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EFFICACY OF HAMūL OF MARHAME DAKHILYUN AND ROGHANE SAUSAN IN CERVICITIS (ILTIHAB-E-UNUQ-UL- REHAM)- AN OPEN OBSERVATIONAL CLINICAL STUDY

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ABSTRACT

Background and objective: Cervicitis are an inflammatory condition of the cervix. This may be acute, chronic, active & specific or non-specific, which may cause various sign & symptoms. Abnormal vaginal discharge, lower abdominal pain, lower backache, post coital bleeding. If not treated timely it causes various complications viz PID, infertility, endometritis, ectopic pregnancy etc. Hence it has been decided to conduct a clinical trial for its management.

Method: This study was an open observational study. The entire patients were allocated by considering the criteria of inclusion & exclusion. *Marhame dakhilyun* with *roghane sausan* is given 10 mg as *ḥamūl* at bed time, after menses for 21 days. All the patients were assessed by primary outcome of abnormal vaginal discharge, lower abdominal pain, lower backache, post coital bleeding & secondary outcomes of vaginal symptoms scale score (VSS) which score the vaginal discharge with QOL in cervicitis patients and vaginal analogue scale (VAS) for pain.

Result: In this present study, marked improvement is observed in cervicitis. The mean ± SD of vaginal discharge before & after treatment is 2.57±0.050, 0.33±0.48 respectively which is highly significant with p value of<0.0001**. VSS score before & after treatment is 21.27±6.12, 7.47±2.48 respectively with p<0.0001** which is highly significant. VAS score used for LAB & LPA before & after treatment is 6.63±1.09, 1.90±1.29 respectively with p<0.0001** which is highly significant.

Interpretation & Conclusion: The study revealed that the formulation has been found effective in healing congestion, hypertrophied of the cervix and discharge and relieving the others associated symptoms of cervicitis. It is useful and provided immediate and effective treatment for cervicitis. Hence, the trial drug can be recommended for its management.

Keywords Cervicitis, *Unani* formulation, *marhame dakhilyun*, *roghane sausan*, visual analogue scale, vaginal symptom scale

INTRODUCTION

Cervicitis is an inflammatory condition of the cervix. It is common with rates as high as 30-45% in some STI clinic populations.[1] Cervicitis is defined as the presence of visible purulent or mucopurulent endocervical exudates on an endo-cervical swab specimen or in the endo-cervical canal.[2] Chlamydia and Neisseria gonorrhea (NG) account for less than half of cervicitis cases, with a largely undefined etiology in the remainder.[1] The highest incidence of disease and sequel occurs in less developed countries, however, greater than 300,000 cases are reported to the CDC each year; teenagers and young adults are at high risk for infection.[3] Cervicitis have been associated with an increased risk of pelvic inflammatory disease, adverse pregnancy outcomes. Increasing sexual partners, low education attainment, and oral contraceptive pills, older age, female sex partner, unprotected sex, and human immunodeficiency virus (HIV) are the common risk factors.[2] Vaginal discharge or intermenstrual bleeding are frequent symptoms of cervicitis, with post-coital bleeding, deep-seated dyspareunia, lower backache, and lower abdominal[4] pain is often

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associated with erythema, edema, and friability of the ectocervix and purulent endo-cervical exudates.[5]

In conventional medicine, the treatment modalities include antibiotics therapy, cryosurgery, cauterization, laser ionization of the cervix, and ultimately hysterectomy.[4] The 2015 CDC guidelines recommend empiric azithromycin treatment of cervicitis in women less than 25 years. Management of cervicitis related to a known pathogen is straight forward but the management of women without a defined pathogen (NSC) is unclear.[6]

According to the *Unani* system of medicine, *Iltihab-e-unuq-ul-reham* may be *Iltihāb-i-ḥārr* or *Iltihāb-i-bārid. Iltihāb-i-ḥārr* is due to the dominance of hot humours mainly *ṣāfra* and *dam* and *Iltihāb-i-bārid* is due to the domination of *balgham*. It is also caused by trauma, after abortion, difficult labor, delivery conducted in unhygienic conditions, and excessive intercourse.[7-9]

The symptomatology and complications of *Iltihab-e-unuq-ul-reham* in *Unani* context is same as that of conventional clinical presentation. Owing to its higher prevalence and complications, the researcher of various systems of medicine have focused themselves to develop a safe and effective mode of treatment for cervicitis.

Antibiotic overuse can be exacerbated by a variety of factors, including the use of antibiotics for nonbacterial or noninfectious syndromes, which have also been linked to a variety of adverse drug effects. Drugs with properties of *moḥallil*(anti-inflammatory), *muṣakkin* (analgesic), *munavvim* (sedative), *mulaṭṭif* (demulcent), *muṣaffî* (blood purifier),[10,11,12] are beneficial in the treatment of cervicitis. Use of *marhame dakhilyun* with *roghane sausan* as vaginal application in cervicitis is highly indicated in Classical *Unani* texts. Therefore, a clinical trial with *marhame dakhilyun* with *roghane sausan* is conducted in cervicitis with a rationale to overcome the issues of antibiotic use discussed above.

