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ORIGINAL RESEARCH ARTICLE

Clinical Management of *Ksheena Shukra* (Oligospermia) W.S.R. to *Ashwagandhadi* and *Shatavaryadi Choorna* – A Comparative Study

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ABSTRACT

Introduction: Kama or sexuality is the root of procreation. Every married couple's dream of getting their own progeny is initiated, mediated, and formulated through this Kama. This is possible when the anatomical structures and physiological functions of sex organs of both partners are intact. Otherwise, the whole intention becomes in vain. In nutshell, Kama affects in sexual gratification and better progeny to lead happy life, which is perturbed in the absence of the same. Kama is the third pursuit of the man (purushartha) also. The inability to procreate, i.e., infertility is such a condition, which severely affects the couple's psychological harmony, sexual life, and social stigma and ultimately leads to separation from life partner and many a time to suicide. According to Ayurveda, Shukra should possess such a potency so as to conceive a lady. The impact of defective Shukra is infertility. Although, in Ayurveda, many effective remedies for this disease are mentioned without any known side effects, a major drawback attribute to these remedies is that they involve laborious treatment procedures such as *Shodhana* procedures, where the patient has to be hospitalized and they have to follow strict diet and regimen during these procedures and these procedures are more time consuming also.

Materials and Methods: In the present study, the subjects were randomly selected according to the inclusion and exclusion criteria, specifically designed, and were randomly placed into two Groups, namely Group A and Group B containing 15 subjects each. Subjects of both Groups were given internally *Hareetakyadi Choorna* for *Mala Shodhana* and till the *Nirama Lakshana* was obtained. Later, the subjects of Group A and Group B were given *Ashwagandhadi* and *Shatavaryadi Choorna,* respectively, for 2 months along with *Ksheera* as *Sahapana* internally. The follow-up period for both the groups was 2 months.

Results: The assessment was done before the treatment, soon after the completion of the course of the treatment and after the follow-up period, and thus, the total assessment was done based on the change in improvement observed, before and after the treatment.

Conclusion: On seeing the comparative efficacy of Group A and Group B, it is found that Group A is much effective on parameters such as *Dourbalya*, *Mukhashosha*, *Shrama*, *Sadana*, *Pandu*, Sperm Count, Liquefication time, and sluggish sperms whereas Group B is more effective on parameters such as volume, motile sperms, and non-motile/dead sperms.

1. INTRODUCTION

A person without a child is like a tree just with one branch devoid of fruits and shadows with an unwanted smell; like a *Trana Pooli,* i.e., an idol made of grass wearing the garb of a man; like a *Chitra Dweepa,* i.e., a lamp in sketches-not an actual lamp which emanates light; like a *Shushka Dhatu,* i.e., like a dry pond and is comparable to a metal that just looks like gold without any properties of gold. A person who does not have a child is *Apratistha*, *Nagna*, *Shunya*, *Ekendriya,* and *Nishkriya*. According to Ayurveda text Person having many children is called as is *Bahumurti, Bahumukha, Bahuvyuha, Bahukriya, Bahuchakshu, Bahu jnana*, and *Bahuatma*.[1] This type of person is auspicious, praiseworthy, *Dhanya, Veeryavan,* and *Bahushakha*. Such persons are hailed in this world, whereas the person without having any progeny is always considered as inferior or *Nindita* in the society and are always discarded by the society. 2–5% of couples around the world are having difficulty in conceiving children.[2] In the USA, more than 5 million couples are having inability to conceive. Out of total infertility, males are directly responsible in 30–40% of cases. This varies from race to race and age

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group of married couples of all religions. In Indians, 10–12% of couples are unable to conceive or bear a child.[3] *Ksheena Shukra* is *Dosha Bala Pravrutta, Kruchra Sadhya Roga* of *Shukra vaha Srotas.* It is understood that *Vata* and *Pitta Dosha* are responsible for this condition.[4] Hence, for the management of *Ksheena Shukra, Vrishaya Padartha* or *Shukra Vardhaka* or *Shukrala* drugs enriched with Madhura Rasa, Sheeta Virya, and *Guru–Snigdha guna* and highly potentiated with Balya, *Vrishaya* and *Rasayana* properties should be used.

1.1. Objective

- To assess the role of *Ashwagandhadi Choorna* in *Ksheena Shukra* (Oligospermia).
- To assess the role of *Shatavaryadi Choorna* in *Ksheena Shukra* (Oligospermia).

