Effect of '*Dawa –ul – Husk*' on Human Seminal Fluid Anomalies

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Introduction

Infertility *(Uqr)* mean inability to conceive after one year of unprotected intercourse prevails among 15% of couples worldwide. With revolution of technological development the infertility is in the increase for the last few decades due to number of factors such as changes in life style, dietary habits, environmental changes ect. WHO reported that male factor is responsible for the infertility in approximately 50 % of the infertile couples. This represents 20 % of infertility solely due to male factors and 27 % of infertility due to both male and female factors. The recent studies also indicate that the infertility due to male factor drastically grows up where male factor is purely responsible for 30%, and a both male and female factor is responsible for 39% (National Collaborating Center for Women and Children's Health 2004).

The Unani system of medicine is more specific, precise and validated system to deal with the male infertility. Besides being easy to administer, cost effective and have excellent tolerability profile, relatively free of side effects. *'Dawa ul Husk'* is one such Unani medicine which, despite being widely used for the empirical treatment of male infertility for many decades. Against this background, an attempt was made to scientifically document the effect of *Dawa ul Husk* on various human seminal fluid parameters.

Methods and Materials

A total of 90 patients with male factor infertility were recruited from Unani Gynaecology clinic at Teaching Hospital of Ayurveda, Borella on the basis of routine clinical examination and semen analysis. To be enrolled, patients to fulfill the following inclusion criteria:

- Those patients (age 20 – 45) who had seminal fluid parameters well with in that of the World Health Organization Criteria for Male infertility (1992) was included in this study.

In addition, the following exclusion criteria were applied

- Congenital abnormalities in genital organs
- Those who were under hormonal therapy for the last 3 months before the commencement of the study or during the research period.

Method / Study design

The study was an open, non-comparative clinical trail and informal experimental design (Comparative study of before and after treatment but without control group).

Study instruments

1. Laboratory test of SFA and Hb%
2. Mizaj criteria (Central Council and Research in Unani Medicine, India)
3. Body Mass Index (Jelliffe, 1989)

Diet

During the study period, patients were advised to have normal diet

Statistical Analysis

An analysis was done according to intention-to-treat principles. The changes in various parameters from baseline values to that of after the 3 months were analyzed by using "Paired t test". The minimum level of significance was fixed at a 99% confidence limit and 2-sided significant *p* value of <0.01.

Materials

"***Dawa – ul - Husk***", (*Kitabul Hawi Fil Tib* (Ar Razi. 1961)

Pulverized powder of ***Khar Khusk*** (*Tribulus terrestris*) and ***Aaqarqarha*** (*Anacyclus pyrethrum*)

Administration:

05 gram with fresh water at night daily for 3 months

Observations and Result

Table No. 1 Showing the incidence of *Uqr – e - Mardana* according to Azoospermia

	No. of pts. (Before Rx)	No. of pts. (After Rx)	No. of improvement	Percentage of improvement
Azoospermia	09	09	00	00 %

In this study nine Azoospermic cases were studied, but after three month of treatment of research drug almost all the patients of Azoospermia were remain as it is. There is no positive response observed in these cases.

Table No. 2 Significance of Total sperm count in 99% Confidence interval

Mizaj	Pair differences			t	df	Significance (2 tailed)
	Mean	Std. deviation	Std. Error			
Balghami	-12.867	19.736	3.160	-4.071	38	.000
Damavi	-12.747	14.231	3.675	-3.469	14	.004
Safravi	-8.214	12.531	3.349	-2.453	13	**.029**
Sawdavi	-16.727	21.503	4.585	-3.649	21	.002

There is a significant difference before and after treatment at 0.01 level of significant for total sperm count in Balghami, Sawdavi and Damavi patients. But there is no significant difference was found in Safravi patients.

Table No. 3 Significance of Sperm motility in 99% Confidence interval

Mizaj	Pair differences			t	df	Significance (2 tailed)
	Mean	Std. deviation	Std. Error			
Balghami	-9.051	11.150	1.785	-5.070	38	.000
Damavi	-2.533	11.077	2.860	.886	14	**.391**
Safravi	-7.571	11.921	3.186	-2.376	13	**.034**
Sawdavi	-5.500	10.680	2.277	-2.415	21	**.025**

There is a significant difference before and after treatment at 0.01 level of significant for sperm motility only in Balghami patients. But there is no significant differences were found in Damavi, Safravi and Sawdavi patients.

Table No. 4 Significance of Normal morphology in 99% Confidence interval

Mizaj	Paired differences			t	df	Significance (2 tailed)
	Mean	Std. Deviation	Std. Error Mean			
Balghami	-13.744	20.059	3.212	-4.279	38	.000
Damavi	-13.533	20.525	5.299	-2.554	14	**.023**
Safravi	-10.000	34.360	9.183	-1.089	13	**.296**
Sawdavi	-5.909	12.554	2.677	-2.208	21	**.039**

There is a significant difference before and after treatment at 0.01 level of significant for sperm morphology in Balghami patients. But there is no significant difference was found in Damavi, Safravi and Sawdavi patients.

