

## ROLE OF *UTTAR BASTI* IN THE MANAGEMENT OF FEMALE INFERTILITY: AN EVIDENCE BASED REVIEW

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### ABSTRACT

**Background** - Infertility is the most sensitive and cumbersome problem which haunts most of the couple now a day's especially female factors which is one of the major cause in fertility. Among female factor the sub factors are ovarian, tubal, endometrial and uterine. The factors such as lifestyle, stress, excessive usage of contraceptive, genetic problems, smoking and drinking habits increases such cases day by day.

*Panchakarma* provides best efficacy because it helps in balancing *Dosha* and *Dushya*. *Uttar basti* is one such type of the treatment modality being indicated for infertility. It helps in detoxification of body specially the reproductive system thus helps in balancing *Tridosha* mainly the *Vata Dosha* which ultimately helps in retaining and caring the pregnancy.

**Aim** - Aim of the study is to evaluate the role of *Uttarbasti* in the management of female infertility.

**Resources**-Sources of this review study are post-graduation student's thesis of Ayurvedic colleges of India and Various International Journal Articles.

**Discussion**-Present review study is an effort to understand the efficacy of *Uttarbasti* in the female infertility. In order to establish it as a safer, cost effective and highly significant Ayurvedic treatment modality with evidence based clinical trials.

**Conclusion** -Considering this study it is realised that *Uttarbasti* has a lot of therapeutic potential in the management of female infertility. Need some more study to establish the *Uttarbasti* as a bench mark treatment over all complaints and cause of infertility by using different medicines.

**Key Words:** *Uttarbasti* ,Female Infertility ,*Vandhyatva Chikitsa*

**INTRODUCTION:** Infertility is the failure to conceive (Regardless of cause) after one year of unprotected intercourse. This condition affects approximately 10-15% of reproductive age couples<sup>1</sup>. Despite increasing access to infertility treatment services and specialists', dealing with infertility is one of the toughest challenges that women across India face. Late marriage, stressful lifestyle, obesity ,high junk food intake, smoking ,alcoholism and drug addiction contribute to the problem of infertility<sup>2</sup>. The Indian infertility diagnosis and treatment market are pegged to grow at a compound annual rate of just 12.5 percent

between 2022 to 2028 according to a study published by Orion market research<sup>3</sup>. All *Bruhatrayis* have mentioned *Vandhyatva* in there context. According to *Charak* abnormality of any one out of *Shadbhavas* (*Matraj, Pitraj, Atma, Satwa, Satmya, Rasa*) will cause the failure to conceive. *Susruta* has mentioned *Vandhyatva* in *Vataja Yoni Rogas*. *Harita* has described six types of *Vandhyatva* 1. *Kakvandhya* (One child sterility/secondary infertility), 2. *Anapatya* (Primary infertility), 3. *Garbhasravi* (Repeated Abortion), 4. *Mrtavatsa* (Repeated Still birth), 5. *Balakshaya* (Loss of

strength),6. *Vandhyatva* due to injury to *Garbhashaya* or *Bhaga*.<sup>4</sup> According to Ayurveda important factors for conception are *Rutu*(fertile period),*Kshetra*(uterus and reproductive organs),*Ambu*(Proper nutrient fluid),*Beeja*(sperms and ovum)<sup>29</sup>.*Yoni pradosh*a refers to abnormalities of vagina, cervix, uterus, fallopian tubes which hinders fertilization.<sup>5</sup> As per the Ayurvedic consideration of management it includes *Daivayapashreya* and *Satwavajaya Chikitsa* which act through psychic component. *Yuktivyaprasraya* involves *Antah Evam Bahirparimarjan* (purificatory treatment) and *Shaman Chikitsa*(Palliative treatment)<sup>30</sup>.depending upon the vitiation of the *Dosha* and condition of the disease, internal oleation or intake of unctuous substances ,vaginal application of paste and *Uttarbasti* are administered.<sup>6</sup>

#### AIM OF THE STUDY:

Aim of the study to evaluate the role of *Uttarbasti* in the management of female infertility.