2. MATERIALS AND METHODS

2.1. Source of Materials

Raw materials were collected from the Department of Rasa Shastra and Bhaishajya Kalpana, Ayurveda Maha Vidyalaya, Hubli, and the *Choorna yogas* were prepared classically in the pharmacy.

The following *choorna* compounds were utilized for the present clinical trial:

1. *Hareetakyadi Choorna*[5]
2. *Ashwagandhadi Choorna*[6]
3. *Shatavaryadi Choorna*[7]

2.2. Method of Administration

The *Hareetakyadi Choorna* was given for *Mala Shodhana* and was given to the subjects in the dose of 5 gm bid along with *Ushnodaka* till the *Utpatti* of *Nirama Lakshanas.* After the *Nirama lakshana Utpatti*, the compound preparations of *Ashwagandhadi* and *Shatavaryadi Choorna* were taken in small plastic packets of 200 g and were dispensed to the subjects and they were asked to take 5 g bid with *Ksheera* as *Sahapana*.

2.3. Source of Data

Patients attending the outpatient department (OPD) and Inpatient Department of Post Graduate Departments of Kaya Chikitsa, Ayurveda Mahavidyalaya, Hubli, were taken randomly for study. Regular information was placed in the local print media to create awareness about the condition and its management.

- Clinical proforma, based on criteria of selection and parameters, for the assessment of subjects was prepared.
- Informed consent of all the subjects registered was duly taken before starting the interventions in each group.

2.4. Inclusion Criteria

Subjects fulfilling the following conditions were included:

1. Male subjects of age between 21 years and 45 years.
2. Male subjects with sperm count below 20 million/mL.

2.5. Exclusion Criteria

The following subjects were excluded from the study:

1. Subjects categorized under azoospermia.
2. Subjects with the past history of mumps, orchitis, trauma.
3. Subjects with a history of diabetes, thyroid disorders, tuberculosis, vascular disorders, testicular mal descent, previous reproductive organ surgery, S.T.D., HIV/AIDS, hydrocele, CA-testes.
4. Subjects with uncontrolled metabolic disorders and other systemic disorders.

2.6. Parameters of Study

2.6.1. Subjective parameters

Parameters of assessment were totally based on the changes in the clinical features of *Ksheena shukra* (Oligospermia) and improvement in Scoring Index of-*Dourbalya*, *Shrama*, *Mukhashosha, Pandu, Sadana, Klaibya, Shukra Avisarga.*[8]

2.6.1.1. Gradings

For all the above symptoms, the following symptom scores were given depending on the changes seen before and after the treatment.

Absent-0, Mild-1, Moderate-2, Severe-3.

2.6.2. Objective parameters

Objective parameters were based on

- Study design: A comparative clinical trial study.
- Sample size: A minimum of 30 cases diagnosed as *Ksheena Shukra* (Oligospermia) were selected randomly and categorized into two groups consisting 15 subjects in each group.

2.7. Interventions

2.7.1. Internal therapy

Hareetakyadi Choorna (for *Koshtha Shuddhi*), Dose: 5–10 g, twice daily for 2–3 days, *Anupana-Ushnodaka.*

- Group-A: *Ashwagandhadi Choorna*, Dose – 5 g, Kala – 2 times daily, *Sahapana-Ksheera*
- Group-B: Shat*avaryadi Choorna*, Dose – 5 g, Kala – 2 times daily., *Sahapana-Ksheera*

Duration: 2 months, Follow-up**:** 2 months

2.7.2. Statistical tests

The analysis of the effects of therapy was based on "*t*-test" applications. The efficacy of *Ashwagandhadi yoga* and *Shatavaryadi Yoga* was compared. The significance is discussed on the basis of Mean Scores, Percentages, SD, SE, "*t*" and "*P*"-values.

Level of significance:

- Values $P > 0.05$ is statically insignificant
- $P \leq 0.05$ and $P \leq 0.01$ is statistically significant
- $P \leq 0.001$ is statically highly significant.

3. OBSERVATION

In this clinical study on *Ksheena Shukra,* totally 30 subjects were registered and categorized randomly into two groups consisting 15 subjects in each group. The general descriptions of all the 30 subjects are as follows:

In this clinical study of *Ksheena Shukra* (Oligospermia), maximum number of subjects, *i.e.,* 11 (36.67%) were between the age group of 36 and 40 years; 10 subjects (33.33%) were between 31 and 35 years of age; 04 subjects (13.33%) were between 26 and 30 years of age; 03 subjects (10%) were between 41 and 45 years of age; and 02 (6.67%) were between 21 and 25 years of age.