Table No 5 Significance of WBC in Semen in 99% Confidence interval

Mizaj	Paired differences			t	df	Significance (2 tailed)
	Mean	Std. Deviation	Std. Error Mean			
Balghami	2.872	4.275	.684	4.196	38	.000
Damavi	2.600	6.185	1.597	1.628	14	**.126**
Safravi	1.429	3.106	.830	1.721	13	**.109**
Sawdavi	2.045	3.860	.823	2.485	21	**.021**

There is a significant difference before and after treatment at 0.01 level of significant for Leukocytes in semen only in the Balghami Mizaj patients. But there is no significant difference was found in Damavi, Safravi and Sawdavi patients.

Follow up

There was a follow up treatment of the patients during three month time period. Many patients did not come to OPD clinic regularly because they responded well for the stipulated treatment period. But all Azoospermic patients were come with same result.

Discussion and Conclusion

Since time immemorial, medicinal plants have been used in the treatment of various diseases. This plant origin drugs are still used to cure diseases all over the world with successfully.

Effect of Dawa – ul – Husk on Abnormalities of Sperm

a. Effect on Azoospermia

It is widely considered that Azoospermia is caused by the defect in *Imshaj – e – Badan* (Body component that produce spermatogenesis). The actions *Quwwat-e-Muharrika*, *Quwwat-e-*

Mudrikah and *Munaqi -e- Fuzul – e - Dimagh* of Dawa – *ul – Husk* do not have any role in the restoration of the defect body component. Hence, no improvement was found in Azoospermia patients as observed in this study.

b. Oligozoospermia

There is significant improvement in the total sperm count in *Balghami, Sawdavi* and *Damavi* patients. The impressive findings well reflect that the composition of *Dawa – ul – Husk* is extremely effective in stimulating spermatogenesis. The *Khar Khusk* is alone capable to induce regeneration of the sertoli cells and hence increases motile spermatogenesis (Dicova, Oganyanova, 1986). In another study, *Khar Khusk* has been identified as the power of spermatogenesis in Oligozoospermic conditions (Solepure *et al*. 1979 and Madaan, 1985). Moreover, the actions of *Dawa –ul – Husk* are *Muqawwi-e-Bah, Muharrik – e- Aasab* and *Muqawwi e Jiggar* and *Munaqi – e – Fuzul – e – Dimagh* and improves the potency of spermatogenesis via hypothalamic mediated action on sex hormone secretion. The steroidal Saponin present in *Khar Khusk* has close structural relationship with sex hormone (Trease, 1987). As a result, the aqueous extract of *Tribulus terrestris* (Khar Khusk) has found to be useful safe non hormonal treatment for hormonal insufficiency in men (Brown *et al*., 2001). The *Khar Khusk* may stimulate the sex hormone in many stages of the spermatogenesis. In addition, the *Aaqarharha* also helps in spermatogenesis (Gopabandu. Jagmohan. 1992).

c. Effect on Sperm motility

Garam (Hotness) *Kaifiyat* is very essential for all kind of movements in the body. Therefore, *Garam* is also needed for the smooth function and motility of the sperm. Hence, it is considered that the *Mizaj* of the both ingredients (*Garm vo Khusk)* of *Dawa – ul - Husk* (*Khar Khusk* and *Aaqarqarha*) may provide the essential *Garam* to Spermatozoa and activate their intra cellular function. In addition to the above actions, the drugs possess special power of stimulation (*Muharrika*) which may help sperm motility too. As a result, in this study, the

effect of the research drug has been reflected by a remarkable increase in the sperm motility significantly in *Balghami Mizaj* patients (Table. 3). A recent study has also shown that *Khar Khusk* increases the sperm motility (Dicova, Oganyanova, 1986). This study too supports the effect of *Dawa – ul – Husk* on sperm motility.

d. Effect on Sperm Morphology

The research drug has restored the defect in the sperm morphology to a significant level (Table 4). The drug *Dawa – ul - Husk* stimulates *Quwwat – e – Tanasuliya* (Reproductive power) which in turn strengthens its sub-ordinate *Quwwat – e – Musawwira* (Formative power) that is responsible for the formation and maintenance of the shape of the *Jawhar – e – Mani* (Sperm). Moreover, *Balgham* itself provides a good medium for any formation of matter in the body because of its *Mada* and *Kaifiyat.* Hence, morphological defect of sperm has improved mainly in *Balghami* patients.

Effect on the Leucocytes present in Semen

The study reveals that *Dawa – ul – Husk* reduces the presence of Leukocytes in the semen to significant level in *Balghami* and *Sawdavi* patients (Table 5). This result was attributed to the action of *Garami* type of *Mudir – e – Boal* of *Khar Khusk* that produces good effect in *Balghami* and *Sawdavi* predominant patients where *Sard Kaifiyat* associated with the presence of leukocyte. The diuretic action has been proven by the study of Sing (Sing *el at*.1991. In the same way the *Dawa – ul – Husk* also act as urinary anti septic.

Conclusion

The results of the present study show that the 5 gram of daily oral dose of *Dawa – ul – Husk* for 90 days enhances quality spermatogenesis). Mean time, *Dawa – ul – Husk* acts through its *Kaifiyat, Mada* and *Jawhar* with more affinity towards the constitutions of the patients who possess opposite *Mizaj* to that of *Dawa – ul – Husk.* The drug *Dawa – ul – Husk* is more effective in *Balghami* predominant patients.

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