#### MATERIAL AND METHODS:

Resources of the Study:-

In this review study the seven post graduate thesis from various reputed Ayurvedic universities of India and eleven Articles from various International Journals which are focusing on female infertility are selected which mainly includes the *Uttar-*

*basti* as *Panchakarma* treatment independently or along with *Shamana Aushadhi*.

#### Treatment Modalities of Infertility by using Uttar Basti :-

*Panchakarma* helps in curing almost all the disorders; among them *Basti* is one such *Panchakarma* therapy which helps in balancing the *Dosha* ,*Dhatu* and *Mala* for improving general health to eradicate the disease condition.

*Uttarbasti* is a type of *Basti Upakrama* which has been highlighted in the classics for the management of most of gynaecological disorders.

The *Basti* administered through the *Uttarmarga* and has *Sreshtha Guna* is known as *Uttarbasti*.(*Uttarmarga* means the *Mutra* and *Shukramarga* in male & the *Mutra* and *Yonimarga* in female).The *Basti* which is administered after *Niruha Basti* and through the *Uttarmarga* is said to be *Uttarbasti*.<sup>7</sup>

Indications:-

*Uttarbasti* is indicated in *Yoni Vyapath*,*Pushpanasha*,*Garbhashaya Vikaras*<sup>8</sup>

Contraindications:-

Human Immunodeficiency Virus infection, Cancer of Cervix, Intra Uterine Device, Pelvic Inflammatory Disease etc

*Uttarbasti Yantra*:-

This *Yantra* also consist of 2 parts, *Bastiputaka* and *Bastinetra*.

Table no-1 Shape and size of *pushpa netra*.<sup>31</sup>

Age	Passage	Circumference & size of lumen	Length to be inserted into the passage
Girl(Age below 16yrs)	Urinary	Flower-stalk of <i>Malati</i> ; lumen size of mustard seed	One angula(1cm)
Adult women	Urinary meatus	Lumen size of <i>Mudga</i> seed	Two angula(2cm)
Adult Women	Vaginal	Index finger; lumen size of <i>Mudga</i> seed	Four <i>angula</i> (4cm)

*Bastiputaka*.<sup>32</sup>

Since the quantity of *Kwath* or *Sneha* administered is comparatively less, small sized animal bladders were used for the purpose like bladder of goat, sheep etc were mentioned but practically now a days the animal bladders are not used.

Time of administration<sup>33</sup>:-

*Charaka* quotes that the suitable time for the administration of *Uttarbasti* is *Artavakala*. It should not be interpreted as menstrual phase because all *Shodhanadi*

*kriyas* are contraindicated during that period. It should be interpreted as *Rutu kala* i.e. 12 days after the stoppage of menstruation. If we start *Uttarbasti* on the 6<sup>th</sup> day it can be done for 3 days (i.e. 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup> day) then 3 days interval can be given then it should be repeated on 12<sup>th</sup> day for 3 days this is being practiced.

Quantity of *Uttarbasti dravya*:-

Dose of the *Uttarbasti* is the most controversial point regarding *Uttarbasti*.

**Table no-2 Doses of Uttarbasti**

<i>Aacharyas</i>	<i>Dravya Matra</i>	<b>In ml</b>
<i>Charak</i> <sup>34</sup>	½ <i>Pala Sneha</i>	24ml <i>Sneha</i>
<i>Vagbhata</i> <sup>35</sup>	1 <i>Shukti</i> -1 <i>Panchuka Sneha</i>	24-48ml <i>Sneha</i>
<i>Susruta</i> <sup>36</sup>	1 <i>Pala Sneha</i> & 2 <i>Prastha kwath</i>	48ml <i>Sneha</i> & 96ml <i>kwath</i>

**PROCEDURE :- (Practically)**

**Purva karma:-**

According to *Vagbhata* *Uttarbasti* should be given after the administration of about 2 or 3 *Niruha basti*.<sup>37</sup> *Abhyanga* and *Swedana karma* should be done preferably over the back, groin and abdomen. Then *Yavagu* added with *ghee* should be given for drinking.<sup>38</sup> All the routine examination should be done. Cleansing of *Pakwashaya* and *Mutrashaya* i.e. Bowel & Urine emptied. After cleaning bowel, *Yoni Prakshalana* with *Panchavalkala kwath* should be done for local aseptic precautions. After *Yoni Prakshalana*, *Abhyanga* with *Bala Taila* on lower abdomen and lumbar region followed by *Swedana* with hot water bag is performed.

