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A Clinical Study on *Vrishya Satavari Ghrith* in the Management of Oligospermia

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ABSTRACT

Oligospermia is a medical symptom characterized by less than 20 million spermatozoa per ml of ejaculate. Recent studies have indicated that the prevalence of oligospermia is extremely high in the metropolis as well as in the smaller towns of India. More than 90% of male infertility cases are due to low sperm counts i.e. oligospermia, poor sperm quality, or both. There is no known specific drug for the management of oligospermia in modern medicine. The aim of this study is to find out the effect of '*Vrishya Satavari Ghrith*' in the management of oligospermia. **Materials & Methods:** A series of 105 patients of oligospermia were selected for the clinical study. A single dose of Pancha Sakar Churna was given at bed time for *kosta suddhi*. From the next morning, *Vrishya Satavari Ghrith* was prescribed in the dose of 6 gms twice daily in empty stomach with lukewarm milk for a period of 30 days followed by 90 days of placebo treatment. **Results:** There was an improvement of total sperm count upto 74.03% in fourth month which is statistically significant. On the basis of these observations it may be said that *Vrishya Satavari Ghrith* possesses spermatogenic (*śukrajanaka*) property.

Key Words Oligospermia, infertility, *śukra*, *ksheena śukra*, *śukra dusti*, *śukrajanaka*, *Vrishya Satavari Ghrith*

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INTRODUCTION

Infertility is a problem of global proportions, affecting on an average 8-12% of couples worldwide. Based on the National Women's Health Information Center (NWHIC), the annual incidence of male infertility is at least two million cases. Recent studies have indicated that the prevalence of Oligospermia is extremely high in the metropolis as well as in the smaller towns of India.

Infertility is defined as the inability to achieve pregnancy after one year of unprotected coitus.

Male infertility refers to the inability of a male to achieve a pregnancy in a fertile female. Male infertility is considerably to be less complicated than female infertility, but can account for 30-40% of infertility. Except for some physical defects, low sperm count (Oligospermia) and poor sperm quality are responsible for male infertility in more than 90% of the cases. Out of these, in about 30 to 40%, the cause is unexplained, and in the rest of the cases critical illness, malnutrition, genetic abnormalities, pollution, side effects of some

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medicines, hormones, and chemicals play a major role.

Literally, oligospermia means insufficient number of spermatozoa; but scientifically it means a medical symptom characterized by less than 20 million spermatozoa per ml of ejaculate (<http://en.wikipedia.org/wiki/Oligospermia>, 2008).

It disturbs the married life and further leads to separation or divorce, ultimately causing distress with psychological disturbance which may even lead to suicidal attempts.

There is no known specific drug for the management of oligospermia in modern medicine. Though in the past, androgens were suggested as a treatment; however, exogenous testosterone was found to exert negative feedback on the pituitary-gonadal axis and thereby suppresses Follicle Stimulating Hormone (FSH) and Luteinizing Hormone (LH) secretion then adversely affects sperm production. Other treatment modalities like Clomiphene citrate, Tamoxifen, recombinant FSH, Zinc, Selenium, and L-carnitine have been tried with minimal success. Extensive clinical research is going on in oligospermia utilizing various natural sources of plants, mineral and animal origin as mentioned in different classical traditional texts throughout the world, including Ayurveda, the Indian system of medicine. *Vrishya Satavari Ghritis* considered one of the wonder medicines of Ayurveda, which since ancient times, has been utilized for the management of male reproductive disorders.

AIMS AND OBJECTIVES

Find out the effect of *Vrishya Satavari Ghrit* in the management of oligospermia.

MATERIALS AND METHODS

The clinical study deal with the research work carried out during the period from February, 2010 to March, 2014. Patients attending the OPD of Govt. Ayurvedic College Hospital, Guwahati-14 and North Eastern Institute of Ayurveda & Homoeopathy (NEIAH), Shillong-18, Meghalaya were selected for the study. In total 105 patients of male infertility, whose semen revealed as oligospermia, irrespective of their age, caste, religion etc. were randomly selected in a single group for the present study where 5 patients were dropped out. All the patients received *Vrishya Satavari Ghrit* only. The diagnosis was made purely on the basis of semen examination.

Inclusion criteria:

1. Age group between 21 to 50 years.
2. Sperm count < 20 million/ml.
3. Patients presenting with male infertility or *Pratyatmaka Lakshana* (Cardinal Symptoms) of *Kshina Shukra*, with semen samples suggestive of Oligospermia, were selected.

Exclusion criteria:

1. Age below 21 or above 50 years
2. Sperm count > 20 million/ml
3. Patients with azoospermia and aspermia
4. Genetic defects like Klinefelter's syndrome
5. Patients with diseases like varicocele, accessory sex gland infection, sexually transmitted

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diseases, systemic diseases like diabetes mellitus (DM), and so on, were excluded from this study.

