



## **Ayurvedic Shodhan Treatment Approach for the Management of Ksheenshukra (Oligozoospermia)**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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## **ABSTRACT**

The main cause of a childless couple's lack of societal support is the depressing ignorance and maltreatment of the causes of childlessness and its treatment. Childless couples are socially and emotionally vulnerable in many parts of the world because of this isolation. The pressure to become pregnant may be directed at women in various societies, and she is frequently the one who suffers the most from its effects. One of the primary reasons for male infertility is low sperm count (oligozoospermia), which is associated with Ksheena Shukra (oligozoospermia). Before administering Vajikarana medications, Shodhana procedures must be carried out, especially because Virechana Karma has been recommended in cases with Shukra Dushti [1].

**Keywords:** Infertility; oligospermia; ksheena shukra; virechan karma; basti chikitsa.

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## 1. INTRODUCTION

Despite the dramatic increase in population, it is still seen all over the world that more and more couples are visiting fertility clinics in the hopes of becoming parents for good while looking for the solutions. Prior to the development of advanced technologies, the female partner was given the majority of the blame for infertility, but the male partner was also found to be at fault. The term *ksheenshukra* refers to the condition in which there is qualitative and quantitative decrease of *Shukra Dhatu* and it is considered as one among the *shukradushti* [2]. Acharya Sushruta [3] and Vagbhata [4] considered the term “*Ksheena Retas*” as a synonym to *Ksheena Shukra*. *Ksheena Shukra* is a *Doshabala pravrutta, Kruchra-sadhyaroga* of *Shukravaha Srotodusti*, where *Dushita Vata* and *Pitta* are connected [5]. However, “oligozoospermia” refers to a low sperm count of the semen with a poor sperm concentration, which is a typical reason for male infertility. According to WHO Sperm count <15 million/ml [6]. Around the world, up to 15% of couples who are of childbearing age have infertility, with India having the highest rate of primary infertility at 3.9% to 16.8% [7]. The contribution from the male gender accounts with the prevalence of infertility is about 20-30% [8] worldwide. As per Ayurvedic treatise, the doshas involved for causing *Ksheena Shukra* are *Vata* and *Pitta*. There are many factors (causes) for *Ksheen Shukra* as *Ativyavaya* and *Ativyaayama* – excessive sexual intercourse and exercise, *Asatmya Aharasevana* – intake of incompatible food, *Akala Maithuna* – untimely sexual

intercourse, *Ayoni Maithuna* – coitus through *marga* other than *yonis*, *Amaithuna* – No sexual intercourse for long time, Intake of food which is having more *Tikta*, *Kashaya*, *Lavana* and *Amla Rasa*, *Ruksha Guna* and *UshnaVeerya*, *Atiyoga* of *Sastra*, *Kshara* and *Agni Karma*, *Bhaya* (Fear), *Krodha* (Anger) and *Abhichara Karma*, *Vyadhi Karshana* (debility due to diseases), *Vegadharana* (Suppression of urges), *NarinaamArasajnanam* - Sexual intercourse with a woman who has no interest for sex, Excessive *Chinta* (thinking) and *Shoka* (excessive grief). In the present era of not so good life style, hectic job patterns, busy life schedules with cherry on the top being the wrong dietary habits created adverse health effects both physically and mentally. An improper diet may also result in food indigestion, which will further impact negatively on subsequent dhatus, primarily the *Shukra Dhatu*, opening the door for the development of pathological disorders, one of which is *Ksheen Shukra*. Therefore *Shodhan* must be performed. On this concept the effect of *shodhan chikitsa* especially *virechan karma* and *basti karma* on creating the *samprapti vighatana* effect was studied in the present study and presented here.

There are a number of etiological factors that have been linked to poor nutritional status, and oligozoospermia, in recent years, as urban lifestyle including irregular eating and sleeping patterns. These factors also include a lack of exercise, consumption of fast food and cold drinks, stress, and a fast-paced lifestyle [9].

## 2. SAMPRAPTI GHATAKA

Dosha	Tridosha Especially Vata, Pitta
Dhatu	Rasa, Shukra
Srotas	Rasavaha, Shukravaha
Agni	Jataragni, Dhatwagni
Ama	Jataragnimandyajanya, Datwagnimandyajanya
Srotodushti	Sanga
Udbhavasthana	Amashaya
Sancharasthana	Rasayani
Adhishtana	Medra, Vrishana
Vyaktha Sthana	Shukra
	Vrishana
	Medra
Rogamarga	Madhayam [10]
Vyadhiswanhava	Chirakari