MATERIAL & METHOD

The present study "Efficacy of hamōl of marhame dakhilyun and roghane sausan in cervicitis (iltihab-e-unuq-ul- reham) is an open observational clinical study conducted on 30 patients over a period of one and half year at Dept. of *Ilmul Qabalat* wa *Amraze Niswan* (OBGYN), National institute of *Unani* medicine, Bengaluru-91. The study was started after obtaining **ethical Clearance** from Institutional Ethical Committee, NIUM, Bangalore under IEC No. NIUM /IEC/2018-2019 /013/ANQ/05. and CTRI registration no: CTRI/2020/02/023516 dated: 24/02/2020. Data collection was done through history taking, clinical examination and Laboratory Investigations

Married women between the age group 18-45 years, diagnosed to have Cervicitis through p/s examination (Hypertrophy, Congestion, Redness, and Nabothian Cyst on Cervix), along with complaints of vaginal discharge, low backache, low abdominal pain and Inflammatory changes in Pap smear were included in the study. Patients with Pelvic inflammatory disease, Malignancy, benign lesions, systemic diseases (hypertension, thyroid dysfunction, diabetes mellitus), STIs, IUCDs, Oral contraceptives and those who were pregnant and Lactating were excluded.

Investigations VIZ. CBC, RBS, CUE, USG –Pelvis were done for exclusion, assessment of Efficacy was done by pap smear. AST, ALT, Alkaline Phosphates, B. urea, S. Creatinine were evaluated pre and post study for Safety assessment.

Criteria for selection of drugs: After a thorough literature survey, the *Marhame dakhilyun* & *roghane sausan for Iltihab-e-unuq-ul- reham* was selected from the classical *Unani* literature as these drugs have *moḥallil* (anti-inflammatory) to relieve inflammation, *waram al-raḥim* (metritis) *muqawwi-i- asab*, *maharrik-i-asab*, *waram ghudad-i-limphawi*.[11]

The best quality of the `drug was provided by the pharmacy of National Institute of *Unani* medicine. Before preparing the formulation, the drug was properly identified by Pharmacognosist, senior assistant professor, center for Repository of Medical Resources Disciplinary University, Bengaluru. Vide No. FRLHT Acc.No-5539-5549.

Method of preparation, dosage and route of administration:

Intervention: *Marhame dakhilyun* & *roghane sausan*: *Marhame dhakilyun*:

Roghane Zaitoon,	Oil Of *Olea europaea* Lam.
Murdar Sang,	Triplumbic tetroxide
Tukhme Khatmi,	*Althaea officinalis Linn*
Tukhme Mako,	*Solanum nigram Linn.*
Tukhme Katan,	*Linum usitatissimum Linn*
Ispaghol,	*Plantago ovata* Lam.
Tukhme Hulba,	*Trigonella foenum-gracum*
Mom Zard.[18]	*Cera alba*

***Roghane Sausan*:**

Taj,	***Cinnamomum zeylanicum***
Qust Talkh,	***Saussurea costus***
Zarfan,	***Crocus sativus* L.**
Qaranful,	**Syzygium aromaticum Lin**
Darchini,	*Cinnamomum verum* L.
Gul-E-Sausan,	*Iris ensata*
Roghane Zaitoon	Oil of *Olea europaea* Lam.

Method of Preparation: *Marhame dhakilyun*

Ingredients:

• *Murdar sang*, *tukhme khatmi*, *tukhme mako*, *tukhme katan*, *Ispaghol*, *tukhme hulba* are soaked in water for 12 hours and rubbed vigorously between the palms and strained. Then fine

powder of *murdar sang* is boiled with *roghane zaitoon* and *mom zard* and stirred continuously. Thereafter, ingredients *roghane zaitoon* & *murdar sangare* mixed with the strained portion of ingredients & above ingredients heated till the water completely evaporates.[10]

Roghane Sausan

Ingredients: *Taj*, *qust talkh*, *qaranfal*, *darchini*, *gule sausan*, *roghane zaitoon*. Put it in a bottle. Add oil in the bottle, add *irsa* replaced by *gule sausan* in the bottle. Keep the bottle up to 40days. After that filter it and use it as oil .[11]

Route of Administration and Dosage:

Marhame-dakhilyun & *roghane sausan* will be given in 2:1 ratio as per standard preparation. 10 mg of *marham* will be given for *ḥamūl* daily at bedtime for 21 days after menses.

Duration of protocol therapy: 21 days

Assessment cum follow up during treatment was done every week during treatment and once only for 1 week After treatment.

Initial symptoms and specific findings were recorded in case proforma at the first visit. At every visit, the patients were asked about the progression and regression in their symptoms. At the last visit, clinical examination and specific investigation were performed. Pre- and Post-treatment values of symptoms and signs were analyzed and were subjected to comparison statistically to evaluate the response or effect of the treatment.

After completion of the trial, the patient was advised for follow-up. At the follow-up visit, complaints of vaginal discharge and other symptoms were enquired, and the speculum examination was repeated.

The effectiveness of the drug was assessed by the following parameters.

Assessment tools: At baseline (day -0) & at post-treatment (day 22) various assessment tools such as.

