

FENUGREEK DECOCTION PERINEAL WASH FOR NONPREGNANT WOMEN WITH VAGINAL DISCHARGE SYMPTOMS

Ganapathy Thilagavathy

OBG Nursing, The Oxford College of Nursing, India

Corresponding Author Email: thilkg@gmail.com

ABSTRACT

Background: Fenugreek seeds (*Trigonella foenum-graecum*, L. Leguminosae) is a traditional herbal medicine considered as one of the herbal supplements for vaginal discharge symptoms since antiquity for its antioxidant & anti-inflammatory properties.

Aim: To evaluate the effects of fenugreek seeds decoction in perineal wash among non pregnant women with vaginal discharge symptoms.

Methods: A community based interventional study was conducted among 113 non pregnant reproductive age group women who reported of vaginal discharge symptoms at the Hulimavu Arekare PHC area of Bangalore, South Karnataka was chosen to evaluate the effects of fenugreek seeds decoction perineal wash on the reduction of vaginal discharge symptoms. The Numerical Graphic Rating Scale (NGRS) was used to evaluate the subjective reports of reduction in the vaginal discharge and vulval itching with the fenugreek seeds decoction perineal wash for twenty eight consecutive days.

Results: Among the 227 women surveyed, 50% (113) reported vaginal discharge symptoms and vulval itching within the previous thirty days. There was clinically a significant reduction in the subjective reports of vaginal discharge (mean score 8.988 (SD=8.171) to 2.531 (SD=0.401) and vulval itching with mean score 8.947 (SD=8.813) to 2.711 (SD=0.791) severity at the end of the twenty eight days of treatment with the fenugreek decoction perineal wash, “Z”= 8.876 and “Z”= 8.621 at $p<0.001$ respectively. There was no significant association between the effects of fenugreek decoction perineal wash with age, duration of married life and parity. Majority of the participants (89.7%) expressed that they would recommend this fenugreek decoction perineal wash to friends and relatives who suffer with vaginal discharge symptoms.

Conclusion: Fenugreek seeds decoction perineal wash significantly reduces vaginal discharge and vulval itching with no reports of clinically significant harmful adverse effects among non pregnant child bearing women.

Keywords : *Fenugreek seeds decoction, perineal wash, reproductive age women, vaginal discharge symptoms.*

INTRODUCTION

Excessive vaginal discharge is a common gynecological problem among the reproductive age group of women in South India, where about a 30% of women reports this complaint (Thulkar, Kriplani & Agarwal, 2010). Majority of women bear the problems silently without seeking any advice and medical treatment due to shyness, lack of awareness or lack of escort. Many women believe that reproductive health problems like discharge or gynaecological pain – are

simply 'women's fate' and therefore, not a condition for which they should seek medical help. Moreover, they are generally reluctant to discuss their genital health problems with their husbands or healthcare providers. But these disorders have substantial impact on female reproductive ability, mental health and ability to work and perform routine physical activities (Kulkarni & Durge, 2005).

Ministry of Health and Family Welfare Government of India (2007) has recommended

syndromic management, in which women complaining of vaginal discharge are treated for some or all of the five common reproductive tract infections (RTIs) namely Chlamydia trachomatis infection, gonorrhoea and trichomoniasis. These are sexually transmitted infections (STIs) and bacterial vaginosis (BV) and candidiasis, which result from disturbances in the normal bacterial flora of the vagina. Through this approach, a health worker at the most peripheral level without using laboratory support, can diagnose reproductive infections and accordingly prescribe treatment or advise referral of the patient.

However, recent evidence suggests that the association between the complaint of vaginal discharge and the presence of RTIs is weak. As a result, the syndromic approach for the treatment of vaginal discharge leads to inappropriate treatment in a high proportion of cases and the economic and social cost of incorrectly labeling a woman as suffering from an STI is inestimable (Trollope, 1999). Despite the poor correlation between RTIs and vaginal discharge, the syndromic approach remains the cornerstone of intervention programmes for women with vaginal discharge symptoms (Vikram, 2005). In such contemporary paradigm traditional herbal medicine plays a pivotal role to give a complete relief to the sufferer.

The World Health Organisation (WHO) has been advocating and promoting the practice of traditional medicine as an alternative means of primary health care for the relief of ailments, preventive and rehabilitation activities to lessen hospital admissions and specialist care. A majority of the world's population in developing countries still relies on herbal medicines to meet its health needs. Herbal medicines are often used to provide first-line and basic health service, both to people living in remote areas where it is the only available health service and to people living in poor areas where it is the only affordable remedy. Even in areas where modern medicine is available, the interest on herbal medicines and their utilization have been increasing rapidly in recent years (WHO 2000).