Duration of treatment:

Spermatogenesis needs 72 days for its complete formation by passing through different stages of maturation. So, it is necessary to monitor the patient upto three months atleast after withdrawal of administration of drugs under trial, in order to see the effect of later part of therapy. The drugs under trial were administered for 30 days. So the total duration of therapy was 120 days (30 days drug administration + 90 days follow up)

Assessment of Effect of therapies:

Assessment was done chiefly on the basis of changes in semen parameters especially total sperm count observed before, during and after treatment. In all patients, semen examination was repeated at regular interval, at least once in a month during the course of therapy. Serum FSH, LH, and testosterone level was examined before and after treatment. The obtained results were subjected to analysis statistically and critically (gradation wise).

Grade wise analysis:

Sperm count was graded in order to pin point the action of therapies. Sperm count was graded as-

Severe oligospermia: ≤ 5 million/ml semen

Moderate oligospermia: >5 and ≤ 10 million/ml semen

Mild oligospermia: >10 and ≤ 20 million/ml semen

Normal: >20 million/ml semen

The cases were subjected to analysis according to the effect obtained during therapy i.e. number of cases in each grade at before treatment and the effect in terms of percentage of cases in each grade

at after treatment. As for example; before treatment 10 cases were found in severe oligospermia grade, the status of these cases at the end of treatment was found as severe oligospermia: 1 case; moderate oligospermia: 3 cases; mild oligospermia: 4 cases and normal: 2 cases. It may be said that, among severe oligospermia cases, 30% improve to moderate grade, 40% to mild grade, 20% to normal while the rest 10% remained unchanged.

Selection of Drug:

There are innumerable drugs described in the classics, claimed to have been effective for *Vajikaran Chikitsa* especially in *Kshina Sukra* i.e oligospermia. Moreover studies on various such drugs have been conducted in many research organizations for assessment of their efficacy. In this present study, we have selected *Vrishya Satavari Ghrith* for the management of oligospermia on the experience of my post-graduate work.

Administration of Drugs: The selected patients were given *Vrishya Satavari Ghrith* in the dose 6 gms. ($1/2$ t.s.f.) twice daily, morning and evening in empty stomach with lukewarm milk.

Diet: Patients were advised to reduce intake of spicy, oily food, cut down on coffee, tea and to stop smoking. Simple counseling was given to all patients encompassing advice on importance, normal cycle of sexual response etc. A single dose of *Pancha Sakar Churna* at bed time prior to the start of the trial was given for *kosta suddhi*.

DISCUSSION The results obtained in the drug trial study under the heading of discussion and the

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main conclusions thus drawn from these studies were as follows:

1) Analysis of the data obtained in this study carried out on 105 oligospermia patients showed that most of the patients were in between the age of 21 and 40 years (82.86%), belonging to hindu religion(42.86%), middle class (55.24%), labourers (40.95%), educated but upto primary level (46.67%), non-obese (77.14%) and married (82.86%). Maximum number of patients were found from urban area (60.95%) having stress, anxiety and depression (66.66%); addicted towards cigarette, tobacco, pan-masala etc. (85.72%). Most of the patients were from non-vegetarian diet habit (78.1%) having disturbing sleep (57.14%). Either premarital sex or masturbation was found in 53.33% patients.

2) Among the severity of oligospermia, 27.62% patients were in severe oligospermic grade, where as 25.71% and 46.67% patients were suffered moderate and mild grade of oligospermia respectively. Low level of FSH, LH and testosterone were observed in 7.62%, 6.67% and 26.67% patient respectively.

3) One month administration of *Vrishya Satavari Ghrit* in the dose of 6 g ($\frac{1}{2}$ t.s.f.) twice daily and has shown significant increase in total sperm count upto 74.03% in forth month which is statistically significant ($p < 0.05$). Further *Vrishya Satavari Ghrit* also increased FSH, LH and testosterone 15.77%, 22.01% and 6.64% respectively.

As long as sexual health parameters were concerned *Vrishya Satavari Ghrit* provided

significant ($p < 0.05$) improvement in sexual desire, erection, ejaculation and orgasm upto 73.64%, 93.15%, 80.51% and 73.64% respectively. On the basis of these observations it may be said that *Vrishya Satavari Ghrit* possesses spermatogenic (śukrajaakan) property.

Further analysis showed that 16% moderate oligospermia cases and 64.58% mild oligospermic cases became normal after 120 days (30 days drug administration + 90 days follow up) therapy with *Vrishya Satavari Ghrit*. In total, *Vrishya Satavari Ghrit* improved 35% oligospermia cases to normal.

CONCLUSION

- Total number of registered patient: 105
- Dropped out patient: 5
- Name of the trial drug: *Vrishya Satavari Ghrit*
- Ingredients of the trial drug: Cow's ghee; Satavari (*Asparagus racemosus* Willd); Cow's milk; Prakshep Dravya: Sugar; Pippali (*Piper longum* Linn) and Honey.
- Dose of trial drug: 6 g ($\frac{1}{2}$ tsf) twice daily, morning and evening in empty stomach with lukewarm milk.
- Duration of treatment: 4 months (1 month drug administration + 3 months follow up treatment)
- Result: 35 % oligospermia cases became normal.

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