

**HERBS INDICATED IN THE MANAGEMENT OF INFERTILITY****W.S.R.VANDYATWA AND KLAIBYA: A REVIEW****Abhay Jayprakash Gandhi,*¹ Swagata Tavhare,² Prashant Bedarkar,³ B. J. Patgiri⁴**

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Article Received on
01 April 2016,
Revised on 22 April 2016,
Accepted on 13 May 2016
DOI: 10.20959/wjpps20166-6937

ABSTRACT

“*Vivah*” *Samskara* is one of the 16 *Samskaras* described in our Science. The main aim of marriage is reproduction for best progeny. *Vandhyatva* (Infertility) is also an independent disease, rather a cardinal feature of so many diseases. In the present scenario of advanced science and technology, infertility is still a problem that has been continued from ages. Hormonal therapy, In vitro fertilization (IVF), embryo transfer, (ET), gamete intrafallopian transfer (GIFT) etc. are the developed modern technique in the management of infertility, which involves enormous expenditure besides the side effect like ovarian hyper stimulation, frequent abortion, multiple gestations, hormonal imbalance and major long term possibility of ovarian cancer.

Ayurveda may give a promising therapy to cure this condition. Sometimes an integrated approach of the allopathy and Ayurveda show miraculous results. Thus an attempt has been made to compile information of herbs indicated in the context of *Vandhyatwa* and *Klaibya* from available classical literature as well as research papers, journals and monographs. Drug mentioned in *Prajasthapana gana* and *Shukrashodhana gana* along with *Ashwagandha*, *Shatavari*, *Kapikacchu*, *Erandamoola*, *Kushtha*, *Jatiphala*, *Putranjeevak* etc. are useful in the management of infertility (*Vandhyatwa* and *Klaibya*).

KEYWORDS: Ayurveda, Herbs, Infertility, *Klaibya*, *Prajasthapana*, *Vandyatwa*.

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INTRODUCTION

Vivah” *Samskara* is one of the 16 *Samskaras* described in our Science. The main aim of marriage is reproduction for best progeny. Family is the base of a healthy society and child completes the family and continues it further. *Putraishana* is the strongest desire of all the married couple. For the successful *Gruhashthashrama* child is required. God, The ultimate creator of the whole universe have boosted both male and female with the power of reproduction.

Aacharya Sushruta has described four essential factors like *Rutu*, *Kshetra*, *Ambu* and *Beeja* for conception.^[1] We ensure about motherhood, when these four factors are fulfilled. Among these four factors, a *beeja* (ovum) factor has a prime role in the pathophysiology of reproduction. The *dushti* (Vitiation)in the *beeja* formation may be considered as ovulatory dysfunction.

Ovulatory dysfunctions are the major problem in approximately 40% cases of female infertility.

Shukra has been mentioned by *Charaka* in *Dash-pranaytana* (vitals). Any destruction or vitiation to it leads to either deformities or death. According to *Sushruta*, *Dhairya*, *Chyavanam*, *Priti*, *Dehabala*, *Harsha* and *Bijartha* which have influence on the whole body and mind are the functions of *Shukra*, reproduction being the prime. Thus, while treating physical and psychological disorders this vital *dhatu* has importance.

Over few decades, fertility therapy has expanded more than any other field of medicine. Hormonal therapy, In vitro Fertilization (IVF), Embryo Transfer, (ET), Gamete Intrafallopian Transfer (GIFT) etc so many therapies are developed, but they have unsatisfactory results, enormous expenses and lots of side effects like ovarian hyper stimulation, frequent abortion, multiple gestations and major long term possibility of ovarian cancer. Ayurveda may give a promising therapy to cure this condition.

METHODS AND MATERIALS

A detailed review of concept of *Vandhyatwa* and *Klaibya* and the herbs indicated in the management context will be compiled from available classical literature as well as research papers, journals and monographs.