Keep the instrument and medicine ready for *Uttarbasti karma*.

**Pradhan Karma:-**

Patient is to be taken on operation table in the operation theatre/labour room/minor OT. Patient is asked to lie down in lithotomy position. After making patient

relaxed sim's speculum should be inserted into vagina. Cervix should be exposed with the help of anterior wall retractor and speculum. After this process once again vagina and external os should be painted with diluted Dettol for removal of mucoid or any discharge. When sterilization is over, cervix should be caught with allis forceps or vulsellum forceps. Uterine sound is passed through external os to find the position of uterus. After knowing the position of uterus, Hegar's dilator is inserted through external os for dilating the cervix properly. When cervix is dilated properly, then 5ml *taila* filled in 10ml disposable syringe fitted with angulated *uttarbasti* cannula should be inserted gently and oil is instilled. After this all instrument, cotton, towel should be removed. Patient is advised to return to supine position with legs folded on each other.

**Paschat Karma:-**

Watch for B.P, Pulse etc

Head low position for ½ hr

Hot fomentation if needed

### Light diet

The same procedure should be repeated for 3days in each cycle.

The present review gives an overview of the potential use of and applied aspect of *Uttarbasti* in the management of female infertility through an evidence based evaluation of its efficacy.

A brief summary of some collected work have been presented below:-

**B.Shyamala(1991):-**<sup>9</sup> In this study diagnosed case of the tubal blockage with hydrosalpinx *Uttarbasti* was given by using *Dhanvantaram Tailam* 5ml for 7days from 10<sup>th</sup> day of menses.

Tubal potency test was found positive in the 3<sup>rd</sup> month after the commencement of the treatment.

**S P Otta(2002):-**<sup>10</sup> In this controlled single blind clinical trial 30 cases confined to female infertility were administered with *Phala Ghrita*(5ml) in the form of *Uttarbasti* in therapeutic dose for 3 consecutive days in each cycle for 3 successive cycles. It was found to be significantly effective in the tubal blockage. Tubal block was open in 75.21% patients.

**Anitha S.(2009):-**<sup>11</sup> In this open clinical trial 30 well established tubal block cases in the age group of 20-35yrs were selected. *Narayan taila* was given as *Uttarbasti* medicine for 7 days in the dose of 5ml after the cessation of menstrual cycle. It shows efficacy in 70% cases and 53% cases were conceived within 3-12 months period after treatment.

**Dr.K.Bharathi(2010):-**<sup>12</sup> In this open clinical trial 32 well established tubal block cases between age group of 20-35yrs were selected. *Uttarbasti* with *ksheerbala taila* 10ml for 3days for 3 consecutive cycles was given. Majority of good and fair response were seen under 20-25yrs (75%) & 25-30yrs age group respectively.

**Kamayani Shukla (2010):-**<sup>13</sup>In this comparative clinical trial study patients of child bearing age group having complaint of failure to conceive due to tubal factors was selected. For Group A-*Yava kshara taila* & Group B- *Kumari taila* for intra uterine *Uttarbasti*(5ml after cessation of menstruation 6day with gap of 3days in between for 2 consecutive cycles) was given. The tubal block was open in 85.71% patients in group A & in 80% patients in group B.

**Dr.Kamayani Upadhyay(2010):-**<sup>14</sup>In this clinical trial study tubal blockage diagnosed in HSG 15 patients in reproductive age group were completed the treatment the patients with active infection or chronic diseases were excluded. *Kumari taila* was selected for *Uttarbasti* with dose of 5ml with duration of two consecutive cycles (six days of *Uttarbasti* in each cycle with an interval of three days in between)The tubal blockage was removed in 80% of the patients and 40% of the patients had conceived within the follow-up period of two months.