Fenugreek has a long history of medical uses in Ayurvedic and Chinese medicine, and has been used for numerous gynecological, hormonal and reproductive problems such as leucorrhoea, menstrual disorders, inflammations, labor induction and stimulation of

lactation. Antidiabetic, antioxidant, anticarcinogenic, anthelmintic, antiulcer, antifertility, immunomodulatory effect, enzymatic pathway modifier, hypoglycemic activity, hypocholesterolemic activity are the major medicinal properties of the fenugreek demonstrated in various studies. High fibre content, protein content, gummy nature and other bioactive compounds make it a health promoting herb naturally. Fenugreek extract contains apigenin, genistein, kaempferol, quercetin, rutin, selenium and superoxide-dismutase. Fenugreek seeds are rich source of trigonelline, lysine and l-tryptophan, saponins, proteins, vitamins such as thiamine, folic acid, riboflavin, niacin, vitamins A, B6, C, K and minerals such as copper, potassium, calcium, iron, selenium, zinc, manganese, and magnesium. Fenugreek is one of the richest sources of phytoestrogens and is thus a very useful spice for women who have low estrogen levels especially in early menopause and surgical menopause cases (Basch, *et al.*, 2003; Meghwal & Goswami, 2012).

Women who suffer from vaginal discharge symptoms need natural remedies that are cost effective, beneficial, safe, less likely to cause complications and easy to administer at home. Fenugreek seeds need to be considered as a promising protective traditional medicinal herb for non-invasive treatment option in caring for women with vaginal discharge symptoms.

Available research focuses on medical intervention strategies to treat vaginal discharge symptoms. There is no research till date that has investigated the effects of fenugreek seeds decoction on vaginal discharge symptoms. Considering traditional herbal treatments as an alternative to main line medicine which is becoming unconventional and uneconomical, more attention needs to be given to alternatives. Fenugreek seeds therapy is one such non-pharmacological treatment that is worthy of further attention. Therefore, the purpose of this study was to determine the effects of a relatively simple, cross culturally appropriate and commercially available *Trigonella foenum-graecum* L. Leguminosae seeds decoction perineal wash on reduction of the vaginal discharge symptoms.

METHODS

Study design: An interventional study was conducted to evaluate the effects of fenugreek seeds decoction perineal wash for vaginal discharge symptoms among

reproductive women at Hullimavu area under Arekare PHC, Bangalore South Karnataka from February, 2014 to March, 2015. This area is populated with socio economically deprived and informally settled migrants from various parts of the states with low levels of education and poor physical infrastructure. The research consists of two sequential parts - a recruitment phase and a treatment phase of four weeks (Twenty eight consecutive days).

Sample size: The sample size was calculated based on the prevalence rate of vaginal discharge symptoms among women in 15-49 years of age as 50%. The permissible level of error as 10% with 95% confidence limits and an alpha level of 0.05 (two tailed) to evaluate the primary outcome. Thus there were subjective reports of reduction in the vaginal discharge and vulval itching. Thus the sample size of the present study was computed to be 81 women. A total of 113 reproductive age group women who met the inclusion criteria and exclusion criteria were recruited. Subject eligibility was determined by history of vaginal discharge and vulval itching within the previous 30 days using the WHO vaginal discharge flow chart.

During the recruitment phase, a total of 113 potentially eligible women who reported vaginal discharge and vulval itching were provided with detailed information about the research objective, study procedure, potential benefits and risks. When patients showed willingness to participate, an informed consent was obtained and baseline assessment of vaginal discharge and vulval itching was done based on Numerical Graphic Rating (NGRS)-10mm Scale.

Inclusion criteria: Women in the age group 15-49 years, married, sexually active and who complained of excessive vaginal discharge, vulval itching within the last 30 days and willing to participate in the study were included.

Exclusion criteria: Women who were pregnant, with systemic illness, history of allergic reactions, postpartal, abortal period, pelvic inflammatory diseases, abdominal pain and genital ulcers were excluded from the study.

