



Research Article

A CLINICAL STUDY TO EVALUATE THE EFFECT OF NIMBA TWAK KASHAYA PRAKSHALANA IN KAPHAJA YONI VYAPAT W.S.R TO VULVO VAGINAL CANDIDIASIS (CANDIDA ALBICANS)

Athiralekshmi S V^{1*}, Savita Patil²

*¹Assistant Professor on contract, Dept. of Prasuti-Sthreeroga, Govt. Ayurveda College, Kannur.

²Professor, Dept. of Prasuti-Sthreeroga, Sri Sri College of Ayurvedic Science and Research, Bangalore, Karnataka India.

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ABSTRACT

Kaphaja Yoni Vyapat is described as a condition where symptoms like *Picchila* and *Sheetala* discharge from vagina occurs with *Kandu*, *Mandaruja*, *Artava-dushti* and *Pandu*. The symptoms of *Kaphaja Yoni Vyapat* mentioned in Ayurvedic literature appears similar to the clinical features of vulvo vaginal candidiasis. It is the second most common infection among women in reproductive age group with a single incidence of 75%, and two or more episodes in 45% of women. *Candida albicans* is responsible for 85% to 90% of the vaginal yeast infections. Here an attempt was done to screen, isolate and treat the diagnosed cases of *Kaphaja Yoni Vyapat* w.s.r to *Candida albicans* through *Nimba Twak Kashaya & Triphala Kashayaprakshalana*. The objective of this study was to evaluate the efficacy of *Nimba Twak Kashaya Prakshalana* and to compare it with *Triphala Kashaya Prakshalana* in *Kaphaja Yoni Vyapat*. 63.09% had complete relief from *Yoni Srava*, 97.9% had complete relief from *Yoni kandu*, 100% had relief from *Yoni vedana*, 93.99% had complete relief from vulval rashes, 76.88% had normal vaginal pH, 95% had no candida in vaginal wet mount. Overall 88.23% showed improvement in Group A and 87.38% showed improvement in Group B. *Nimba & Triphala* has *Tikta* and *Kashaya rasa*, *Kaphahara*, *Krimighna*, *Kandughna* and *Grahi* properties. It has anti-fungal & anti-pruritic action also. Thus *Prakshalana* with above said drugs directly acted on the vaginal mucosa and enabled easier target specific action and did the inhibitory action against growth of *Candida albicans*.

INTRODUCTION

Prime source of genesis of human race is *Stree*. Owing to this fact *Stree Roga* has its immense importance in the field of medicine^[1]. When women indulge in *Mitya Aahara -Vihara* it leads to *Dushti* in *Yoni pradesha* leading to *Yoni Rogas*. Most of the gynecological disorders like different types of vaginal discharges, infections, congenital anomalies and displacements^[2] have been explained under 20 *Yoni vyapats*. *Kaphaja yoni vyapat* is characterized by clinical features of *Kapha Vriddhi*^[3]. The aggravated *Kapha* along with abnormal functions of *Vata* reaches the reproductive organs of women; results in

Kandu (itching in vulva and vagina), *Sheeta* (discharge without warmth), *Picchila* (slimy mucoid discharge), mild pain and pallor of the vulva. The symptoms of *Kaphaja Yoni Vyapat* mentioned in Ayurveda literature appear similar to the clinical features of vulvo vaginal candidiasis. It is the second most common infections among reproductive aged women with a single incidence of 75%, and two or more episodes in 45% of women^[4]. *Candida albicans* is responsible for 85% to 90% of the vaginal yeast infections. The pathogen can be differentiated by certain clinical criteria as well as microscopy^[5]. Nature and quantity of discharge varies from mild to severe which may hamper even daily routine activities as well as symptoms are most often stubborn which need effective treatment.

Yoni rogas can be better managed with usage of medicines locally rather than oral route to give optimum relief to morbid woman. Among the various treatment modalities of *Yoni Vyapat*, the emphasis given to *Sthanika Chikitsa*^[6]. The mode of approach

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through the local route with or without oral treatments is with the aim to give optimum relief to the suffering women. The reference clearly states that the purification of *Yoni* happens with *Prakshalana*, which means washing. So *Yoni prakshalana* is washing the *Yoni*, usually done with medicated decoction. By *Yoni Prakshalana*, vaginal muscles get strengthened, *Yoni* becomes clean and fresh, thus it prevents fungal and yeast infections. Thus for this study *Nimba twak kashaya* for *Prakshalana* which is explained in *Gadanigraha* under *Yonigaadikarana Adhyaya* [7] and *Triphala kashaya prakshalana* which is already proven has been taken. *Nimba & Triphala* having *Tikta* and *Kashaya rasa*. It is *Kaphahara, Krimighna, Kandughna* and it has anti-bacterial, anti-viral, anti-fungal and anti-pruritic actions. *Nimba twak kashaya & Triphala kashaya* is used for *Stanika chikitsa* as *Yoni prakshalana*. It will directly act on the vaginal mucosa and enables easier target specific reaction. Also helps to clear the vagina and re-create optimum vaginal health by providing purifactory effect.

