This can be due to such conditions as varicoceles, hormonal disorders, diseases of the testicles, and obesity. Other causes of Oligospermia include stress, smoking, drug or alcohol use, some medications, exposure to some toxins, malnutrition, and being underweight. Some sexually transmitted disease, such as Chlamydia and gonorrhoea can also result in oligospermia⁴.

Materials &Methods: -

Five numbers of patients were selected from the Out Patient Department of Siddha Regional Research Institute. Before starting the Siddha drugs, they were advised to undergo semen analysis in the hospital laboratory. The total count and semen concentration, motility studies were done and data were documented. They were free from other diseases and disorders like sexually transmitted diseases, infectious diseases, and endocrine disorders. The patients were asked to review every week in the Out Patient Department. After 3 months treatment duration the subjects

were advised to undergo semen analysis in the same laboratory. No other treatment or drugs were administered in this period. The dietetic restrictions and the diet were advised as per the Siddha literature.

Inclusion criteria: -

1. Male aged from 30 to 50 years
2. Patients don't have STD diseases.
3. Patients don't have infectious diseases.
4. Patients don't have Endocrine disorders.

Exclusion criteria: -

Patients diagnosed with

1. STD diseases.
2. Infectious diseases
3. Endocrine disorders

Drugs Profile: -

1. *AmukkuraChurnam*- 1 gm bid
2. *SilasathuParpam*- 200 mg bid

Both the drugs were mixed and administered along with 100 ml of Cow's milk for a period of three months. They were advised to add the germinating pulses, dates, cashew nut, greens and vegetables in their diet.

Table.1:-The Age, Food habit, *Udaliyal*(Body constituent)of the Patients.

S.No	O.P.No	Treatment Duration		Age	Food Habit	<i>Udaliyal</i> (Body constituent)
		From	To			
1.	209	25.07.09	19.11.09	42	Non- vegetarian	<i>VaathaPitham</i>
2.	3220	29.07.09	07.10.09	32	Non- vegetarian	<i>VaathaPitham</i>
3.	4938	18.11.09	02.02.10	35	Non- vegetarian	<i>VaathaPitham</i>
4.	4650	24.11.09	28.02.10	34	Non- vegetarian	<i>VaathaPitham</i>
5.	3962	07.12.09	08.03.10	36	Vegetarian	<i>VaathaPitham</i>

Table. 2:-Investigation report of Semen analysis (Microscopic view)

S.No	O.P.No	Age	Before Treatment	After Treatment
1.	4938	35	Total count:72 million Active Motile: 20 % Sluggish: 10 % Non motile: 70 % Morphology: No irregular sperm seen	Total count:125million Active Motile: 90 % Sluggish: 8 % Non motile: 2 % Morphology: No irregular sperm seen.
2.	3220	32	Total count:25 million Active Motile: 1-2 % Sluggish: No sperm Non motile: No sperm Morphology: No irregular sperm seen	Total count:75 million Active Motile: 3 % Sluggish: 2 % Non motile: No sperm Morphology: No irregular sperm seen
3.	209	42	Total count:56 million Active Motile: 25 % Sluggish: 10 % Non motile: 65 % Morphology: No irregular sperm seen	Total count:153 million Active Motile: 45 % Sluggish: 10 % Non motile: 45 % Morphology: No irregular sperm seen
4	4650	34	Total count:70 million Active Motile: 20 % Sluggish:50 % Non motile: 30 % Morphology: No irregular sperm seen	Total count: 156 million Active Motile: 45 % Sluggish: 20 % Non motile: 35 % Morphology: No irregular sperm seen
5.	3692	36	Total count:56 million Active Motile: 45 % Sluggish :10 % Non motile: 45 % Morphology: No irregular sperm seen	Total count: 110 million Active Motile: 50 % Sluggish: 20 % Non motile: 30 % Morphology: No irregular sperm seen

Table.1 is showing the duration of the treatment, age, food habits, *udaliyal* of the patients. The subjects were between 32 to 42 years. Among five, one patient was vegetarian. They were all in *VathaPithaUdaliyal*. The duration of the treatment was three months. Table.2 is showing the semen analysis report taken before and after treatment. All the five patients got significant response in the sperm count. Four subjects had good response in sperm motility. One subject had no significant response in sperm motility. The total count and motility of the sperms were remarkably increased. No adverse drug reaction was observed during this study.

Discussion:-

All the five patients got increased sperm count in scheduled time duration. Four subjects had good response in sperm motility. One subject had no significant response in sperm motility. The total count and motility of the sperms were remarkably increased in all subjects. The significant increase of sperm count in all subjects shows the efficacy of the Siddha drugs. The aphrodisiac activity of the Siddha drugs promises its efficacy as said in the Siddha texts. The results denote that the drugs if administered with the traditional parameters will enhance the sperm count in prescribed duration.

Conclusion:-

The patients included in the study responded well for the drugs chosen. The drugs are economical, easily available and also palatable. By this inference, new avenue is opened to prove the enhancing activity of Siddha Medicines. As the response is encouraging, it gives confidence to conduct this study in a mass group of patients.

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