VSS: for abnormal vaginal discharge, vaginal odor, purities vulvae, vaginal irritation & dyspareunia. VAS for low backache and lower abdomen pain. Vaginal symptoms scale (VSS), an unpublished 19- question survey focusing on symptoms, self-treatment, impact on social life, concerns about health, smell& relationship difficulty. It is available in both Spanish & English. The scoring of the scale ranges from 0-43. It is a type of questionnaire which includes:

Symptom's subscale (sum score, range 0-15); Self-care subscale (sum score, range 0-4), social discomfort subscale (sum score, range 0-9), worry subscale (sum score, range 0-9), relationship subscale (sum score, range 0-6)

Subjective parameters include abnormal vaginal discharge, low abdominal pain, low backache, post-coital bleeding, dyspareunia.Objective parameters were Visual Analogue Scale (VAS) and Vaginal Symptoms Scale (VSS**) .**

- **Vaginal symptoms scale (VSS):** VSS contain question regarding all the subscales and graded as:[24]

SCORE	INFERENCE
0-10	No symptoms
11-20	Mild symptoms
21-30	Moderate symptoms
31-43	Severe symptoms

- **Visual Analogue Scale (VAS):**

SCORE	INFERENCE
0	No Pain
1-3	Mild Pain
4-6	Moderate Pain
7-10	Severe Pain

Criteria for assessment of the response of treatment:

Based on clinical relief and Pap smear findings before and after the treatment. The response was graded as follows.

Primary outcome: The primary outcomes were observed in subjective parameters. The change in VAS & VSS was observed in objective parameters.

Patients who fail to follow the protocol therapy and the cases in which adverse drug reactions are noticed were withdrawn.

Safety was assessed through clinical sign and symptoms, and laboratory Investigations (LFT & RFT). No adverse reaction of the drug was noted during thetrial.

Statistical software: The Statistical software namely SPSS 22.0, and R environment ver.3.2.2 were used for the analysis of the data. Descriptive and inferential statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean ± SD (Min-Max) and results on categorical measurements are presented in Number (%). Significance is assessed at 5% level of significance.

RESULT

The clinical study titled "**Effect of *hamūl of marham-e-dhakhilyun* and *roghan-e- sausan* in Cervicitis - An open observational study**." Was carried out in the department of *Ilmul Qabalat wa Amraze Niswan*, National Institute of *Unani* Medicine Hospital *Bengaluru*. During the year 2020-2021.

Demographic data: The baseline characteristics of the study participants like age, socioeconomic status, & BMI were as follows.

Age: In the present study 7(23.3%) patients were <30 years of age, 21(70%) between 30-40, and 2(6.6%) patients were >40 years of age.

Socioeconomic status: In the present study 15(50.0%) were from the lower middle, 11(36.7%) in upper-lower, 3(10.0%) in upper- middle, 1(3.3%) in the lower class.

Body mass index: In the present study the 14(46.7%) patients were overweight, 10(33.3%) were of normal BMI, 5(16.7%) were obese, 1(3.3%) underweight**.**