AIMS AND OBJECTIVES

- To evaluate the effect of *Nimba Twak Kashaya Prakshalana* in *Kaphaja Yonivyapat*.



Photograph 1: Showing *Nimba Twak Kashayam*



Photograph 2: Showing *Triphala Kashayam*

Diagnostic Criteria

Diagnosis was done on the basis of the local signs and symptoms of *Kaphaja yoni vyapat* as described in the texts.

Curdy white discharge per vagina, itching in the vagina and vulva, mild pain in vagina or lower abdomen, per speculum examination to know the nature of discharge and condition of cervix, vaginal smear with positive *Candida albicans* were taken for study.

Inclusion Criteria

Married women, subjects aged between 20 to 40 years, subjects full filling the above mentioned diagnostic criteria. The patients who were found positive for *Candida albicans* with pseudohyphae on microscopic examination of wet vaginal smear were incorporated in this study.

- To re-evaluate the effect of *Triphala Kashaya Prakshalana* in *Kaphaja Yonivyapat*.
- To compare the effect of *Nimba Twak Kashaya Prakshalana & Triphala Kashaya Prakshalana* in *Kaphaja Yonivyapat*.
- To review the literature of *Kaphaja Yoni Vyapat*.

MATERIALS AND METHODS

Nimba twak kashaya for *Prakshalana* has been explained in *Gadanigraha* under *Yonigaadikarana adhyaya*. *Triphala* is a proven drug for *Kaphaja yoni vyapat*. *Nimba* and *Triphala* having *Tikta* and *Kashaya rasa*. It is *Kaphahara, Krimighna, Kandughna* and it has anti-bacterial, anti-viral, anti-fungal & anti-pruritic actions. *Nimba twak kashaya & Triphala kashaya* were used for *Stanika chikitsa (Yoni prakshalana)*.

Method of Drug Preparation

Nimba twak was collected and dried under sunlight. *Triphala kwatha choorna* was taken from hospital pharmacy. *Kashayam* was prepared acc to *Sharangadara's kashaya kalpana* i.e., 1:16:8. 500grams of drug: 4 litre of water: boiled and reduced to 1 litre. The prepared *Kashayam* was filtered and used for *Praksalana* in bearable temperature.

Exclusion Criteria

Unmarried women, post menopausal, cervical erosion, CA of cervix, pregnancy, sexually transmitted diseases, diabetes mellitus, anaemia, under prolonged use of antibiotics, local skin lesions, pelvic inflammatory disease were excluded from the study.

Method of Research

The method adopted in present study is convenient sampling. The data was analyzed by SPSS software version 20. The statistical tests used in the study are

1. Paired and Unpaired t test for objective parameters,
2. Mann-Whitney test and Wilcoxon signed rank test for subjective parameters.

Before starting the study, Informed consent was taken from individual subjects.

Treatment Protocol**Table 1: Showing the Treatment Protocol**

| S. no | Group | Group | Medication | No of patients | Days |
|-------|---------|---------------|--|----------------|------|
| 1 | Group A | Control group | <i>Triphala Kashaya Prakshalana</i> (once daily) | 20 | 7 |
| 2 | Group B | Trial group | <i>Nimba twak Kashaya Prakshalana</i> . (once daily) | 20 | 7 |

OBSERVATION AND RESULTS

The present study revealed the presence of *Kaphaja yoni vyapat* was more in the females of reproductive age group between 31 to 40 years with 60%. In *Ahara* pattern, 57.5% had *Kapha prakopa* especially *Abhishyandi ahara*. According to BMI, 32.5% had over weight and 65% had sedentary life style. 65% of subjects had moderate degree of dyspareunia. Sexual intercourse was the aggravating factor in 48.6% subjects.