In this clinical study, maximum number of subjects, *i.e.,* 25 (83.33%) were complaining *Dourbalaya*; 16 subjects (53.33%) were complaining *Shrama*; 14 subjects (46.67%) were complaining Sadana; 13 subjects (43.33%) were complaining *Mukhashosha,* and 11 subjects (36.67%) were complaining Pandu.

In this study, maximum number of subjects, *i.e.,* 20 (66.67%) were having past history of masturbation while it was absent in the rest of 10 subjects (33.33%).

In this study, maximum number of subjects, *i.e.,* 17 (56.67%) were having history of nocturnal emission and the rest of 13 subjects (33.33%) were not having such history.

A maximum number of study subjects, *i.e.,* 16 subjects (53.33%) had taken modern treatment while 14 subjects (46.67%) had taken Ayurvedic treatment whereas only one subject (3.33%) had taken other (homeopathic) treatment.

4. RESULTS

The present study on *Ksheena Shukra* was carried out with *Ashwagandhadi Choorna* and *Shatavaryadi Choorna.* The efficacy of the drugs was assessed carefully on different parameters, before, during, and after the treatment. The results thus obtained were recorded and are being presented as follows:

- Out of 15 subjects in Group A, a maximum of 6 subjects improved, whereas 5 subjects remain unchanged, 3 subjects have markedly improved, and 1 subject has complete remission.
- Out of 15 subjects in Group B, a maximum of 7 subjects improved, whereas 6 subjects remain unchanged and 2 subjects have markedly improved. The effects of clinically varying symptoms are mentioned in Tables 1–16.