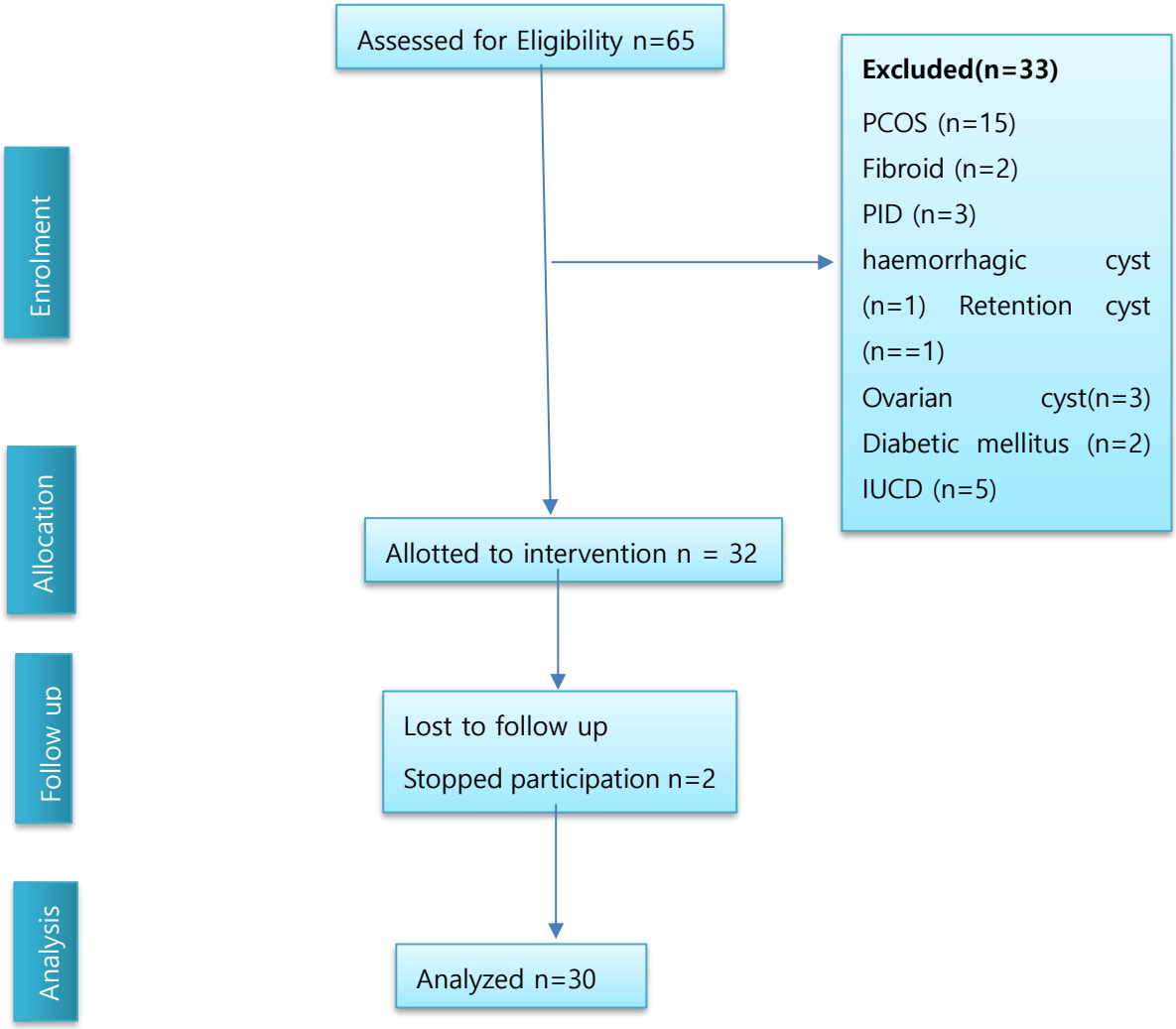

Fig. 1. Flow chart showing follow up of patients from enrolment to analysis.

Table 1. Demographic characteristics in cervicitis patients.

Baseline parameters	No. of Patients (30)	%
Age in Years		
<30	7	23.3
30-40	21	70.0
>40	2	6.6
Socioeconomic status		
Lower	1	3.3
Lower Middle	15	50.0
Upper Lower	11	36.7
Upper Middle	3	10.0
BMI		
<18.5	1	3.3

18.5-24.9	10	33.3
25.0-29.9	14	46.7
>30	5	16.7
Associated symptoms		
Dysmenorrhea	18	60.0
Dyspareunia	22	73.3
Inter-menstrual bleeding	2	6.7
Post-coital-Bleeding	4	13.3

Associated Symptoms: In the present study, 22(73.3%) patients had dyspareunia, 18(60.0%) had dysmenorrhea, 4(13.3%) had post-coital bleeding, 2(6.7%) had intermenstrual bleeding **(Table 1)**.

Abnormal vaginal discharge: At baseline, all patients were complaining of vaginal discharges 17(56.7%) patients had severe discharge 13(43.3%) had moderate discharge. On 1st follow up i.e., D7, 12(40%) had severe discharge, 18(60%) had a moderate discharge. On 2nd follow up i.e., D14, 19(63.3%) had mild discharge, 11(36.7%) had no discharge. On 3rd follow up i.e., D21, 4(13.3%) had moderate discharge, 22(73.3%) had mild discharge, 4(13.3%) had no discharge. After treatment only 10 (33.3%) had mild discharge, 20(66.7%) had no discharge. Mean ± SD before & after treatment were 2.57±0.50 & 0.33±0.48 with $p<0.0001$, considered as highly significant **(Table 2)**.

Low backache (LBA): In the present study before treatment 10(33.3%) patients had severe LBA, 19(63.3%) had moderate& 1(3.3%) had mild LBA. On 1st follow up i.e., D7,3(10%) had severe LBA, 25(83.3%) had moderate, 2(6.7%) had mild LBA. On 2nd follow up i.e., D14,10(33.3%) had moderate LBA, 19(63.3%) had mild, 1(3.3%) patient had no LBA. On 3rd follow up i.e., D21, 2(6.7%) had moderate, 18(60%) had mild, 10 (33.3%) had no LBA. After treatment 8(26.7%) had mild,22(73.3%) had no LBA. Mean ± SD of LBA was2.3±0.54 & 0.26±0.5 before & after treatment respectively with $p<0.0001$ **(Table 2)**.

Table 2. Assessment of subjective parameters in cervicitis patients.

Abnormal vaginal discharge	**BT N=30(100%)**	**1st week**	**2nd week**	**3rd week**	**AT**	**%Difference**
No	0(0 %)	0(0%)	11(36.7%)	4(13.3%)	20(66.7%)	66.7%
Mild	0(0%)	0(0%)	19(63.3%)	22(73.3%)	10(33.3%)	33.3%
Moderate	13(43.3%)	18(60%)	0(0%)	4(13.3%)	0(0%)	-43.3%
Severe	17(56.7%)	12(40%)	0(0%)	0(0%)	0(0%)	-56.7%
Low Backache						
No	0(0%)	0(0%)	1(3.3%)	10(33.3%)	22(73.3%)	73.3%
Mild	1(3.3%)	2(6.7%)	19(63.3%)	18(60%)	8(26.7%)	23.4%
Moderate	19(63.3%)	25(83.3%)	10(33.3%)	2(6.7%)	0(0%)	-63.3%
Severe	10(33.3%)	3(10%)	0(0%)	0(0%)	0(0%)	-33.3%
Lower abdominal pain						
No	0(0%)	1(3.3%)	10(33.3%)	21(70%)	29(96.7%)	96.7%
Mild	8(26.7%)	10(33.3%)	18(60%)	9(30%)	1(3.3%)	-23.4%
Moderate	21(70%)	19(63.3%)	2(6.7%)	0(%)	0(0%)	-70%
Severe	1(3.3%)	0(0%)	0(0%)	0(0%)	0(0%)	-1%
Contact bleeding						
No	25(83.3%)	25(83.3%)	26(86.7%)	27(90%)	29(96.7%)	13.4%
Mild	2(6.7%)	2(6.7%)	3(10%)	3(10%)	1(3.3%)	-3.4%
Moderate	3(10%)	3(10%)	1(3.3%)	0(0%)	0(0%)	-10%
Dyspareunia						
No	8(26.7%)	8(26.7%)	12(40%)	20(66.7%)	27(90%)	63.3%
Mild	4(13.3%)	7(23.3%)	15(50%)	10(33.3%)	3(10%)	-3.3%
Moderate	16(53.3%)	16(53.3%)	15(50%)	3(10%)	0(0%)	-53.3%
Severe	2(6.7%)	0(0%)	0(0%)	0(0%)	0(0%)	-6.7%