All subjects taken for the study had *Yoni Srava* i.e., *Picchila* and *Sheeta srava* and *Yoni kandu*. In 40 subjects 29 subjects had *Yoni vedana* and 11 subjects did not had. All subjects had changes in the vulva, among that 20 subjects had moderate changes and 20 subjects had severe changes. Out of 40 subjects, 29 subjects had mild and 10 subjects had moderate and 1 subjects had severe change in the vaginal pH. All the subjects had candida albicans with pseudohyphae in wet mount under microscope. When we compare changes in the vulva between the groups, both group had same result with the mean of 0.15 and it is statistically insignificant with p value 1.00. In Group A, improvement was seen with mean of 0.15 after the treatment and 0.10 after follow up. It is statistically highly significant with p value 0.000. In Group B, after treatment showed improvement with mean of 0.15. It is highly significant with p value 0.000. Presence of candida albicans in vaginal wet mount before & after treatment in Group A and B, after treatment showed improvement with mean of 0.05. It is statistically highly significant with p value 0.000.

Table 2: Showing the Effect of *Prakshalana* on Different Parameters of Group A

| Parameters | Mean Score | | % Relief | SD | SE | T | P | Significance |
|----------------------|------------|------|----------|-------|-------|--------|-------|--------------|
| | B.T. | A.T. | | | | | | |
| Changes in the vulva | 2.40 | 0.15 | 93.75 | 0.366 | 0.082 | 18.291 | 0.000 | HS |
| Vaginal wet mount | 1.00 | 0.05 | 95 | 0.224 | 0.050 | 19.000 | 0.000 | HS |
| Vaginal pH | 1.30 | 0.25 | 80.76 | 0.444 | 0.099 | 6.185 | 0.000 | HS |
| <i>Yoni Srava</i> | 2.10 | 0.80 | 61.9 | 0.410 | 0.062 | 12.252 | 0.000 | HS |
| <i>Yoni Kandru</i> | 2.50 | 0.05 | 98 | 0.224 | 0.055 | 7.586 | 0.000 | HS |
| <i>Yoni Vedana</i> | 0.470 | 0.00 | 100 | 0.00 | 0.075 | 6.050 | 0.000 | HS |

Table 3: Showing the Effect of *Prakshalana* on Different Parameters of Group B

| Symptoms | Mean Score | | % Relief | SD | SE | T | P | Significance |
|----------------------|------------|------|----------|-------|-------|--------|-------|--------------|
| | B.T. | A.T. | | | | | | |
| Changes in the vulva | 2.60 | 0.15 | 94.23 | 0.366 | 0.082 | 18.116 | 0.000 | HS |
| Vaginal wet mount | 1.00 | 0.05 | 95 | 0.224 | 0.050 | 19.000 | 0.000 | HS |
| Vaginal pH | 1.30 | 0.35 | 73 | 0.489 | 0.109 | 7.025 | 0.000 | HS |
| <i>Yoni Srava</i> | 2.10 | 0.75 | 64.28 | 0.444 | 0.052 | 11.252 | 0.000 | HS |
| <i>Yoni Kandru</i> | 2.30 | 0.05 | 97.8 | 0.224 | 0.055 | 6.586 | 0.000 | HS |
| <i>Yoni Vedana</i> | 0.444 | 0.00 | 100 | 0.000 | 0.085 | 6.050 | 0.000 | HS |

DISCUSSION

Kaphaja Yonivyapat is one of the *Vimshati Yonivyapat* which is caused by vitiation of *Kapha Dosa*. Local symptoms along with some general symptoms like pallor of the whole body as well as the vagina have been explained with the view of *Kapha* being increased

in the whole body. Both Vagbhatas have included painlessness [8]. It can be inferred that as *Kapha* is generally not accompanied by pain, it is not mandatory to have *Yonivedana* associated with it. *Acharya Susrutha* has mentioned only local symptoms

emphasizing the distress of the women. In the present study considering different view's, *Acharya Charaka's* description was taken for analysis^[9].

On the basis of clinical features and principles of treatment, *Kaphaja Yonivyapt* seems to be nearer to the description of Vulvo Vaginal Candidiasis caused due to *Candida albicans*. It is characterized by vaginal discharge, pruritis, pain, dyspareunia^[10]. The slimy and adherent discharge and pruritis^[11] being the cardinal symptoms bears resemblance to the *Lakshanas* of *Kaphaja Yoni vyapat*. The adherent flaky patches seen on per speculum examination in VVC is another feature of *Kapha prakopa*. The organism is yeast which has more virulence in acidic medium^[12]. This acidity is caused due to the breakdown of glycogen in the vagina. The diet prescribed for candidiasis includes avoidance of carbohydrates and high sugar foods, which is similar to *Kapha vrudhikara ahara* mentioned in the *Nidana* for *Kaphaja Yonivyapat*.