**Rajput Shivshankar(2015):-**<sup>15</sup> In this clinical trial study 16 patients have completed the treatment coming under inclusive criteria of study i.e. patients with age group between 20-40yrs with active marital life more than 1yrs diagnosed case of tubal blocks on the basis of HSG report and don't have any other disease, congenital anomalies and infections etc. here *Apamarga kshar taila* was selected for *Uttarbasti* which is given with duration of two consecutive cycles at the interval of three days. The tubal blockages was removed in 75% of the patients and 25% of the patients among them had conceived within the follow-up period of 2 months.

**Dr.Komal Gurjar(2020):-**<sup>16</sup>In this case study patients is selected of tubal blockage

diagnosed in diagnostic laparoscopy. *Uttarbasti* was administered after cessation of menstruation to the screened patient through haematological, urinary and serological (HIV, VDRL, HbsAg) investigations. In this study *Apamarga kshar taila* is used for *Uttarbasti* & *Phala ghritha* is used as *Shamananga Snehapana* in patient. The result suggests that *Uttarbasti* is highly significant treatment for tubal blockages. *Uttarbasti* is ideal local therapy is to be adopted in tubal block. *Apamarga Kshara taila* is very good *Vatakapha shamak guna* & *Lekhan* properties & *Phala ghritha* is best for all *Yoni Rogas*, also to reduce *Daha* which is due to *kshara taila*.

**Dr. Priyanka Mhaske(2020):-**<sup>17</sup> In this case study 27yr old female patient with HSG diagnosed bilateral tubal blockage with not having any other disorders even all physical and routine histopathological investigations revealed no significant abnormality is selected for treatment. In this patient *Uttarbasti* with *Apamarga kshar taila* 5ml for three days after menstrual cessation was administered. It was repeated after 3days again same procedure was carried out for three consecutive cycles; this was also given *Kanchanar guggulu* 250mg and *Kumari Asava* 10ml both BID orally after meal for 90days as *Shaman Aushadhi*.

In this study HSG and USG were used as diagnostic tool even to assess the result of treatment given. HSG reported the normal tubes after three months of treatment. During follow up no abnormal findings were reported clinically and no adverse effects were observed.

**Chanchal Sharma(2020):-**<sup>18</sup> In this study a patient with HSG diagnosed fallopian tube block is treated with *kshar taila* 5ml dose for 6days after cessation of menses

for three consecutive cycles and orally *Kanchanar guggulu* and *Triphala guggulu* 2tablets of each given after lunch and dinner along with *Varanadi Kashaya* 10 ml with normal water morning and evening empty stomach. After treatment HSG reports shows no tubal blockage in patient.

**Chetana M Kodinariya(2008):-**<sup>19</sup> To evaluate the efficacy of *Uttarbasti* by using drugs like *Shatavari Ghritha* and *Go Ghritha* with dose of 5ml on 10<sup>th</sup>, 11<sup>th</sup> & 12<sup>th</sup> day of menstrual cycle for 3 consecutive cycles in 14 patients having cervical cause for infertility were selected in this clinical trial for diagnosing the cervical cause cervical mucus test & post coital test were done before and after treatment, significant result were found in both the groups but *Shatavari Ghritha* showed better results.

**Swati Jadhav (2002):-**<sup>20</sup> In this open clinical trial study to evaluate the efficacy of *Prajasthapangana Siddha Ghritha* in the form of *Uttarbasti* (3ml for 3days for 2 consecutive cycles) and *Prajasthapanganagana Siddha Vati* 5gm BD for 2months) on 40 patients of *Vandhyatva* due to ovulatory factor was carried out. The overall clinical improvement was better seen in group A(93%) than group B(91%).

