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# A CASE REPORT ON EFFECTIVENESS OF *SALAMISIRI LEGIUM* AND *CHANDRAKANTHI CHOORANAM* FOR THE TREATMENT OF OLIGOSPERMIA

**M. K. Sangeetha[1]* and K. Rajakumar[2]**

[1*2]Siddha Consultant, Dr.Rajkumars Siddha Clinic, Chrompet, Chennai-600044.

***Corresponding Author: M. K. Sangeetha**
Siddha Consultant, Dr.Rajkumars Siddha Clinic, Chrompet, Chennai-600044.
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## ABSTRACT
In recent years, decline in semen quality is a continuous global problem resulting as a major contributor of male infertility. 10-15% couples of reproductive age group are infertile in India. Factors that influence male infertility are obesity, alcoholism, smoking, tobacco, sedentary lifestyle, exposure to pesticides, industrial chemicals, heavy metals, poor nutrition, use of illicit drugs, psychological stress, advanced paternal age, dietary composition, oxidative stress and genetic factors. Over the years, different treatment methods have been developed by various scientists for male infertility. As of late, many individuals with infertility often seek alternative therapies in addition to conventional treatments. Siddha system of medicine is an age old traditional system of South India, which is a fertile hub of rich flora and fauna. It is several time tested herbal and herbomineral formulations towards infertility with successful clinical outcomes. This case report is a documentation of a 32 years old male subjected with oligospermia and failed to procreate in spite of frequent intercourse for about 3 years of married life. The subject was successfully treated with Siddha formulations such as Salamisiri legium (SL) and Chandrakanthi Chooranam(CKC) in outpatient department (OPD) of a Private Siddha clinic. The appealing results strongly suggest the therapeutic role of Siddha herbal formulations towards the effective management of oligospermia within a very short treatment period of 30 days.

**KEYWORDS:** Herbal, Male infertility, Siddha treatment, *Chandra kanthi Chooranam*, *Salamisri legium.*

## INTRODUCTION
Infertility is a problem of global proportion with psychological and economic implications resulting in stress affecting an average of 8-12% of couples worldwide. According to the International Committee for Monitoring Assisted Reproductive Technology, World Health Organization (WHO), infertility is a disease of reproductive system defined by failure to achieve the clinical pregnancy after 12 months or more of regular unprotected sexual intercourse.[1] It has been found that the incidence of male infertility is atleast 2 million annually all over the world. About 50% of human infertility is contributed by male factor.[2-4] According to the definition of World health organisation, "Male factor" infertility is seen as an alteration in sperm concentration and/or motility and/or morphology in at least one sample of two sperm analyzes, collected 1 and 4 weeks apart. Although the etiology of many cases of male infertility is unknown, the pathophysiology of male infertility is linked with changes in molecular level resulting in decreased quality and quantity of semen and an hormonal imbalances[5,6] Among the various causes of male Infertility, oligospermia has been found as a single most prevalent cause of reduced male fertility in clinical practice.[7,8] Recent research studies have indicated high prevalence of oligospermia in metropolis as well as in even small towns of India. Oligospermia is the seminal disorder defined as low sperm concentration in which sperm count is below 15 million per ml and is responsible for 90% of male infertility.[9] Conventional therapy to overcome the male infertility includes wide range of strategies including hormonal treatments and and usage of assisted reproduction technology (ART) to combat these infertility issues.[10] Despite these state-of-the-art stratergies, their shortcomings such as acceptability, high expenditure, and threat of diverse complications during surgical procedures causing physical and emotional pain cannot be overlooked.[11]

Siddha literature has described 4 types of infertility. *AanMaladu* (Male infertility) is one among them. In this type the nature, motility and some physical characters of the infertile semen has been mentioned as a lack in its sweet taste, floating on water, inactive or immotile nature and presence of excessive froth in urine. According to Siddha physiology, the formation of *Sukkila Dhatu*(Semen) depends on a long chain metabolic processes starting from digestion, assimilation leading to formation of blood, muscle, fat, bone, bone marrow and lastly the *Sukkilam* tissue. Hence, the health

of this tissue is affected by the well-being of other body tissues. The ancient text *Thirumanthiram* says '*Vannium vayuvum mayurum sukilam*" which means that, the five elemental constitution of sperm is fire and air. The fire or *Agni* humour provides the heat for the development of fetus and *vayu*(air) is responsible for the motility nature of sperm. Oligospermia can be related to male infertility due to *veneer kurai gunam*. Symptoms of *veneer kurai gunam* has been listed in Siddha literature as a interrupted ejaculation as droplets, expulsion of blood in semen, pain in scrotum, irritation and blackish discoloration of penis which can be due to the factors like obstruction, infection, diseases of the testicles etc.