The existing expensive private diagnostic and medical services are out of reach for people from lower socioeconomic levels. People who live in poverty typically consume cheaper, less nutrient-dense foods that are Vata-stimulating. Also noticed is the relationship between malnutrition and hypogonadism, which results in a decline in Leydig cell activity, a reduction in LH stimulation, a drop in testosterone release, and oligozoospermia. This is corroborated by research showing that extremely low caloric or protein deprivation produces hypogonadism and reduces the function of the Leydig cell, which may hinder the generation of testosterone and further contribute to infertility. The majority of workers who are exposed to hot temperatures are more vulnerable to testicular hyperthermic alterations. Additionally, testicular hyperthermia has also been linked to a decrease in sperm production. The patients' reported cases of Vishamagni are likely caused by the relative Vata hyperactivity on Agni. It may result in the vitiation of Vata and Agni, which causes Amottpati, and inappropriate Dhatu production, which causes Shukra Kshaya, which is also related to the vitiation of ApanaVata. Poor eating habits (Vishamashana) cause erroneous Rasa creation, which then results in erroneous Dhatu metamorphosis. The results are also indicative of the current trend in eating and living habits in today's society. The regular digestion process is hampered by tobacco addiction and excessive use, which leads to malnutrition and, ultimately, oligozoospermia. The use of tobacco chewing has been linked to a decline in sperm quality in a study of infertility in Indian males who were addicted to the habit. The study demonstrated that nicotine produces degenerative alterations in the seminiferous tubules, which were demonstrated by altered overall tubular architecture, reduced thickness of the spermatogenic cell masses, sertoli cell vacuolation, and thicker basal lamina. Smoke from cigarettes can affect spermatogenesis as well. These effects may be brought on by the poisonous compounds found in cigarettes or histologic reactions brought on by the hypoxemia that smoke causes. Ajirna has been linked to psychological factors including stress and concern that interfere with metabolism and ultimately lead to oligozoospermia. These factors were reported in the current clinical investigation. According to experimental research, stress causes hypothalamic testicular suppression, which in turn causes disordered spermatogenesis and oligozoospermia.

### 3. DISEASE REVIEW

The term KsheenaShukra comprises of two words Ksheena and Shukra. The term Ksheena is derived from "Kshi + Kla". This has got the meanings like Sukshma, Abala, Durbala, Kshama and Tanu. The word Shukra is derived from the Sanskrit root "Suc-Klede" meaning purity. Literally, Shukra means the one which is in pure state, bright and white.

### 4. VIRECHAN KARMA

In the Ayurvedic treatise shodhana karma is mentioned for the biopurification of the morbid doshas and for the rejuvenation and restoration of the dhatus. The quality and quantity of the shukradhatu significantly improve as a result of shodhana karma [11].

The efficacy of Shodhana Karma is noted in the texts of Ayurveda as disease is treated and normal health is restored by the administration of these therapies; the sense organs and the mind are clear; he acquires strength, plumpness, procreation, and virility. Shukra enhanced qualitatively and quantitatively with the Shodhana method. The main vitiated doshas in Ksheena Shukra are Vata and Pitta. Virechana is used to treat the vitiated Pitta dosha. Additionally, Srotorodha is eliminated, Dhatu is actively transformed through Dhatvagni Vyapara, and the most desired Shuddha Shukra is obtained. The entire process aids in removing the free radicals (oxidants) that are present in the Shukra Vaha Srotasa's microcirculatory channels and interfere with Shukra's ability to perform its function. By doing this, it increases the activity of Shukra (motility), ShukraVaha Srotasa, and the respective Dhatvagni, which in turn facilitates the production of more Shukra Dhatu. Volume and count, for a vitiated Pitta Dosha, vivechana is a crucial modality and a prime bio cleansing procedure. Shodhana enables Sroto shudhi (Channel Clearing), which is possible. Before providing Rasayana and Vajeekarana, this is one of the recommended Shodhana Karma [12]. Virechana Karma also enhances the nutritional digestion of the trial drug and boosts the bioavailability of drugs by opening channels.

### 5. BASTI KARMA

*Basti* administered through anal route provides nourishment to whole body as water given in roots of a tree provides nourishment to whole plant. The vitiated dosha is removed from the

rectal channel via basti. Rectal medication administration causes the rectum and large intestine to absorb the medication. The rectum contains an abundant supply of blood and lymph, and medications can pass through the rectal mucosa like any other lipid membrane. According to Ayurveda, the virya of the materials employed in the Basti absorbs and then travels through the body to the disease-relieving locations through general circulation. Since Basti is the finest remedy for Vatadosha, Acharya Sushruta noted that it may also treat Pittaja, Kaphaja, Raktaja, Sansargaja, and Sannipatika diseases by combining various substances. *Dwarakanath* proposed that *Basti* therapy has a significant impact on the colon's normal bacterial flora due to the medications it uses. By doing this, it alters the rate at which vitamin B12 is synthesised naturally. It's possible that this vitamin B12 contributes to the preservation or regeneration of nerves. He believed it to be one of the potential means by which Basti could aid in the treatment of neurological or *vatika* illnesses. Vata and Agni are two significant elements that are affected by basti. Both are in charge of ensuring that Dhatu is properly formed. Action of Basti on various Sukra Dhatus: The principal seat of Apanavayu, which carries out the sukrapravartana function, is Pakvashaya. Basti demonstrates its impact on shukra dhatu by manipulating Apanavayu. For Vajikarana purposes, a basti containing Vajikarana dravya is specified.

## 6. CONCLUSION

For disorders like Ksheenashukra, Shodhan Chikitsa is crucial for successful clinical treatment. A widely used clinical modality and well-known Pitta Dosha purification procedure is the application of Virechana Karma and Basti Chikitsa. Because of Shodhana, Srotoshuddhi is made possible, which enhances Dhatu Poshana Krama. Due to increased absorption and utilisation, applying Vajikarana Aushadha after Virechana Karma will further yield higher results.

## NOTE

The study highlights the efficacy of "AYURVED" which is an ancient tradition, used in some parts of India. This ancient concept should be carefully evaluated in the light of modern medical science and can be utilized partially if found suitable.

## CONSENT

It is not applicable.

## ETHICAL APPROVAL

It is not applicable.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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