**Mishra Gayathri(2003):-**<sup>21</sup> This is an open clinical study to evaluate the efficacy of *Shatavari taila Uttarbasti* (5ml for 4days after cessation of menstruation for 2 consecutive cycles and *Garbhaprada* compound (2capsules of 500mg thrice daily given from 4th to 12<sup>th</sup> day of menstruation) on *Vandhyatva* w.s.r. to ovulation was carried out. All the patients (100%) shown increment in follicular size and improvement in cervical mucus qualities. While (72%) patients shown ovulation.

**Savaliya Hetal(2005):-**<sup>22</sup> In this clinical trial 48 patients with anovulatory cycles were selected; Group A-*Uttarbasti* with

*Shatapushpadi taila* 5ml intrauterine and *Shatpushpa churna* 2gm twice a day orally, Group B-*Shatpushpa churna* orally and Group C-placebo drug for 2months was given. In Group-A 13 patients (81.25%) were completely cured(Ovulation Occurred).

**Pratibha CK(2006):**<sup>23</sup>In this clinical trial study 20 patients with anovulatory cycles were selected equally divided into 2 groups. Group A treated with *Tila taila* as intrauterine *Uttarbasti*(5ml for 3days in month for 3cycles).Group B was treated with *Lashuna taila* intrauterine *Uttarbasti*(10ml for 3days in a month for 3cycles).*Lasuna taila Uttarbasti* is effective in improving the size of the follicle and endometrial thickness where as *Tila taila Uttarbasti* is effective in reducing the cellularity of cervical mucus out of 20 patients taken up for the study only 2 patients ovulated.

**R.Meera(2007):**<sup>24</sup>In this clinical trial study 33patients with anovulatory cycles were selected among them 11patients was given *Mahanarayan taila Uttarbasti* (5ml intrauterine for 3days after cessation of menstruation for 2 consecutive cycles)in patients ovulation occurred in 6 patients.

**Sushila Sharma(2008):**<sup>25</sup>This is a case study of a patient with secondary infertility due to anovulatory cycles being treated with *Pushpadhanva rasa* and *Ojaswani vati* 1 tablet twice daily for 3months along with *Uttarbasti* was started on 6<sup>th</sup> day of menstrual cycle and continued alternatively till 12<sup>th</sup> day for 3 cycles. After 5months patients got conceived.

**Donga SB(2010):**<sup>26</sup>In this comparative clinical work *Shamimashavatta Ghritha* was administered to 24 patients with anovulatory cycles. Group A treated with *Shamimashavatta Ghritha* as intrauterine *Uttarbasti*(5ml for 3days in a month for

3cycles)along with *Shamimashavatta Ghritha* 10gm orally before meal in morning for 2months.Group B was treated with *Goghritha*(5ml for 3days in a month for 2cycles)intrauterine *Uttarbasti* and with *Shamimashavatta Ghritha* 10gm orally. It was observed that overall clinical improvement i.e. ovulation was better in Group A i.e. 65% than Group B.

## DISCUSSION:

It is always difficult to describe and understand something in brief but with Ayurvedic principle that which covers all the physical, mental and spiritual aspects of human life are becomes more abstract.

*Artavavaha Srotas* is also the same; it covers the whole female reproductive tract and encompasses it as a structural and functional unit from the hypothalamus to the uterus. It represents not only the hormones related to reproduction at the physiological level, but also covers all the structures related to female reproductive organs at the anatomical level.<sup>14</sup>

Management of infertility involves specific identifiable cause and its correction along with proper counselling of the couple.

There are many factors responsible for female infertility like ovulatory factor, tubal factor and cervical factor etc.

Anovulatory cycle is the most common female infertility factor. Another commonest cause of infertility is salpingitis, where the lumen of the tube becomes adherent and the passage between the uterus and abdominal cavity is blocked. The cervical factor (Altered PH of cervix) is responsible for 5% cause of infertility.<sup>39</sup>

Endometriosis and chronic ill health are the other causes of infertility.<sup>26</sup>

In condition of anovulation *Uttarbasti* removes the *Srotosangha* and corrects the *Artavagni* which regulates the menstrual cycle, thus resulting in ovulation. Ovaries

contains receptors which receive signals from hormone secreted by hypothalamus and pituitary gland. The drug stimulates these receptors, so that proper ovulation occurs in each cycle.<sup>22</sup>

*Uttarbasti* works on all three features of *Artavakshaya* through its local and systemic effects.

