RESEARCH PAPER

To Study The Effect Of Arka Yoni Kshara Lepa And Apamarga Yoni Kshara Lepa In Karnini Yonivyapath Vis-A-Vis Cervical Erosion - An Open Labelled Comparative Clinical Study

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Abstract

Background:

Karnini Yonivyapath described in Ayurveda closely resembles cervical erosion (cervical ectropion) in modern gynecology. It is a common benign condition among women of reproductive age, presenting with excessive vaginal discharge, pruritis vulvae, pelvic pain, and backache, thereby affecting quality of life. Conventional treatments such as cauterization and cryotherapy, though effective, are often associated with pain, recurrence, and cervical scarring. Ayurveda describes Kshara Karma as a minimally invasive local therapeutic procedure with Lekhana, Shodhana, and Ropana properties, indicated in Yonivyapath. Among various Ksharas, Arka and Apamarga are traditionally advocated, warranting scientific evaluation.

Methodology: An open-labelled comparative clinical study was conducted on 40 married women diagnosed with Karnini Yonivyapath, selected from the OPD and IPD of PTSR, JSS Ayurveda Medical College and Hospital, Mysuru. Patients were randomly divided into two groups of 20 each. Group A received Arka Yoni Kshara Lepa, while Group B received Apamarga Yoni Kshara Lepa. Assessment was based on subjective parameters such as quantity and consistency of vaginal discharge and pruritis vulvae, along with objective parameters including area, size, and appearance of cervical erosion. Evaluations were done at baseline, Day 7, and Day 14, and statistical analysis was carried out using appropriate non-parametric tests.

Observations: Both groups showed statistically significant improvement in all assessed parameters ($p < 0.05$). Reduction in vaginal discharge, pruritis vulvae, and cervical erosion was observed in both groups. However, Group B demonstrated a higher percentage of improvement across most parameters compared to Group A.

Conclusion: Both Arka and Apamarga Yoni Kshara Lepa are effective in the management of Karnini Yonivyapath. Apamarga Yoni Kshara Lepa showed comparatively superior efficacy, supporting Kshara Lepa as a safe, effective, and minimally invasive Ayurvedic alternative in cervical erosion.

Keywords: Karnini Yonivyapath; Cervical erosion; Yoni Kshara Lepa; Apamarga Kshara; Arka Kshara; Kshara Karma; Sthānika Chikitsā

How to cite this article: Nanda KO, Usha DT, Jayasheela G, Spoorthi B, Sukanya B, Hemalatha HK, Sangavi D. To Study the Effect of Arka Yoni Kshara Lepa and Apamarga Yoni Kshara Lepa in Karnini Yonivyapath vis-a-vis Cervical Erosion - An Open Labelled Comparative Clinical Study. Int J Drug Deliv Technol. 2026;16(11s): 162-205; DOI: 10.25258/ijddt.16.11s.19

Introduction

The health status of women is a crucial determinant of a healthy society. In today's fast-paced and competitive world, lifestyle changes have led to increased physical and mental stress among women, making them more susceptible to various gynecological disorders. Common

gynecological health problems include white discharge, foul-smelling discharge, vulvar itching, and burning micturition1. Cervical ectropion (often referred to in older literature as "cervical erosion") is a benign gynecological condition frequently observed among women of reproductive age2, with prevalence estimates ranging from approximately 17 % to 50 % and in younger sexually active women reaching up to ~80 %.3 In Ayurvedic literature, Karnini Yonivyapath is correlated with cervical erosion described in contemporary science. It is one of the most prevalent gynaecological disorders among women of reproductive age, characterized by symptoms such as formation of karnikas over yoni, excessive vaginal discharge, itching, pelvic pain, and backache—all of which significantly impair quality of life. The pathogenesis is attributed to derangement of Vata and Kapha Doshas, leading to vitiation of Artavavaha Srotas4. In modern medicine, cervical erosion is typically managed through procedures such as cauterization or cryotherapy, which may be associated with recurrence or complications. In contrast, Ayurveda advocates Kshara Karma as an effective, minimally invasive therapeutic modality for Shotha and Vrana conditions. Among the various Ksharas, Kadali (Musa paradisiaca) and Apamarga (Achyranthes aspera) possess Lekhana (scraping), Shodhana (cleansing), and Ropana (healing) properties, making them suitable for local application in Yonivyapath management 5,6,7. This evidence- based study is designed to evaluate and compare the efficacy of Arka Kshara Lepa and Apamarga Kshara Lepa in the management of Karnini Yonivyapath (cervical erosion) through scientific validation. The research emphasizes the importance of a larger population sample size and inclusion of well-defined scientific parameters to ensure reliability, reproducibility, and robustness of the findings for broader clinical applicability.

Modern management approaches, including cauterization and cryotherapy, though effective, results in recurrence, pain, discharge, and cervical scarring.8 Therefore, there is a need for an effective, minimally invasive, and safer alternative therapy that ensures symptomatic relief, promotes healing, and reduces recurrence.