OBSERVATIONS

Harita has described *Vandhyatwa* as a disease, in eighty *Vataja Vyadhi*. He has defined *Vandhyatwa* as a failure to achieve a child rather than pregnancy, because he has included *Garbhasravi*, *Mrutavatsa* also under the classification while *Sushruta* mentioned *Vandhyatwa* has been described under the title of “*Vandhya-Yonivyapada*” which is included amongst twenty gynecological disorders (*Yonivyapada*). *Charaka* and *Vagbhata*, have referred *Vandhya* due to abnormality of *Bijamsa* and mentioned as the *Upadrava* of *Yonivyapada*.^[4] According to modern science, infertility is defined as failure to conceive within one or more years of regular unprotected coitus.^[5]

Klaibya is represented by the word impotence. Impotence is a latin word, consisting of Im & potence. 'Im' denotes 'lack of' and Potence denotes power Meaning of which are:

1. Lack of power.
2. Specifically lack of copulative power in the male, which is due to failure to initiate an erection or maintain an erection until ejaculation, usually considered to be due to physical disorder (organic) or an underlying psychological condition (psychogenic). Impotence is also defined as the persistent failure to develop erection of sufficient rigidity for penetrative intercourse (Kirby 1994, Krane 1989).

Classification of *Klaibya* (Erectile Dysfunction) According to Various Authors

Charaka	Sushruta	Bhavaprakasha^[6]
<i>Bijopaghataja</i>	<i>Manasa</i>	<i>Manasa</i>
<i>Dhvajabhangaja</i>	<i>Soumya dhatukshayaja</i>	<i>Pittaja</i>
<i>Sukrakhsayaja</i>	<i>Shukrakshayaja</i>	<i>Sukrakshayaja</i>
<i>Jarasambhavaja</i>	<i>Pumsatva-Upaghataja</i>	<i>Medhra Rogaja</i>
	<i>Sahaja</i>	<i>Virya Vahini Sira, Chedja</i>
	<i>Sthira Sukranimitaja</i>	<i>Sukrastambha nimittaja</i>
	<i>Sahaja</i>	

Shukrakshaya is a condition seen in *Ksheena-Shukra*. So *Nidana* mentioned for *Shukrakshaya* in the context of *Sukrakshayajanya Klaibya* may also be taken into account as explained in *Sushruta Samhita*, *Yoga Ratnakara* and *Bhava Prakasha*.^[6] Diseases such as *Sthaulya*, *Lingarsha* etc. also act as predisposing factors of *Ksheena-Shukra*. So these *Nidanarthakara Vyadhi* (predisposing diseases or factors) may also be considered as *Nidana*(etiological factors).

Table 1: *Rasapanchaka* of Herbs Used In *Vandhytwa* and *Klaibya* Management ^[7]