It can be considered responsible for following three things: i) *Uttarbasti* with *Tikshna* drugs helps to remove fibrosis (Due to the *Khara* and *Darun guna* of *Vata*) of the endometrium and thus helps in its rejuvenation. ii) After stimulating the endometrial receptors it stimulates the hypothalamus-pituitary-ovarian-uterine axis to restore the normal physiological neuroendocrine state and iii) After peritoneal spillage it can also directly stimulate the impaired functioning ovary with its potential drugs.<sup>14</sup>

#### Local Effect of *Uttarbasti*

Effect of *Uttarbasti* will depend on various points like method, instrument and drug used etc. If the medicine is put in cervical canal it may act more on the cervical factors; for the factors like cervical stenosis, a *Katu Ushna Taila* based medication like *Shatpushpadi Taila* can be more useful, while for increasing secretion of mucus from cervical glands a nutritive and *Madhura-Shita* based medicine will be more efficacious. In the same way the drug selection for ovulatory and tubal factor will be totally different from each other. On ovary the effect of drug will be after absorption and then by promoting the hypothalamic-pituitary-ovarian axis, while in tubal block *Uttarbasti* acts locally. In ovulation, a drug with *Snehan* property can be good while for tubal block a drug with *Lekhana* karma will be better. *Uttarbasti* may also stimulate certain receptors in the endometrium leading to correction of all the physiological processes of reproductive

system. Intravaginal *uttar basti* may also facilitate the absorption of drug as posterior fornix has a very rich blood supply and it may also act as a reservoir of drug.<sup>40</sup>

#### *Systemic effect of Uttarbasti after absorption*

It seems that Ayurveda had a clear distinguishing approach between oral and par-enteral route of drug administration from the very beginning *Uttarbasti* may act by stimulating some neuroendocrine pathways after getting absorbed.

Systemic effect of *Uttarbasti* also be understood with the help of systemic biology concept.

Systemic biology is the latest concept emerging and getting accepted in modern science. This concept believes that all the bodily systems and organs are interconnected at molecular level and any change in any organ molecular level will certainly change the other.<sup>41</sup>

This concept actually the first step of modern science towards the concept of *Mahabhut* and *Tridosha*.

The effect of *Uttarbasti* drugs have on the physiology of reproductive system it will definitely involve the physiological functions and correction of other organs.<sup>27</sup>

#### Advantage of *Uttarbasti*

*Uttarbasti karma* in cervical region stimulates secretion of mucus and helps in movement of sperms after receiving *Bhrimhan* drugs oil in combination with *Lekhaniya* drugs helps in treating dysmenorrhea and also helps in conception. When *Lekhaniya* drugs are given in intrauterine region through *Uttarbasti* then they remove the obstruction of tube and helps in development of tubal cilia in fallopian tubes. It helps in rejuvenating the endometrium living and balances the processes of reproductive system like ovulation.<sup>28</sup>

## CONCLUSION:

This is the evidence base review summarized for enlightening the use of *Uttarbasti* in female infertility. Effective studies are necessary to explore the possible mechanism i.e effective dose, choice of medicine & their safety profile in the management of infertility.

*Uttarbasti* has a lot of therapeutic potential with multifocal action; proper selection of medicine dose and time of administration is very essential for getting the desired result.

In present era only *Sneha* based medicines are used in *Uttarbasti* practice to treat infertility but it can be great opportunity to evaluate its efficacy in other gynaecological disorders by some experimental and clinical researches and make a remarkable ,safe and cost effective in management of infertility.

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Source of support: Nil Conflict of interest:  
None Declared

Cite this Article as : [Varun Ramesh Patil et  
al : Role of *Uttar Basti* in the Management  
of Female infertility: An Evidence Based  
Review] [www.ijaar.in](http://www.ijaar.in) : IJAAR VOL V  
ISSUE X SEP-OCT 2022 Page No: 775-784