Intervention: Fenugreek seeds decoction perineal wash: This method involved boiling the water with 10 grams of fenugreek seeds on a low flame for 10-15 minutes. Then cooling and straining of the liquid was

done. Then the decoction was used for perineal wash twice a day for twenty eight consecutive days. The fenugreek seeds were procured from local market in one lot and 10 grams seeds were measured by Braun weighing scale, packed in a cover and the packets were given to each participant per day over a period of twenty eight days. In compliance to the treatment it was checked by the researcher by collecting the boiled fenugreek seeds and supplying with fresh 10 grams fenugreek seeds for their use.

Criteria for assessment: Assessment criteria were based on the objective assessment of subjective reports of reduction in vaginal discharge and vulval itching on the Numerical Graphic Rating -10mm Scale (NGRS) as no discharge/vulval itching with score 0, mild discharge/vulval itching score ranging from 1-3, moderate discharge/vulval itching score ranging from 4-6 and severe discharge/vulval itching score ranging from 7-10 on NGRS.

Data collection: House to house survey was done with the help of community health workers to identify the women with vaginal discharge and vulval itching within the previous 30 days with the WHO vaginal discharge flow chart. Of 227 child bearing women surveyed, n=113 women with vaginal discharge symptoms were identified and referred to PHC. During the first visit, potentially qualified women were provided with detailed information about this study, including the research objective, study procedure, potential benefits and risks. When they showed willingness to participate, informed consent were obtained and documented.

Baseline characteristics of the participants such as age, education, income, parity, type of delivery, abortion, contraception usage, vaginal discharge characteristics-color, consistency, odor, duration of the symptoms during the past month and severity of vulval itching were collected. This was followed by baseline assessment of the subjective reports of participants with vaginal discharge and the vulval itching by 0-10 mm Numerical graphic Rating Scale (NGRS).

The participant's subjective reports of vaginal discharge and vulval itching were assessed before and after fenugreek seeds decoction perineal wash for twenty eight consecutive days by NGRS-10 mm. At the end of four weeks treatment each participant was

interviewed by satisfaction questionnaire to evaluate the subjective experience of the treatment and the mean percentage of their experiences was computed.

Ethical considerations: The research protocol followed the Declaration of Helsinki ethical principles. Ethical permission was obtained from the District Maternal child Health & Family Welfare officer and Medical officer of the Arekare PHC. An informed consent for participation in the study was taken from the participants, with the provision that the consent may be withdrawn at any time. Safe guarding confidentiality of any obtained information was ensured to them.

Statistical analysis: Data were analyzed by descriptive and inferential statistics. Sample baseline characteristics and baseline vaginal discharge and vulval itching were analyzed by descriptive statistics in terms of frequency and percentage. The significant differences in the mean pre and post intervention scores were analyzed by Wilcoxon signed rank test. Association between the vaginal discharge symptoms and the baseline variables were analyzed by Chi square/Fisher's exact probability test and the level of significance was at $P < 0.05$. The participants satisfaction questionnaire was assessed by mean percentage. The analyses were performed with the SPSS version 17 (SPSS inc., Chicago, IL).

RESULTS:

Prevalence of vaginal discharge symptoms:

Of the 227 reproductive age group women surveyed 50% (113) reported vaginal discharge and vulval itching. Among the 113 women 99 (88%) consented to participate in the study and the rest $n=14$ (12%) declined to participate in the study stating that they were not interested to participate in the study stating that their family members had not permitted them.

Sample characteristics:

The participants mean age was 32.4 yrs (SD=5.1) ranging from 21-47 years. With regard to duration of married life the mean duration in years were 11.4 (SD=6.3) and the mean number of children were 2.1 (SD=0.9). The usages of contraception were very minimum among them with 13 participants (11.5%) using it. The pre intervention vaginal discharge scores

and vulval itching (NGRS) were ranging from 4-10 mm with the mean discharge scores of 8.988 (SD=8.171) and vulval itching 8.947 (SD=8.813).

Overall withdrawal rates:

Ten participants (10.1%) were noncompliant with the frequency of the treatment for varying reasons such as forgetfulness, travel, menstruation, ceremonies and they were dropped from the study after five to nine days without replacements. Five participants (5.01%) migrated to some other place and these attritions were not replaced. The final analyses involved a total of 84 participants who complied with the intervention protocol.

Non compliance:

Noncompliance was defined as participants not taking fenugreek seeds decoction self perineal wash for minimum of two days during the four weeks of treatment.