Drug	Rasa	Veerya	Vipaka	Guna	Doshagnata	Karma
Endri	<i>Kashaya Tikta</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Laghu</i>	<i>Vata-pitta shaman</i>	<i>Rasayana</i>
Brahmi	<i>Kashaya Tikta</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Laghu</i>	<i>Vatapitta shaman</i>	<i>Rasayana</i>
Durva	<i>Tikta Kashaya Madhura</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Laghu</i>	<i>Kapha-pitta shaman</i>	<i>Prajananakara, Garbhasravahara.</i>
Amalaki	<i>Amla, Madhura Kashaya Katu, Tikta</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Guru Ruksa Sita</i>	<i>Tidosha shamana</i>	<i>Rasayana, Sarvadosahara Garbhashayadourbaly ahara, raktapitthar, pradarahar, Vrushya</i>
Guduci	<i>Tikta Katu Kashaya</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Guru Snigdha</i>	<i>Tridosa</i>	<i>Rasayana, Shukradourbalyhara</i>
Haritaki	<i>Kashaya Amla, Katu, Madhura Tikta</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Laghu Ruksa</i>	<i>Tridosha</i>	<i>Rasayana</i>
Katurohini	<i>Katu Tikta</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Ruksa Laghu</i>	<i>Kapha-pitta shamana</i>	<i>Bhedana</i>
Bala	<i>Madhura</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Snigdha Sita</i>	<i>Vata-pitta shaman</i>	<i>Rasayana, Vrusya</i>
Shatapushpa	<i>Katu Tikta</i>	<i>Ushna</i>	<i>katu</i>	<i>Laghu, ruksha, tikshna</i>	<i>Kaphavatashamana</i>	<i>Raj rodha, Yonoshoola, Kashtartava, Stanyakshaya</i>
Ashwagandha	<i>Tikta, Katu, Madhura</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Laghu, Snigdha</i>	<i>Kaphavatashamana</i>	<i>Stimulant, Aphrodisiac, nerve disorders</i>
Shatavari	<i>Madhura</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Vatapittashamana</i>	<i>Vrushya, stanyajanana</i>
Kushtha	<i>Tikta, Katu, Madhura</i>	<i>Ushna</i>	<i>Katu</i>	<i>Laghu, ruksha, tikshna</i>	<i>Kaphavatashamana</i>	<i>Shukrashodhana, Lekhana</i>
putranjeevaka	<i>Madhura, Katu</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Guru, Picchila</i>	<i>Vatapittashamana</i>	<i>Beeja:-Vandhytwa, garbhastravahar</i>
Jatiphala	<i>Tikta, Katu</i>	<i>Ushna</i>	<i>Katu</i>	<i>Laghu, Tikshna</i>	<i>Kaphavatashamana</i>	<i>Vrushya, Aartavajanan</i>
Gokshura	<i>Madhura</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Vatapittashamana</i>	<i>Vrushya</i>
Kapikacchu	<i>Madhura, Tikta</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Vatashamana</i>	<i>Roots:-amenorrhoea, dysmenorrhoea, Leaves:-aphrodisiac , Seed:-sterility, debility,</i>
Ashoka	<i>Kashaya, Tikta</i>	<i>Sheeta</i>	<i>Katu</i>	<i>Laghu, ruksha</i>	<i>Kaphapittashamana</i>	<i>Garbhashayasankocha ka-uttejaka.</i>

Table 2: Research Studies Available On The Herbs W.R.T Management Principles Of Vandyatwa (Infertility)

No	Drug	Family	Research Study
1	Endri (<i>Bacopa Monnieri</i>)	Scrophulariaceae	Anti-anxiety and adaptogenic, relives stress ^[8]
2	Brahmi (<i>Centella Asiatica</i>)	Umbelliferae	Anti-anxiety and adaptogenic, relives stress
3	Durva (<i>Cynodon Dactylon</i>)	Graminae	Effective in amenorrhea, habitual abortion administration of fresh juice and powder to pregnant women as a supplement drug for a period of 3 months indicated that the juice has significant effect in anaemic pregnant women. ^[9]
4	Amalaki (<i>Emblia Officinalis</i>)	Euphorbiaceae	The patients were administered 2 tabs 3 times a day in addition to regular sulphonylureas over a period of 6 weeks. It showed improvement in glyceimic parameters viz. fasting blood glucose, post lunch blood glucose and fructosamine levels. This indicates that the compound preparation can be used in PCOD leading to infertility. ^[10]
6	Haritaki (<i>Terminalia Chebula.</i>)	Combretaceae	Useful in Seminal defects, Scrotal enlargement.
7	Ashoka (<i>Saraca asoka</i>)	Leguminosae	-It has stimulating effect on endometrium and the ovarian tissue. - Useful in menorrhagia especially due to uterine fibroids, meno-metrorrhagiaand leucorrhoea. - Ayush AC-4 , a composite drug containing <i>Embelia ribes.</i> , <i>Laccardia lacca</i> , <i>Areca catechu</i> and <i>Saraca indica</i> in equal parts, when administered orally (1gm/ day in two divided doses) to 281 women for 15 days, starting from 4th day of menstrual cycle to 18th day, exhibited good contraceptive activity. There was no pregnancy due to drug failure after 10 th cycle. ^[11]
8	Shatapushpa (<i>Anethum sowa</i>)	Umbelliferae	Apiol, myristicine, D-carvone apiol specially caused significant reduction in female fecundity. ^[9]
9	Ashwagandha (<i>Withania somnifera</i> L. Dunal)	Solanaceae	A composite herbal drug preparation containing, <i>Withania somnifera</i> as one of the constituents, was given to 40 patients (women) who complained scanty breastmilk on fifth day after delivery. Increase in the quantity of breastmilk on treatment without any side effect, either to baby or to the mother, was reported. ^[12]
10	Shatavari (<i>Asparagus racemosus</i>)	Liliaceae	Prevents In threatened abortion ^[11]
11	Kushtha (<i>Saussurea lappa</i>)	Compositae	1gm dry powder BD for 60 days clinically significant as Gokshura and more significant in orgasm, semene volume and SLP motility. ^[13]