5. DISCUSSION

Although, in Ayurveda, many effective remedies for *Ksheena shukra* are mentioned without any known side effects, a major drawback attributed to these remedies is that they involve laborious treatment procedures such as *Shodhana* procedures, where the patient has to be hospitalized and they have to follow strict diet and regimen during these procedures and these procedures are more time consuming also. Moreover, there are some patients who are physically unfit for these *Shodhana* procedures and *shamana* treatment has been advised for such kinds of patients in our Ayurvedic classics. Furthermore, in the present era, due to the change in lifestyle, hectic activities, and busy life schedules and lack of time also, many a time's patients though fit are not ready to undergo *Shodhana* procedures. Keeping this in mind, an attempt was made to treat the *Ksheena Shukra* (Oligospermia) at OPD level and study was made to assess the efficacy of *Ashwagandhadi* and *Shatavaryadi Choorna* on seminal parameters without any classical *Shodhana* procedures. Both these drugs under trial are having *balya, Vrishaya, shukrala,* and *rasayana* properties and are used with *ksheera* as *Sahapana* which is mentioned as *sadhya Shukra karaka*. All the 30 subjects of *Ksheena* Shukra (Oligospermia) studied in this series were between the age group of 21 and 45 years and out of these, maxima were between 30 and 41 years of age group (70%); most of the subjects were belonging to Hindu religion (93.33%); middle class (70%); and were married (93.33%). In this study, maximum number of subjects, *i.e.,* 20 (66.67%) were having past history of masturbation while it was absent in the rest of 10 subjects (33.33%). In this study, maximum number of subjects, *i.e.,* 17 (56.67%) were having history of nocturnal emission and the rest of 13 subjects (33.33%) were not having such history. Here, due to Avara Satwa, subject will not have any control on their Indriya and Manas, hence in such kind of person, provocation of Vata takes place due to disturbed sleep and this nocturnal emission may be due to this provoked Vata, *i.e*., Apana Vata. This shows that the evidence of persons having past history of masturbations are more prone to the disease *Ksheena Shukra* as there is loss of Shukra Dhatu and if the person indulges more in such activities, it will lead to its *Kshaya* leading to *Ksheena Shukra*.[9] The action of *Rasayana* or *Vajikarana* drugs was accelerated when they were administered after the *Shodhana*. *Hareetakyadi Choorna* was used for *Mala Shodhana* till the attainment of *Nirama lakshanas.* The ingredients of *Hareetakyadi choorna* are having *Tridoshaghana* properties mainly Vata Shamaka. It acts as *Sroto Shodhana* due to its *Katu, Tikta rasa*; *Laghu, Ruksha,* and *Tikshna guna* and it brings the *Mandagni* to Sama Agni state. The ingredients of this compound such as *Hareetaki*, *Pipalli*, and *Vishwabheshajam* are *Deepaniya*, *Sarva dosha prashamaka,* and *Anulomaka* in nature. These drugs are *Rasayana* too. In *Ashwagandhadi Choorna*, all the drugs are *guru, snigdha* in *guna*; *Madhura* in *rasa*; *sheeta* in *Veerya*; *Madhura* in *Vipaka,* and mainly *Vata Pitta Shamaka*.[10] They are having all the *shukrala* properties and are having qualities similar to that of Shukra. Majority of the drugs are *balya, Vrishaya* and having *rasayana* properties. Drugs such as *Ashwagandha, Shatavari, Yashtimadhu,* and *Vidarikanda* are *shukrala, agnipushtikara, Hridya, Brumhaniya,* and J*eevaniya* in nature. *Shatavaryadi choorna* contains *Gokshura, Nagabala, Vidarikanda, Shatavari,* and *Amalaki*. Each of these individual drugs is said to be *Vrishaya, Vajikara, Balya,* and *Rasayana*. These drugs nourish the *Shukra Dhatu* directly due to the presence of similar qualities of *shukra* such as *Madhura rasa, snigdha, Picchila*, *guru,* and *Sheeta guna*.[10] 15 subjects of *Ksheena Shukra* treated with *Ashwagandhadi Choorna* under Group A showed 58.62% relief in *Dourbalya*, 69.23% relief in *Mukhashosha*, 81.80% relief in *Shrama*, 90% relief in Sadana, and 83.33% relief in *Pandu*. The therapy under Group A provided statistically highly significant effect on *Dourbalya*, while on other parameters, the effect was significant. Effect of *Ashwagandhadi Choorna* on sperm count, volume of semen, liquefication time, actively motile sperms, and non-motile sperms was statistically highly significant and this therapy provided 63.62%, 39.13%, 21.05%, 93%, and 22.07% relief on these parameters, respectively. The therapy under Group A increased an average sperm count from 11.21 million to 18.35 million with 39.11% improvement. In one subject, sperm count more than 10 million was increased; in 10 subjects, there was increase in sperms between 6 and 10 million and in 3 subjects, there was mild improvement with 2–5 million increases in sperm count. In a nutshell, there was complete remission in one subject, markedly improvement in 3 subjects, 6 subjects improved, and in 5 subjects, no change was noticed. The subjects of Group B wherein *Shatavaryadi Choorna* was given showed 66.67% relief in Dourbalya; 42.86% relief in *Mukhashosha*; 33.33% relief in *Shrama*; 53.85% relief in Sadana; and 50% relief in Pandu. The therapy under Group B provided statistically highly significant effect on *Dourbalya* and significant effect was seen on *Shrama, Sadana* while in *Mukhashosha* and *Pandu*, the effect of therapy was not significant. The effect of *Shatavaryadi Choorna* on sperm count, volume of semen, active motile sperms, and non-motile sperms was statistically highly significant and this therapy provided 45.15%, 11.11%, 24.14%, and 12.16% relief on these parameters, respectively. The therapy under Group B increased an average sperm count from 12.03 million to 17.47 million with 36.62% improvement. In one subject of this Group, sperm count more than 10 million was increased, in 6 subjects, there was increase of sperms between 6 and 10 million and in 8 subjects, there was mild improvement with

2–5 million increases in sperm count. In nutshell, there was markedly improvement in 2 subjects and 7 subjects were improved and in 6 subjects, no change was noticed.

6. CONCLUSION

On the basis of the encouraging results obtained in this study, *Ashwagandhadi and Shatavaryadi Choorna* can be recommended for the treatment of *Ksheena Shukra* because these therapies were found effective in reversing the *Samprapti* by acting directly on *Rasadi Dhatus* as well as involved doshas and *Srotas. Ashwagandhadi choorna* also corrects the *dushti* of *Agni* to optimum level. Although both *Ashwagandhadi* and *Shatavaryadi Choorna* provided significant results in subjects of *Ksheena Shukra*, the relief provided by *Ashwagandhadi Choorna* was comparatively better than another group. The rate of relief depends on many factors such as *nidana parivarjana, Pathya sevana,* and proper medications. As *Ksheena Shukra* is *Kruchra Sadhya Vyadhi*, long-term follows upon a greater number of subjects with intensive observations with regard to proper dosage of the medicine, *anupana, nidana parivarjana, Pathya sevana* are necessary to establish the optimum effect of the treatment.