Lower abdominal pain (LAP): In the present study before treatment 1(3.3%) patients had severe LAP, 21(70%) had moderate, 8(26.7%) had mild LAP. On 1st follow up i.e., D7, 19(63.3%) patients had moderate, 10(33.3%) had mild,1(3.3%) had no LAP. On 2nd follow up i.e., D14, 2(6.7%) had moderate, 18(60%) had mild, 10(33.3%) had no LAP. On 3rd follow up i.e., D21, 9(30%) had mild, 21(70%) had no LAP. After treatment 1(3.3%) had mild LAP, 29(96.7%) had no LAP. Mean ± SD of LAP were 1.4±0.97 & 0.1±0.31 before & after treatment respectively with p<0.0001 considered highly significant **(Table 2)**.

Contact bleeding (CB): In the present study before treatment 3(10%) patients had moderate CB, 2(6.7%) had mild, 25(83.3%) had no CB. On 1st follow up i.e., D7, 3(10%) had moderate, 2(6.7%) had mild, 25(83.3%) had no CB. On 2nd follow up i.e., D14, 1(3.3%) had moderate,3(10%) had mild, 26(86.7%) had no CB. On 3rd follow up i.e., D21, 3(10%) had mild, 27(90%) had no CB. After treatment 1 (3.3%) had mild CB, 29(96.7%) had no CB. Mean ± SD were 0.26±0.64 & 0.03 ±0.18 before & after treatment respectively with p-value <0.0001 considered highly significant **(Table 2)**.

Dyspareunia: In the present study before treatment 2(6.7%) patients had severe dyspareunia, 16(53.3%) had moderate, 4(13.3%) had mild, 8(26.7%) had no dyspareunia. On 1st follow up i.e., D7, 15 (50%) patients had moderate, 7(23.3%) had mild, 8(26.7%) had no dyspareunia. On 2 follow up i.e., D14, 3(10%) patients had moderate, 15(50%) had mild, 12 (40%) had no dyspareunia. On 3rd follow up i.e., D21,10(33.3%) had mild, 20(66.7%) had no dyspareunia. After treatment 3(10%) had mild, 27(90%) had no dyspareunia. Mean ± SD were 1.4±0.97 & 0.1 ±0.31 before & after treatment respectively with p-value <0.0001 considered highly significant **(Table 2)**.

Vaginal symptoms scale (VSS): Present study was assessed before, during & after treatment, by VSS. At baseline, VSS score (for vaginal discharge) was categorized from mild, moderate, severe in 3.3%, 23.3%, 73.3% patients which were reduced to 23.3 % (mild), 0% (severe) respectively after treatment with an improvement of 76.7%. At baseline Mean ± SD of VSS was 21.27±6.12 before treatment. On 1st follow up i.e., D7, the mean ± SD was 19.87±4.14. On 2nd follow up i.e., D14, the mean ± SD was15.23±3.71 with p-value <0.0001 considered highly significant. On the 3rd follow up i.e., D21, the mean ± SD was 11.00±2.75 with a p-value <0.0001 considered highly significant.

Visual analogue scale (VAS): In the present study the severity of LBA & LAP was assessed by VAS Scale. At baseline 11(36.7%) patients had severe, 19(63.3%) had a moderate VAS scale. On 1st follow up i.e., D7, 5(16.7%) had severe, 25(83.3%) had moderate VAS. On 2 and follow up i.e., D14, 3(10%) had severe, 26(86.7%) had moderate, 1(3.3%) had mild VAS score. On 3rd follow up i.e., D21, 1(3.3%) had severe, 8(26.7%) had moderate, 21(70%) had mild VAS. After treatment 1(3.3%) had severe, 27(90%) had mild, 2(6.7%) had no LBA & LAP with p<0.0001% considered highly significant. At baseline Mean ± SD of VAS score was 6.63±1.09. On 1st follow up i.e., D7, the mean ± SD was were5.73±1.08 P value < 0.001% which is highly significant. On 2nd follow up i.e., D14, mean ± SD was 4.60±0.96. p-value <0.0001% considered highly significant **(Table 3)**.

Table 3. Assessment of objective parameters in cervicitis patients.