12	Putranjeevaka (<i>Drypetes roxburghii</i>)	Euphorbiaceae	Increase the sexual desire, penile erection, penile rigidity, ejaculation time orgasm score and duration of sexual act significantly. significant increase in SLP motility there by significant decrease in RLP motility. Decrease in immotile spermatozoa. Decrease in mid-piece and tail abnormality. ^[14]	
13	Jatiphala (<i>Myristica fragrans</i>)	Myristicaceae	Animal study:- Jatiphala has arousal facilitating property by significantly reducing the initial and peak arousal time periods in rat sexual behavioral studies and also by increasing number of mounting behavior. proved to induce sexual arousal.	Claimed to be found effective in improving libido and performance in man in the clinical studies on patients with sexual inadequacy. It increases sexual desires without showing any side effects. -clinically found effective with other drugs in complaints of premature ejaculation ^[8]
14	Gokshura (<i>Tribulus terrestris</i> L.)	Zygophyllaceae	Plant extract rich in protodioscin, a steroidal saponine had evaluated in sexually mature Sprague Dawley rats in the dose of 2.5,5,10mg/kg orally OD for 8 weeks shown significant result in sexual behavioural parameters. There was also increase in intracavernous pressure, signifying aphrodisiac property. -increases testosterone level in the body and treat impotency and decreased sexual arousal. ^[8]	
15	Kapikacchu (<i>Mucuna pruriense</i>)	Fabaceae Nonprotein amino acid levodopa in seeds(4%),	Significantly effective in increasing total sperm count(21.54%, P<0.05) improvement in reducing sperm viscosity. in men sexual disorders as an aphrodisiac, effective in libido and performance in men. ^[15]	
16	Erandamoola (<i>Ricinus communis</i> L.)	Euphorbiaceae	-improvement of sperm count (39.68%) increased rapid linear progressive motility(30.68%) ^[15]	

DISCUSSION

Prajasthapana gana mentioned by *Charaka* has been proved by research its role in infertility. *Endri* and *Brahmi* helps in reliving anxiety and stress, thus plays great role where psychological factors are involved. *Durva* is the best drug for reproductive system and mentioned as a *Prajananakara* and *Garbhasravahara* means it may help in fertility by proper formation and protection of *Beeja*. *Amalaki* has *rasayana* property, according to research it improves glycemic parameters, thus can be thought to be given in insulin resistance found in PCOD. The presence of *Kutaki* in the *Prajasthapana Gana* may indicate the role of liver in

the *Beeja* formation. According to modern science the regulating and excreting system of the hormones include liver as well. The *Bhedana* property of *Katuki* may act by eliminating the obstructions in the *Srotasa (Srotorodha)*^[16] Thus unobstructed channels normalize the *Gati* of *Vata* (i.e. results in *Vatanulomana*) and circulation of *Rasa* and *Rakta Dhatu*. Thus, the *Kutaki* may help in establishing the fertility acting through its *Bhedana Karma* and its action on liver as proved by many experiments. The drugs in *Prajasthapana Gana* i.e. *Mandukaparni, Brahmi, Amalaki, Guduchi, Haritaki, Bala* are *Rasayana* drugs. These drugs are beneficial for all dhatus including *Shukra*. By improving strength of all *Dhatus* including *Rasa* and its *Upadhatu*, may be formation of *beeja* is improved by proper nourishment.