7. ACKNOWLEDGMENTS

None.

8. FUNDING

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9. ETHICAL APPROVALS

This study is cleared by the intuitional ethical committee.

10. CONFLICTS OF INTEREST

Nil.

11. DATA AVAILABILITY

This is an original manuscript and all data are available for only review purposes from principal investigators.

12. PUBLISHERS NOTE

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Table 1: Age-wise distribution of 30 subjects of *Ksheena Shukra*

Age group	No. of subjects		Total	%
	Group A	Group B		
21–25 Year	00	02	02	6.67
26–30 Year	04	00	04	13.33
31–35 Year	05	05	10	33.33
36–40 Year	04	07	11	36.67
41–45 Year	02	01	03	10

Table 2: *Lakshanas*-wise distribution of 30 subjects of *Ksheena Shukra*

Lakshana	Group A	Group B	Total	%
Dourbalaya	14	11	25	83.33
Mukhashosha	08	05	13	43.33
Shrama	07	09	16	53.33
Sadana	07	07	14	46.67
Pandu	05	06	11	36.67

Table 3: Past history of masturbation reported in 30 subjects of *Ksheena Shukra*

H/O Masturbation	Group A	Group B	Total	%
Present	10	10	20	66.67
Absent	05	05	10	33.33

Table 4: History of nocturnal emission reported in 30 subjects of *Ksheena Shukra*

H/O Nocturnal emission	Group A	Group B	Total	%
Present	04	09	13	43.33
Absent	11	06	17	56.67

Table 5: Treatment history of 30 subjects of *Ksheena Shukra*

Treatment history	Group A	Group B	Total	%
Modern	09	07	16	53.33
Ayurveda	08	06	14	46.67
Others	01	00	01	3.33

Table 6: Effect of therapies on *Dourbalaya*

Parameters	Group A *n*=14		Group B *n*=11	
	BT	AT	BT	AT
Mean	1.93	0.80	1.20	0.40
Difference Mean	1.13		0.80	
SD (±)	0.70	0.41	0.94	0.50
Difference SD	0.29		0.44	
SE (±)	0.18	0.10	0.24	0.13
Difference SE	0.08		0.11	
t-value	8.50		4.50	
P-value	<0.001		<0.001	
%age	58.62%		66.67%	
Remarks	HS		HS	

Table 7: Effect of therapies on *Mukha shosha*

Parameters	Group A *n*=8		Group B *n*=5	
	BT	AT	BT	AT
Mean	0.86	0.26	0.46	0.26
Difference Mean	0.60		0.20	
SD (±)	0.91	0.45	0.74	0.45
Difference SD	0.46		0.29	
SE (±)	0.23	0.11	0.19	0.12
Difference SE	0.12		0.07	
t-value	3.67		1.87	
P-value	<0.01		>0.10	
%age	69.23%		42.86%	
Remarks	S		NS	

Table 8: Effect of therapies on *Shrama*

Parameters	Group A *n*=7		Group B *n*=9	
	BT	AT	BT	AT
Mean	0.73	0.13	1.20	0.80
Difference Mean	0.60		0.40	
SD (±)	0.88	0.44	1.01	0.77
Difference SD	0.44		0.24	
SE (±)	0.22	0.11	0.26	0.20
Difference SE	0.11		0.06	
t-value	3.15		3.05	
P-value	<0.01		<0.01	
%age	81.82%		33.33%	
Remarks	S		S	

Table 9: Effect of therapies on *Sadana*

Parameters	Group A *n*=7		Group B *n*=7	
	BT	AT	BT	AT
Mean	0.67	0.07	0.86	0.40
Difference Mean	0.60		0.46	
SD (±)	0.81	0.37	0.99	0.50
Difference SD	0.44		0.49	
SE (±)	0.21	0.10	0.25	0.13
Difference SE	0.11		0.12	
t-value	3.15		2.82	
P-value	<0.01		<0.02	
%age	90%		53.85%	
Remarks	S		S	

Table 10: Effect of therapy on sperm count in Group A and Group B

Parameters	Group A *n*=15		Group B *n*=15	
	BT	AT	BT	AT
Mean	11.21	18.35	12.03	17.47
Difference Mean	7.14		5.44	
SD (±)	5.49	6.58	6.22	8.27
Difference SD	1.09		2.05	
SE (±)	1.42	1.7	1.61	2.14
Difference SE	0.28		0.53	
t-value	5.64		6.57	
P-value	<0.001		<0.001	
%age	63.62%		45.15%	
Remarks	HS		HS	