By humoral theory, deterioration in internal and external factors like increase in *Azhal kuttram* (*Pitham*) causes alteration in vatham and liqufication of *Kabam* which results in the alteration of quantity and quality of semen. Oligospermia is a disease of *Sukkilam* in which both quality and quantity of *Sukkilam* may be altered and may lead to defective sperm production. As a result of this, the *Vatham* and *Pitham* channels which carry the *Sukkilam* (*Anandhamaya kosam*) undergoes derangement, which further incapacitates the normal individual and his spouse resulting in infertility. In sequence, all the other *Dhathus* gets vitiated resulting in general weakness and emaciation of the body. While an extensive clinical researches on various natural sources like plants, mineral and animal origin have been investigated for infertility, the Siddha system of traditional medicine works behind the principle of humoural restoration with its bioactive phytocomponents. These herbs have been found to have tremendous influence on sperm cells and aids in improving the sperm count, viability and motility.[12]

## CASE HISTORY

A 32 year old male Subject was presented with symptoms of premature ejaculation, erectile dysfunction, lack of sexual desire, general debility since 3years of married life. The woman was normal at the clinical and endocrinological examination but failed to conceive inspite of frequent intercourse (average not less than twice a week ) even during 12-16th day of menstruation. Personal history revealed that he was an automobile mechanic by occupation and without any addiction or stress. The physical examination of the subject revealed normal secondary sexual characters and normal BMI. No any past history of major medical illness such as mumps, tuberculosis., orchitis., hydrocele., diabetes, systemic arterial hypertension, trauma to gonadal parts or history of any other long term debilitating disorder. Semen analysis was performed at baseline and the report revealed oligospermia with other pathologies like reduced motility, non-motile sperms and abnormal forms. The subject was under Siddha treatment measures for a period of 30 days which consisted of *Salamisri legium*[13] and *Chandrakanthi chooranam*[14] both of which are a polyherbal formulation of nearly 25 herbs indicated in the Sastric Siddha texts.

**Treatment with Siddha formulations**

1. *Salamisri legium* (SL) 5gms twice daily after food for a period of 30 days.
2. *Chandrakanthi chooranam* (CKC) 3 gms with 10ml honey twice daily after food for a period of 30 days.

## RESULTS AND DISCUSSION

Male infertility is one of the most significant crises in the present day generation of reproductive age group. The social stigma, medical expenditure, and uncertainty associated with biomedical fertility treatments often allure the couples to persuade alternate medicine as a first line of treatment. A research study on 135 patients with non-obstructive azoospermia and severe oligozoospermia revealed that 64% of alchoholics were oligozoospermic (low sperm count), which is suggestive of progressive testicular damage in relation to increasing daily alcohol intake.[15] Another study also suggests that the recreational drugs and steroids could also impair the hypothalamic–pituitary–gonadal (HPG) axis, testicular architecture, and sperm function.[16] In most of the studies, semen parameters were affected by cola-containing beverages and caffeine-containing soft drinks as caffeine intake may impair male reproductive function possibly through sperm DNA damage.[17] In fact the presented subject did not reveal any addiction to alchohol, drugs or soft beverages. However, environmental, environmental, occupational, and modifiable lifestyle factors may contribute to this decline of male fertility. In this case, the etiological cause of the presented subject could also be due to other factors such as testicular heat stress, lack of sleep, and exposure to electromagnetic radiation from mobile phones as he was an automobile mechanic. Regardless of etiology, the Siddha formulations target the deranged humours and have a holistic pharmacodynamics. Hence, from the data's obtained from the present study the Siddha drug *SL* and *CKC* has been proved to restore the spermatogenesis and may be considered as drugs of choice in treating male infertility. Treatment with *SL* and *CKC* exhibits higher proportion of sperm rejuvenation with increased sperm count followed by increased number of mature sperm with significantly improved viability and motility. After completion of 30 days of treatment, the results were assessed which showed significant improvement in sperm count, motility and morphology as tabulated in Table-1.

**Table 1: Semen Analysis before and after treatment.**

| Parameters | | Before Treatment | After Treatment |
|---|---|---|---|
| Abstinence | | 3days | 3 days |
| Volume | | 1.0ml | 3.5 ml |
| Color | | Grey | Grey |
| Reaction | | Alkaline | Alkaline |
| Viscosity | | Moderate | Moderate |
| Liquefication time | | Within 20 min | Within 20 min |
| Total Sperm Count | | 8 million/ml | 52 million/ml |
| Motility | Highly motile | 30% | 45% |
| | Sluggishly motile | 20% | 15% |
| | Non-Motile | 50% | 35% |
| Pus cells | | Nil | Nil |

## CONCLUSION

It is a natural instinct to procreate. Hence to combat infertility and extend human health and wellness, identifying the potential risk factors is very much essential. This case report provides evidence that Siddha herbal formulations *Salamisri legium* and *Chandrakanthi chooranam* can be effective in improving the semen quality, sperm count, motility and morphology. The appealing results strongly suggest a therapeutic role of Siddha medicines in the treatment of Oligospermia. However, it is evident that a randomized, controlled studies at large scale is essential to further validate the efficacy of these Siddha formulations.

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