Impotence is of two types viz. psychogenic impotence and organic impotence. Thus where psychological aspect is there the herbs like *Endri, Brahmi* which are *Medhya* in nature plays a great role. The *Kashaya* and *Madhura Rasa, Sheeta veerya* may increases the muscular strength of reproductive system (*Yoni*). These drugs combinely provide with *Poshana* and *Bruhana* of the *Yoni*. Thus enhance the follicular growth by increasing the blood supply and regularising the function of *Bijotsarga* by *Tridosha shamaka* property. *Kapikacchu* is best proven drug for increasing total sperm count and reducing sperm viscosity and also is used clinical practice for infertility widely.

A compound proprietary medicine containing *Mucuna prurience* (seeds), *Tinospora cordifolia* (stem), *Withania somnifera* (stem), *Glycyrrhiza glabra* (stem), *Myristica fragrans* (fruit) and *Tribulus terrestris* (fruit) was administered orally 2 tablets twice a day to 56 patients of sexual dysfunction for 4 weeks showed an excellent improvement in erection dysfunction, duration of coitus and ejaculation and post-coital satisfaction has been reported. In another trial sixty cases with specific sexual problems were treated with the same medicine in doses of 2 tablets twice a day and its effects on sexual performance of two third cases showed subjective improvement ranging from 25% to 100%. The remaining one third were refractory to the treatment.

Dopamine receptor plays important role in normal erectile dysfunction. Occurrence of levodopa in the seeds of *Kapikacchu* rationalizes their use in the condition.^[9] *Erandamoola* has proved to be effective in improvement of sperm count and increasing rapid linear progressive motility.^[15] Herbs like *Kushtha (Saussarea lappa)* and *Putranjeevaka (Drypetes roxburghii)* has proved for its role in orgasm and increasing SLP motility of sperm. *Shatavari* is used in threatened abortion as *shatavarin-1* has shown the properties of blocking oxytocin

induced contractions in rat, guinea pig and rabbit utri in vivo and in situ. In *Gokshura*, it is conjectured that protodioscin gets metabolized to an androgen which causes aphrodisiac properties. It has been found to increase testosterone level in the body and treat impotency and decreased sexual arousal.^[9]

A controlled trial carried out on a compound drug having *M.fragrans* as one of the ingredients with *shilajeeta*, *daruharidra*, *Amalaki* and *Vacha* has shown improvement in 18 out of 30 patients complaining of premature ejaculation. Mustong a commercial preparation containing *Mucuna pruriens*, *Glycyrrhiza glabra*, *Withania somnifera*, *Tribulus terrestris* and *Myristica fragrans* has found effective in improving libido and performance in man in clinical studies.

A clinical trial was conducted on 20 patients of oligomenorrhoea, in which a proprietary herbal preparation, consisting *Saraca asoka* as one of the ingredients, was administered in doses of 2 tsf b.d. for three months and then followed up at regular intervals of one month. Out of 20, 4 patients conceived during study period which indicates that the preparation is beneficial in infertility and scanty menstruation.

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In another trial sixty cases with specific sexual problems were treated with the same medicine in doses of 2 tablets twice a day and its effects on sexual performance of two third cases showed subjective improvement ranging from 25% to 100%.

CONCLUSION

For the management of infertility (*Vandhyatwa* and *Klaibya*) the drug mentioned in *prajasthapana gana* and *Shukrashodhana gana* along with *Ashwagandha*, *Shatavari*, *Kapikacchu*, *Erandamoola*, *Kushtha*, *Jatiphala*, *Putranjeevak* etc. are useful.

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