Effects of fenugreek seeds decoction self perineal wash on participant's subjective reports of vaginal discharge and vulval itching:

The findings of the present study showed that there was clinically a significant reduction in the vaginal discharge (8.988+ 8.171 mm Vs 2.531 + 0.401mm) and vulval itching severity (8.947+ 8.813 mm Vs 2.711+0.791 mm), at the end of the four weeks of treatment among the participants with the diminished vaginal discharge scores of 6.46 mm, and vulval itching 6.24, “Z”= 8.876 and “Z”= 8.621 at $p < 0.001$ respectively Table-1). There was no significant association between the effects of fenugreek decoction perineal wash with age, duration of married life and parity at 5% level of significance. Majority of the participants 89.7% reported that they felt physically and mentally more fit, emotionally relaxed and comfortable with the treatment.

Table 1: Analysis of significant difference in the vaginal discharge symptoms N=84

Variables	Pre Intervention	Post Intervention			
	Mean ± SD	Mean ± SD	Mean difference	“Z” value	P value
Vaginal discharge	8.988 ± 8.171	2.531 ± 0.401	6.457	8.876	$P < 0.001$

DISCUSSION

A vaginal discharge symptom is the second most common gynecological problems after menstrual disorders that affect women during their child bearing period. In this study among 227 reproductive age group women surveyed, 50% (113) reported vaginal discharge and vulval itching within the previous 30 days without any risk factors. Congruent with the findings reported by Shazia (2009), it can be said that the highest gynecological morbidity found among women who visit the gynecological department report was vaginal discharge symptoms (84%).

These women ignored the symptoms without seeking any type of treatment due to embarrassment, fear, with most women believing that that they would be diagnosed as having vaginal infections. O'Dowd, Parker, & Kelly (1996) retrospective study on women's experiences of general practitioner management of their vaginal symptoms reported a similar findings that there is a common clinical misconception among general practice that a vaginal discharge is synonymous with a vaginal infection and most were managed as bacterial and candidial vaginosis. However recent evidence suggests that the association between the complaint of vaginal discharge and the laboratory confirmed RTIs is weak and most patients presenting with vaginal discharge will have either a physiological or a non-sexually transmitted infective cause, and these can be managed with the help of primary care (Vishwanath, et al., 2000). In such medical paradigm, traditional herbal medicine may be considered as an alternative treatment to minimize the occurrence of vaginal discharge symptoms. The present study revealed that fenugreek seeds decoction is a traditional, safe herbal therapy for vaginal discharge symptoms and it demonstrated the efficacy of fenugreek seeds decoction on the participants subjective reports of reduction in the vaginal discharge and vulval itching severity at the end of the four weeks of treatment among the participants at $p < 0.001$ level. This could be possible as fenugreek has enzymatic pathway modifier properties.

Majority of the participants (89.7%) reported that they felt physically and mentally more stable, emotionally relaxed and comfortable with the treatment. Supportive findings were reported by Kumar & Choyal, (2012) who investigated the use of herbal plants for the treatment of leucorrhoea. Among

local tribal women there was prevalence of use of fenugreek seeds, leaves in the form of powder for leucorrhoea and other gynecological problems. This highlights the fact that fenugreek is one of the oldest medicinal plants known to man and has been used for hundreds of years to treat ailments and large number of population are fully aware of the importance of herbal medicines and recognize them as valuable and readily available resources to use it appropriately.

Limitations

The limitation of the study was that the assessment of vaginal discharge and vulval itching were by the subjective reports of women and not by diagnostic criteria as the purpose of the study was not concerned with the etiology of the vaginal discharge. The study findings may have limitations for generalization as the samples were pooled from single setting.

Recommendations

Longer-term studies on fenugreek seeds decoction are required on larger number of child bearing women with vaginal discharge symptoms to advance the existing knowledge base and extend this home treatment to increased number of silent sufferers.

Implications for practice:

In the present study the fenugreek seeds decoction perineal wash had a significant impact on reduction in vaginal discharge and vulval itching with no reports of harmful adverse effects. Thus the fenugreek seeds decoction perineal wash may be recommended as one of the safe herbal home remedy for women with vaginal discharge symptoms.

CONCLUSION

The current study findings revealed that fenugreek seeds, known for its anti inflammatory and immune modulatory activity, may be a promising protective medicinal herb for consideration as an alternative therapy in women with vaginal discharge symptoms. This study will be helpful to carry out more scientific investigations to prove the medicinal properties of fenugreek in human volunteers with gynecological problems.

ACKNOWLEDGMENT

I am grateful to all the participants, community health workers, obstetricians and medical superintendents of the study setting and statistician for their support.

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