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A comparative clinical study on efficacy of *Mashaparni* and *Kapikachu* in Oligospermia

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ABSTRACT

Introduction: Oligospermia is deficiency of sperm cells in semen. It is one of the main causes for male infertility. Prevalence of male infertility is around 7%. Recent studies showed that nearly 2-5% couple around world is suffering from the problems of inability to achieve conception. The normal process of spermatogenesis will be affected due to mechanical life, stress, strain and unhealthy food and various changes occur in the life style. **Objective:** To evaluate the efficacy of *Mashaparni* and *Kapikachu* in Oligospermia. **Materials and Methods:** Data was collected by randomized sampling through lottery method with a minimum of 30 subjects of Oligospermia with respect to age and sex, irrespective of caste, religion and socio economic status. These subjects were assigned into 2 groups A and B with 15 subjects in each group. Duration of the intervention was 3 months. **Results:** Results obtained were statistically insignificant between both the groups. **Conclusion:** On the basis of the result of this study it was concluded that, both prescribed drugs will increase sperm count significantly.

Key words: *Shukra, Shukrakshaya, Oligospermia, Mashaparni, Kapikachu.*

INTRODUCTION

Apatya or Praja is an important part of one's life as described in Charaka Samhita as, if a person doesn't have his own child, he is similar to a tree which doesn't give any shade. In this fast moving technical world, change in lifestyle and food habits, the general health of a human being is quite affected by worries and tensions, which bear a bad effect on the quality of the sperm produced and their lifespan.

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This mainly accounts for infertility which is seen in 2-5% in the world population. Male infertility is around 7%. There are many causes for male infertility. one such cause is Oligospermia. Oligospermia means deficiency of sperms in the semen.^[1]

Among *Ashtangas* of Ayurveda, *Vajeekarana* is one of the *Anga* which shows the importance given to attain a healthy child from vedic period. *Shukravaha Srotas* has been described in *Brihatrayee* also. *Acharya Charaka* has described *Moola* of *Shukravaha Srotas* to be *Vrishana* and *Medhra*.^[2] According to *Acharya Sushruta* it is *Stana* and *Vrishana*^[3] and *Acharya Vagbhata* opines it to be *Majja* and *Stana*.^[4]

Shukrajanana Gana in *Shadvirechana Shataashriteeya Adhyaya* has been described in Charaka Samhita. From this *Gana Mashaparni*^[5] and from *Bhavaprakasha Nighantu*, *Kapikacchu*^[6] drugs were chosen. The efficacies of these drugs were tested clinically to treat Oligospermia.

AIMS AND OBJECTIVES

To evaluate the efficacy of *Mashaparni* and *Kapikachu* in Oligospermia.

MATERIALS AND METHODS

Sample

Patients fulfilling the diagnostic criteria approaching O.P.D. and I.P.D. of Government Ayurveda Medical College & Hospital, Mysuru and from special medical camps conducted were selected for the clinical study.

Sampling

- Data were collected by random sampling technique using lottery method from minimum of 30 patients of Oligospermia with respect to age and sex, irrespective of caste, religion and socio economic status.
- All the patients were assigned to two groups, group A, and group B, consisting 15 patients in each group for the intervention.
- Data were collected before treatment and after treatment.

Inclusion criteria

- Diagnosed patients of oligospermia.
- Male patients of age group 21 to 50 years.

Exclusion criteria

- Congenital oligospermia.
- Post-traumatic oligospermia.
- Patients having drug induced and iatrogenic oligospermia.
- Patients with sexual transmitted diseases.
- Patients with psychiatric illness.
- Patients having any systemic diseases, which interfere with course of treatment.

Diagnostic criteria

- Decreased number of spermatozoa in the semen i.e. Sperm count below 20 million per milliliter semen (ICD 9CM Diagnosis code 606.1)

- Presence of any one or more of the below mentioned *Shukra Kshaya Lakshana* viz. *Dourbalya, Mukashosha, Pandutva, Sadana, Shrama, Klaibya, Shukra Avisarga* etc.

Parameters for the study

Subjective Parameter

Based on the reference of *Shukra Kshaya* (Charaka Sutrasthana 17/69, Sushruta Sutrasthana 15/9)^{[7],[8]}

Daurbalya, Panduta, Bhrama, Sadana, Shosha, Shrama, Mukashosha, Klaibya, Shukra Avisarga, Vrushana Vedana, Medra Vedana, Medra Dhumayan, Vrushana Dhumayan, Stri Dvesa, Chirat Praseka, Alpa Raktayukta Shukra Pravritti, Najayate Garbham.

Objective Parameter

Semen analysis

STATISTICAL ANALYSIS

The result of present study were analyzed statistically using SPSS for windows software

- Descriptive statistic.
- Chi-square test.
- Cramers v test.
- Repeated measure ANOVA
- Paired Sample's 't' test.

Intervention

	Group - A	Group - B
Yoga	<i>Mashaparni Choorna</i>	<i>Kapikachu Choorna</i>
Sample size	15subjects.	15subjects.
Matra	10gram/day in divided dose, after food	10gram/day in divided dose, after food
Anupana	<i>Godugdha</i>	<i>Godugdha</i>
Pathyapathya	Advised as per classical literature of Ayurveda	Advised as per classical literature of Ayurveda
Duration	90 days	90 days

RESULTS

Table 1: Effect of Mashaparni on Sperm Count

Mean		D	SD	df	p
BT	AT	20.067	6.66	1	< 0.000
14.133	34.200				

The above table shows the effect of *Mashaparni Choorna* on sperm count in 15 subjects. Initially the mean score of sperm count was 14.133mil/mm³, which was increased to 34.200mil/mm³ after treatment. Difference of improvement was 20.067. The increase in sperm count was statistically highly significant with p < 0.000.