Vaginal symptoms scale	**Before treatment**	**1st week**	**2nd week**	**3rd week**	**After treatment**	**% Difference**
0-9	1(3.3%)	0(0%)	3(10%)	6(20%)	23(76.7%)	73.3%
10-19	7(23.3%)	13(43.3%)	13(76.7%)	23(76.7%)	7(23.3%)	0%
20-29	2(73.3%)	17(56.7%)	4(13.3%)	1(3.3%)	0(0%)	-73.3%
Vaginal symptoms scale						
BT	0	28	21.27±6.12	-	-	-
1st week	11	25	19.87±4.14	1.40	1.52	0.137
2nd	9	24	15.23±3.71	6.03	6.15	<0.001**
3rd week	7	20	11.00±2.75	10.26	9.25	<0.001**
AT	3	12	7.47±2.48	13.80	12.27	<0.001**
Visual analogue scale						
0	0(0%)	0(0%)	0(0%)	0(0%)	2(6.7%)	6.7%
1-3	0(0%SS)	0(0%)	1(3.3%)	21(70%)	27(90%)	90%
4-6	19(63.3%)	25(83.3%)	26(86.7%)	8(26.7%)	0(0%)	-63.3%
7-10	11(36.7%)	5(16.7%)	3(10%)	1(3.3%)	1(3.3%)	-33.4%
Visual analogue scale						
BT	5	10	6.63±1.09	-	-	-
1st week	4	8	5.73±1.08	0.90	8.11	<0.001**
2nd week	3	7	4.60±0.96	2.03	13.77	<0.001**
3rd week	2	7	3.23±1.25	3.40	18.55	<0.001**
AT	0	7	1.90±1.29	4.73	22.68	<0.001**

Primary outcome: Achieved with significant (p=<0.0001) improvement in all subjective parameters; viz. 66.7% improvement in vaginal discharge, 73.3% improvement in LBA, 96.7% improvement in LAP, 96.7% improvement in CB, and 90% improvement in dyspareunia **(Table 4)**.

Secondary/ Therapeutic outcome: Achieved with p valve < 0.0001 for objective parameters assessed by VSS & VAS **(Table 4)**.

Table: 4 Assessment of outcome in cervicitis patients.

Variable	**Before treatment**	**After treatment**	**P value**
Primary outcome			
Vaginal discharge	2.57±0.050	0.33±0.48	<0.0001
LBA	2.3±0.54	0.26±0.5	<0.0001
LAP	1.77±0.50	0.03±0.18	<0.0001
Coital bleeding	0.26±0.64	0.03±0.18	<0.0001
Dyspareunia	1.4±0.97	0.1±0.31	<0.0001
Secondary outcome			
VSS	21.27±6.12	7.47±2.48	<0.0001
VAS	6.63±1.09	1.90±1.29	<0.0001

Safety assessment: The safety evaluation with liver function test and kidney function test in pre and post-test evaluation showed no significant change with p value>0.05; suggesting the research drug to be safe **(Table 5)**.

Table 5. Assessment of safety profile in cervicitis patients.

Variables	**Before treatment**	**After treatment**	**Difference**	**t Value**	**P Value**
AST(IU/L)	19.23±5.85	24.43±11.03	-5.20	-2.47	0.019
ALT(IU/L)	26.30±11.39	26.00±9.75	0.30	0.14	0.886
Alkaline Phosphatase	96.86±22.21	92.73±16.75	4.13	1.00	0.326
Blood Urea	23.66±4.45	25.40±6.56	-1.73	-1.31	0.201
Sr. Creatinine	0.80±0.13	0.81±0.12	-0.006	-0.25	0.801

Discussion

Age: In the present study Mean ± SD of age was 32.80±5.09.[13] Ameri B *et al.* reported mean age of 32.1±8.5 for cervicitis.[14] Similarly Ansari S. *et al.* reported 31-40 years of age.[15] Unissa L. *et al.* reported 20-45 years of age.[16] MS. Karveri *et al.* & Hashmi S. *et al.* reported the majority of the women were between the age group of 20-40.[17,18]

Socioeconomic status: In the present study 15(50.0%) were from the lower middle, 11(36.7%) in upper-lower, 3(10.0%) in upper- middle, 1(3.3%) in the lower. Thus, it showed that majority of women were from the lower middle 15(50.0%). A similar study was conducted by S. Ansari *et al.* & MS Kaveri. *et al.* showed that the majority of patients 19 (63.3%) & 40(33.3%) respectively were from the lower middle& middle class.[15, 17] while Hashmi S.*et al*. showed that the majority of patients were from upper lower 13(43.33).[18]

Body mass index: In the present study the Mean ± SD of BMI was 26.66±4.55**.** Ameri B, *et al*. reported maximum 67(55.4) patients were with normal BMI, followed by 35(28.9) overweight, 15(12.4%) obese & 4(3.3%) had low BMI.[14]

Associated Symptoms: In the present study, 22(73.3%) patients had dyspareunia, 18(60.0%) had dysmenorrhea, 4(13.3%) had post-coital bleeding, 2(6.7%) had intermenstrual bleeding. A similar study reported by Unnisa L *et al.* showed vaginaldischarge was associated with dysmenorrhea & dyspareunia.[16] MS Kaveri. *et al.* reported 83% of patients had post-coital bleeding before treatment **(Table 1)**.[17]