Table 11: Effect of therapy on volume of semen in Group A and Group B

Parameters	Group A *n*=15		Group B *n*=15	
	BT	AT	BT	AT
Mean	1.53	2.13	1.8	2
Difference Mean	0.6		0.2	
SD (±)	0.44	0.71	0.46	0.38
Difference SD	0.27		0.08	
SE (±)	0.11	0.18	0.12	0.1
Difference SE	0.07		0.02	
t-value	6.87		3.05	
P-value	<0.001		<0.001	
%age	39.13%		11.11%	
Remarks	HS		HS	

Table 12: Effect of therapy on non-motile/dead sperms in both groups

Parameters	Group A *n*=15		Group B *n*=15	
	BT	AT	BT	AT
Mean	71	55.33	49.33	43.33
Difference Mean	15.67		6	
SD (±)	19.84	22.32	24.92	22.89
Difference SD	2.48		2.03	
SE (±)	5.12	5.76	6.43	5.91
Difference SE	0.64		0.52	
t-value	4.01		3.15	
P-value	<0.001		<0.001	
%age	22.07%		12.16%	
Remarks	HS		HS	

Table 13: The comparative efficacy of the therapies in Group A and Group B by using unpaired "*t*" test

S. No.	Parameters of assessment	Group A			Group B			"*t*"	*P*-value	Remarks
		Mean	S.D. (±)	S.E. (±)	Mean	S.D. (±)	S.E. (±)			
1	Dourbalaya	1.13	0.51	0.13	0.80	0.67	0.17	1.51	<0.10	NS
2	Mukha shosha	0.60	0.63	0.16	0.20	0.41	0.10	2.04	<0.10	NS
3	Shrama	0.60	0.73	0.19	0.40	0.50	0.53	0.86	<0.10	NS
4	Sadana	0.60	0.73	0.19	0.46	0.63	0.16	0.52	<0.10	NS
5	Pandu	0.33	0.48	0.12	0.26	0.45	0.11	0.38	<0.10	NS
6	Sperm Count	7.13	4.89	1.26	5.43	3.2	0.83	1.13	<0.10	NS
7	Volume	0.6	0.27	0.07	0.2	0.08	0.02	3.66	<0.001	HS
8	Liquefication time	4	2.56	0.66	1.67	1.40	0.36	1.82	>0.05	NS
9	Actively Motile sperms	14	4.44	1.14	7	0.46	0.12	2.24	<0.05	S
10	Sluggish sperm	1.67	0.8	0.21	1	2.91	0.75	0.88	<0.10	NS
11	Non-motile/Dead sperms	15.67	2.48	0.64	6	2.03	0.52	2.23	<0.05	S

Table 14: Assessment of increase in sperm count

Grading	Increase in sperm count	Improvement	No. of pts. In Group A	No. of pts. In Group B	No. of pts. In both Groups
Grade 1	0–1 million	No improvement	01	00	01
Grade 2	2–5 million	Mild improvement	03	08	11
Grade3	06–10 million	Moderate improvement	10	06	16
Grade 4	>10 million	Markedly improvement	01	01	02

Table 15: Effect of therapy on parameter sperm count individually in Group A and Group B (In %age)

S. No	Group A		% age	Group B		%age
	B.T.	A.T.		B.T.	A.T.	
1	6	28	78.57	2	4	50
2	6	8	25	12	18	33.33
3	3.2	11.7	72.65	18	21	14.29
4	18	22	18.18	18	23	21.74
5	12	20	40	18	32	43.75
6	2	8	75	12	18	33.33
7	10	10	0	3	9	66.67
8	10	16	37.5	3	7	57.14
9	16	24.5	34.69	18.5	26	28.85
10	18	27	33.33	6	8	25
11	7	16	56.25	12	14	14.29
12	18	24	25	18	27	33.33
13	17	21	19.05	9	12	25
14	12	18	33.33	12	19	36.84
15	13	21	38.10	19	24	20.83

Table 16: Assessment criteria of overall effect of therapy in *Ksheena Shukra*

Overall effect	Improvement	No. of pts. In Group A	No. of pts. In Group B
Complete remission	76–100%	1	0
Markedly improved	51–75%	3	2
Improved	26–50%	6	7
Unchanged	≥25%	5	6