Table 2: Effect of Kapikachu on Sperm Count

Mean		D	SD	df	p
BT	AT	25.13	19.95	1	< 0.001
13.400	38.533				

The above table shows the effect of *Kapikachu Choorna* on sperm count in 15 subjects. Initially the mean score of sperm count was 13.400mil/mm³, which was increased to 38.533mil/mm³ after treatment. Difference of improvement was 25.133 the increase in sperm count was statistically very highly significant with p < 0.001

DISCUSSION

The *Vrishana* is considered as a *Moola* because, there spermatogenesis occurs. The *Medra* is considered as a *Moola* because it helps in *Vahana* of *Shukra* for attainment of the purpose of *Shukra*.

In Contemporary science it is stated that, testis are the main organs which produces spermatozoa and the Penis is an external sex organ.

Erection of Penis and ejaculation of *Shukra* or *Rupadravya* takes place through the *Medra* (penis). Any impairment of erectile capacity of *Medra* is known as *Klaibya* or *Shandatva* or *Dhvajanuchraya*.

Majja Dhatu is responsible for *Shukrotpatti*, this can be justified by Erythropoiesis, which takes places in Red Bone Marrow along with Leucopoiesis; this is having same bearing on the *Shukrotapatti*. The cells of the sertoli or substentacular cells of seminiferous tubules may be getting some stimulus from the *Majjadhatu*. Thus the latter may be responsible for the production of *Shukra*.

The sperm and semen are produced in the testes and accessory sexual glands. They are transported to the penis through the seminiferous tubules. Thus *Shukravaha Srotas* can be correlated with the Sperm - Semen producing and transporting system.

Daurbalya was reported to improve 100% in both groups. *Balya*, *Brimhaniya*, *Vrishya*, *Rasayana* properties of drugs collectively resulted in improvement at the level of nutrition, immunity and metamorphoses of *Dhatu*. This reorganized condition lead to improvement in health status and *Daurbalya*.

Klaibya was reported to improve 100% in both groups *Dhatu Ksheenata* and *Daurbalya* resulted into this type of condition. Both the drugs having *Balya*, *Brimhaniya*, *Shukrajanana* and *Vrishya* properties lead to main role for the improvising in this condition.

Like wise other parameters were also improved in both groups due to their properties like *Vrishya*, *Balya*, *Brimhaniya*.

Sperm count improved with a mean score of (20.06), (25.13) in *Mashaparna Choorna* and *Kapikachu Choorna* respectively. Properties like *Madhura Rasa*, *Balya*, *Brimhaniya*, *Vajeekara*, *Rasayana* etc. lead to the process of spermatogenesis. Increased testosterone level was observed in both the groups. Drugs act at the level of sex gland secretion which contributed to the improvement in seminal plasma.

Probable effect of Mashaparni (*Teramnus labialis*)

Tikta Rasa, *Ushna Veerya* and *Agnideepana* properties of *Kapikachu* and *Madhura*, *Tikta Rasa*, *Sheeta Veerya*, *Laghu*, *Ruksha Guna* of *Mashaparni* improves metamorphosis of *Ahara Rasa* and finally nourish all the *Dhatu*.

Balya, *Brimhaniya* and *Vata-Pitta Shamaka* properties of *Mashaparni* and *Kapaikachu* may enhance nutrition of all *Dhatu*. By this process it will ultimately improve the level of *Rasa* to *Shukra*.

Special property like *Shukra Janana* of both the drugs may directly affect the process of spermatogenesis and result to improve the quality and quantity of *Shukra*.

L-Dopa in *Teramnus labialis* stimulates the endocrinal gland (pituitary) to secrete FSH and LH, Luteinizing hormone stimulates the Testosterone. Secreted Testosterone has two effects.

- 1) Semen related effect - It produces improved quality of semen.
- 2) Systematic effect - It improve sexual drive and maintained generalized health

Probable effect of *Kapikachu* (*Mucuna pruriens*)

Mucuna pruriens stimulates the secretion of L-Dopa which converts to the Dopamine. This dopamine stimulates the Pituitary to secrete FSH and LH. With the help of LH, secretion of the Testosterone may occur. Improved level of Testosterone lead to improvement in spermatogenesis and performance. It will be helpful to upgrade the general health. *Mucuna pruriens* is also found to inhibit the secretion of high Prolactin; which is one of the cause in erectile dysfunction and thus it will help to improve the sexual drive.

CONCLUSION

The efficacy of any drugs can be better appreciated if it is compared. Hence the present study was intended to compare the effect of *Mashaparni* and *Kapikachu*. By the observations it is concluded that *Mashaparni* showed significant effect with ($p < 0.000$) on sperm count and *Kapikachu* also showed significant with ($p < 0.000$) on sperm count. While comparison of both treated groups, it was found insignificant in between Group-A and Group-B. Thus it suggests that both the drugs (*Mashaparni* and *Kapaikachu*) are equally effective.

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