Abnormal vaginal discharge: In the present study mean ± SD of abnormal vaginal discharge before & after treatment were 2.57±0.50 & 0.33±0.48 with p<0.0001, considered as highly significant. The improvement in vaginal discharge might be due to the effect of research formulation having *moḥallil-i-warm al-raḥim*,[19,20] *muqawwi-i-raḥim, muṣakkin-i-dard*,[21] *mujaffif-i-qurooh,*[22-24] *qabiz,*[25] *dafi-i-ta'ffun,*[10] *muṣaffi*(blood purifier) etc. properties.[10-12] In a study conducted by Ansari S. *et al.* reported all patients had vaginal discharge before treatment & 63.3% of patients were improved with a mean of 2.37±0.56 and 0.37±0 after treatment respectively.[15] B Ameri *et al.* were observed 58.7% of patients had abnormal vaginal discharge.[14] S. Anees *et al.* reported 100% of patients were complaining of vaginal discharge in which(86.6%) patients got relieved.[18]

Low backache (LBA): In the present study mean ± SD of LBA was 2.3±0.54 & 0.26±0.5 before & after treatment respectively with p<0.0001. Anees S *et al.* reported 100% of patients complaining of LBA before treatment in which 66.7% got relieved after treatment[18] which is correlating with the present study. The improvement in LBA might be due to research formulation having *muqawwi-i-raḥim, muṣakkin-i-dard*,[21] *moḥallil-i-warm al- raḥim*,[19,20] *munavvim* (sedative), *mulaṭṭif* (demulcent), etc properties.[10-12]

Lower abdominal pain (LAP): In the present study mean ± SD of LAP were 1.4±0.97 & 0.1±0.31 before & after treatment respectively with p<0.0001 considered highly significant. A similar finding was reported by Anees S. *et al*. 25(83.3%) patients were complaining of LAP in which 21(70.0%) patients got relieved.[18] The improvement in LAP might be due to research formulation having *muqaww-i-rahim, musakkin-i-dard,*[21] *moḥallil-i-warm al- raḥim*,[19,20] *munavvim* (sedative), *murakhkhi, mulaṭṭif,* etc. properties.[10-12]

Contact bleeding (CB): In the present study mean ± SD were 0.26±0.64 & 0.03 ±0.18 before & after treatment respectively with p-value<0.0001 considered highly significant. S. Ansari *et al.* reported 25(83.4%) had contact bleeding with mild in 14(46.7%), moderate in 9(30%), and severe in 2(6.7%) patients and after treatment, 96.7% of patients were improved and 3.3 % with mild contact bleeding with a mean of 1.27±0.83 to 0.03±0.18 with p<0.0001.[1,7,8] The improvement in CB might be due to research formulation having *Mujaffif-iqurooh*, [22-24] *Qabiz, murakkhi*,[25] *dafi-i-ta'ffun*,[10] *muqawwi-i-raḥim, musakkin-idard,*[21] *moḥallil-i-waram al-raḥim,* properties.[19,20]

Dyspareunia: In the present study mean ± SD were 1.4±0.97 & 0.1 ±0.31 before & after treatment respectively with p-value <0.0001 considered highly significant. A similar study was conducted by S. Ansari *et al.* reported 70% of patients with mild, moderate 46.7%, and 23.4% severe dyspareunia respectively where 96.6% of patients were relieved, with a mean 0.93±0.734 to 0.03±0.18 with p<0.0001 **(Table 2)**.

Vaginal symptoms scale (VSS): Present study was assessed before, during & after treatment, by VSS. At baseline mean ± SD of VSS was 21.27±6.12 before treatment. On 1st follow up i.e., D7, the mean ± SD was 19.87±4.14. On 2nd follow up i.e., D14, the mean ± SD was 15.23±3.71 with p-value <0.0001 considered highly significant. On the 3rd follow up i.e., D21, the mean ± SD was11.00±2.75 with a p-value<0.0001 considered highly significant.

Visual analogue scale (VAS): In the present study at baseline Mean ± SD of VAS score was 6.63±1.09. On 1st follow up i.e., D7, the mean ± SD was 5.73±1.08 P value< 0.001% which is highly significant. On 2nd follow up i.e., D14, mean ± SD was 4.60±0.96. p-value<0.0001% considered highly significant **(Table 3)**.

Primary outcome: Achieved with significant (p=<0.0001) improvement in all subjective parameters; viz. 66.7% improvement in vaginal discharge, 73.3% improvement in LBA, 96.7% improvement in LAP, 96.7% improvement in CB, 90% improvement in dyspareunia.

Secondary/ Therapeutic outcome: Achieved with p valve< 0.0001 for objective parameters. assessed by VSS & VAS.

Safety assessment: The safety evaluation with liver function test and kidney function test in pre and post-test evaluation showed no significant change with p value>0.05; suggesting the research drug to be safe.

Limitations of the study: The main limitation of this study was with small sample size, short duration of intervention, short follow-up.

Future recommendation: Use of research *Unani* formulation as *ḥamūl* for a longer duration, on the large sample size of patients with long follow-up for better therapeutic outcome. RCT's with *ḥamūl* of research formulation with standard treatment i.e., cauterization either electro-cautery or cryo-cautery are recommended.