Mode of Action of Drug

Nimba twak kashaya for *Prakshalana*, is explained in *Gadanigraha* under *Yonigaadikarana adhyaya*. *Nimba* is having *Tikta* and *Kashaya rasa*, *Kaphahara*, *Krimighna*, *Kandughna* and *Grahi* properties^[13]. Considering the above said properties, *Nimba twak kashaya prakshalana* was selected for this study. *Nimba* belongs to *Meliaceae* family, commonly found in India, Pakistan Bangladesh, and Nepal. *Azadirachta indica* has complex of various constituents including nimbin, nimbidin, nimbolide, and limonoids and such types of ingredients play role in diseases management through modulation of various genetic pathways and other activities^[14]. Quercetin and β -sitosterol were first polyphenolic flavonoids purified from fresh *Neem* and were known to have antifungal and antibacterial activities. Plant parts show antimicrobial role through inhibitory effect on microbial growth/potentiality of cell wall breakdown. The studies have proven that Chemical constituents of *Neem* leaf shown inhibitory action against *candida albicans*. Nimbidol and edunin are present in both leaf and bark. Thus in this study, anti-fungal effect of nimbidol and edunin showed inhibitory effect on *candida albicans* and prevented VVC.

The *Grahi* property of *Nimba* helped in *Yoni srava*. Nimbin in *Neem* bark has the property of anti-pyretic, thus it acted on *Yoni Kandu* and rashes in the vulva. Nimbidin suppresses the functions of macrophages and neutrophils relevant to inflammation and also shows analgesic effect. Thus it helped in the symptoms of splash dysuria and dyspareunia. As a whole, *Nimba twak kashaya* helped in relieving the symptoms of *Kaphaja yoni vyapat* like *Yoni srava*, *Yoni kandu* and *Yoni vedana*. It also acted on *candida albicans* by its inhibitory effect.

Mode of action of Prakshalana

The vagina is a potential space that connects the lower portion of the uterus to the outside environment. The drug administered through vagina are affected by a number of factors, such as a) Diffusion through the cell, b) Vesicular or receptor-mediated transport mechanism, c) Diffusion between cells through the tight junctions. In some cases, drugs given by the intravaginal route have a higher bioavailability compared to the oral route as it by passes the liver. Vaginal wall is very well suited for the absorption of drugs for systemic and local effect, since it contains a vast network of blood vessels.

In Ayurveda, the concept of *Sthanika chikitsa* has been well researched^[15]. The results show that, it was not just a topical application, but a method of medication that clears and restores the vaginal flora. Among them *Prakshalana* can prove to be an effective and easy mode of treatment. The *Kashayam* has low molecular weight, which improves the vaginal absorption. Mode of action of *Prakshalana* depends on the drug used. Target specific action can be achieved by using appropriate drugs. Large permeation area, rich vascularization and relatively low enzymatic activity helps absorption faster. From the study it was observed that, time taken for the treatment was 20 mints. Thus effective result can be achieved by short duration of the treatment.

CONCLUSION

Nimba & Triphala having *Tikta* and *Kashaya rasa*, *Kaphahara*, *Krimighna*, *Kandughna* and *Grahi* properties. It has anti-fungal & anti-pruritic action also. Thus *Prakshalana* with above said drugs directly acted on the vaginal mucosa and enabled easier target specific action and did the inhibitory action against growth of *candida albicans*. It also acted on the symptoms of *Yoni srava*, *Yoni kandu* and *Yoni vedana*. Here when we compare the effect in *Yoni kandu* and *Yoni srava*, *Nimba twak kashya prakshalana* showed better result than *Triphala kashaya prakshalana*. But when we statistically compare, 7 days of *Nimba Twak Kashaya prakshalana* found to be equally effective with 7 days of *Triphala kashaya prakshalana* in the management of *Kaphaja Yoni Vyapat* w.s.r to Vulvo Vaginal Candidiasis.

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***Address for correspondence**

Dr. Athiralekshmi S V

Assistant Professor on contract,
Dept. of Prasuti-Sthreeroga,
Govt. Ayurveda College, Kannur,
India.

Phone no: 9886612840

Email: lekshmiardra9@gmail.com

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