Conclusion

The present study confirms the effect of *Marhame dakhilyun* & *Roghane sausan* in *waram-i-unqur raḥim* (Cervicitis) in the form of *ḥamūl*. The improvement in vaginal discharge, congestion of cervix, hypertrophied of cervix & other associated symptoms Viz, LAP, LBA, dyspareunia, may be due to *qābid, hābis, mujaffif, dafe' ta'ffun, moḥallil-i-waram* properties of the *Unani* formulation.

The efficacy of the test drug is due to its anti-microbial, anti-inflammatory, analgesic, antiseptic, antioxidant, anti-ulcer, wound healing activities which ameliorated the sign & Symptoms of cervicitis. However, no adverse effect was reported during the trial. It can be inferred that the research drugs have affected on the clinical parameters through its effect on cervicitis. Based on above observation, it can be concluded that this drug is very effective in relieving the symptoms & sign of cervicitis. The drugs are cost effective easily available and well tolerated by the patients without having any side effects.

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CONFLICT OF INTEREST

The authors have no conflicting financial interests.

REFERENCES

1 Bhirud, A. & Bendale, T. J. I. M. J. S. Prevalence of cervicitis and outcome: A hospital based study. **2**, 502-504 (2015).

2 Li, M. *et al.* Prevalence and risk factors for bacterial vaginosis and cervicitis among 511 female workers attending gynecological examination in Changchun, China. **58**, 385-389 (2019).

3 Edwards, J. L. & Apicella, M. A. J. C. m. r. The molecular mechanisms used by Neisseria gonorrhoeae to initiate infection differ between men and women. **17**, 965-981 (2004).

4 Kumar, P. & Malhotra, N. *Jeffcoate's principles of gynaecology*. (Jaypee Brothers Medical Pub., 2008).

5 Sheeder, J., Stevens-Simon, C., Lezotte, D., Glazner, J. & Scott, S. J. J. o. a. h. Cervicitis: to treat or not to treat? The role of patient preferences and decision analysis. **39**, 887-892 (2006).

6 Lusk, M. J. *et al.* Cervicitis: a prospective observational study of empiric azithromycin treatment in women with cervicitis and non-specific cervicitis. **28**, 120-126 (2017).

7 ABZ, R. *New Delhi : CCRUM* **Al-Hawi Fil tib vol. IX**, 9-37 (2001).

8 HM, A. k. 2011. *New Delhi: Aijaz publishing House* **Al Akseer.vol II** 781-784.

9 Majoosi. *New Delhi: Idarae Kitabul Shifa* **Tarjuma Kamil Sana. Vol. III (Urdu trans by Kantoori GH)**, 492-493 (2010).

10 **National Formulary of Unani Medicine. Part Ist**, 162 (2006).

11 **National Formulary of Unani Medicine. Part IV**, 109 (2006).

12 *CCRUM New Delhi* **Physicochemical Standards of Unani Formulation. Vol 3rd**, 125 (1991).

13 Marrazzo, J. M. *et al.* Risk factors for cervicitis among women with bacterial vaginosis. **193**, 617-624 (2006).

14 عامری, بهار, ابوالحسنی, Clinical, م. J. J. o. & Research, B. Prevalence and risk factors of cervicitis in married women in Shahroud, northeast of Iran. **2**, 20-25 (2018).

15 Ansari S, B. W., Firdose KF. Efficacy of Unani Formulation in Cer vical Ectopy (Quruhal Rahim))-An Open Observational Study. *Int J Cur Res Rev* **13**, 31 (2021).

16 Lateef Unnisa, M., Alam, A. & Naveed, W. Efficacy of Unani Formulation in the Management of Chronic Cervicitis-A Prospective Observational Study.

17 Shazamani, S., Begum, W. & Sumaiya, S. J. P. R. Effect of Althea officinalis Linnaeus (Tuqme khatmi) in Cervicitis (Iltehabe unqur rehm)-An Open Observational Clinical Study. **14** (2022).

18 Hashmi, S., Begum, W. & Sultana, A. J. E. J. o. I. M. Efficacy of Sphaeranthus indicus and cream of Lawsonia inermis in cervical erosion with cervicitis. **3**, e183-e188 (2011).

19 Fahamiya, N., Shiffa, M., Aslam, M., Farzana, M. J. J. o. P. & Phytochemistry. Unani perspective of Khatmi (Althaea officinalis). **5**, 357-360 (2016).

20 GM, N. *Khazainul mufridat wa murakkabat* **Central Council Pharm Research New Delhi**, 39-235.

21 DHN, T. A. *Taj ul- Mufridat: Idarae kitab-us- Shifa New Delhi*, 5-59,346-391,581-591,709-717. (2010).

22 Prajapati ND, K. U. Agro's Dictionary of Medicinal Plants. *Jodhpur: Agrobio (India)*, 21-96,172-355 (2005).

23 Musthasan D, A. D. *Advia Madniya* 101 (2004).

24 MH, K. *Ilmul ul-advia Nafeesi* **New Delhi : Aijaz Publication House**, p.92-100-182,239-338 (2007).

25 Bagdadi MA, A. M. f. T. *CCRUM* **New Delhi**, 190 (2005).