In Ayurveda, Karnini Yonivyapath is attributed to the vitiation of Vata and Kapha Doshas, leading to derangement of Artavavaha Srotas. The Kshara Karma procedure, known for its Lekhana (scraping), Shodhana (cleansing), and Ropana (healing) actions, is considered highly effective in managing Shotha and Vrana conditions. Arka Kshara (Musa paradisiaca) possesses these therapeutic properties and is suitable for local application in Yonivyapath.

Hence, there is a strong scientific rationale to evaluate the therapeutic efficacy of Kadali Kshara Lepa in Karnini Yonivyapath vis-à-vis Cervical Erosion through an evidence- based, open-label randomized controlled clinical study. Conducting this study on a larger population sample size with well-defined parameters will provide reliable, reproducible, and clinically significant data, thereby contributing to the scientific validation of Ayurvedic management in gynecological disorders. So the research study had been conducted on above said title.

Aims

Evaluating the clinical efficacy of Arka Kshara Lepa trial group in the management of Karnini Yonivyapath vis-à-vis Cervical Erosion and to compare its therapeutic outcome with Apamarga Kshara Lepa controlled group.

Objectives

1. To study the efficacy of Arka Yoni Kshara Lepa in Karnini Yoni Vyapath
2. To study the efficacy of Apamarga Yoni Kshara Lepa in Karnini Yoni Vyapath
3. To compare the efficacy of Arka and Apamarga Yoni Kshara Lepa in Karnini Yoni Vyapath

Methodology – An Open Labelled Comparative Clinical Study

Materials & Methods

Source of data

Literary Source – Classical text books of Ayurveda. Text books of contemporary sciences. Published articles from journals and authentic websites.

Drug Source – The genuine drug will be obtained from convenient and available source.

Source of Sample - Married women fulfilling the criteria for diagnosis and inclusion visiting OPD and IPD of PTSR, JSSAMCH, Mysuru will be selected for the study.

Composition

Drug	Botanical name	Family name	Rasa	Guna	Virya	Vipaka	Doshagnata
Arka9	Calotropis gigantea	Ascledpiadaceae	Katu Tikta	Laghu Ruksha Tikshna	Ushna	Katu	Vatahara, Vishaghna

Apamarga 10	Achyranthes Aspera	Amaranthaceae	Katu , Tikta	Laghu , Ushna ,Teekshna, Sara	Ushna	Katu	Kaphavata Shamaka

Medicine Administration
The Selected 40 Patients Will Be Going To Subject For Yonikshara Lepa Karma19

Method of collection of data:
- Sample Size – 40, Convenience Sampling
- Married women fulfilling the criteria for diagnosis and inclusion visiting OPD and IPD of PTSR, JSSAMCH, Mysuru will be selected for the study.

Criteria For Selection Inclusion Criteria:
- Married women
- Age – 25 to 45 yrs
- Abnormal Vaginal Discharge
- Diagnosed case of Cervical Erosion
- PAP SMEAR- Normal study

Exclusion Criteria:
- Pregnant women
- Cervical polyps
- Carcinoma of cervix
- Patients suffering from sexually transmitted diseases, PID
- Other systemic disorders like uncontrolled Diabetes mellitus, hypertension

Criteria of diagnosis:
- Detection of Erosion by per speculum examination with or without following features
- Yoni srava (Vaginal discharge)
- Yoni kandu (Vulval itching)
- Katishula (Low back pain)
- Udarashula (Lower abdominal pain)

Study duration
- Duration of treatment – 1 day – Day 0
- Total study duration: 15 days

Follow up duration:
- After completion of the Kshara Karma, the patient will be advised to attend the OPD on 7th day and 15th day.

Assessment of results:
The data will be collected and analyzed by using various statistical tools with the help of bio statistician.

Laboratory investigations:
Blood routine – Hb%, TC, DC, ESR

Urine – Routine (Albumin, Sugar), Microscopic (Pus cells, Epithelial cells)
PAP smear – To rule out Inflammatory changes and Pre malignant lesions.

Data analysis:
Non Parametric Test/Statistical Method will be adopted.

Observations and results
Total 40 patients were registered in this study. Random allocation was done to divide subject into two groups i.e., 20 patients in each group. All 40 patients were studied and their observations were recorded as follow:

Table 1: Sample size: Group A– Arka Kshara , Group B – Apamarga Kshara

Group	No of Patients		
	Included	Drop out	Studied
Group A	20	0	20
Group B	20	0	20
Total	40	0	40

Following are the observations in two groups:

Observations based on Demographic data
Age (in years):

Table 2: Age wise distribution

Age (in years)	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage

20-25	2	10	1	5
26-30	4	20	5	25
31-35	3	15	5	25
36-40	8	40	6	30
41-45	2	10	2	10
46-50	1	5	1	5
Total	20	100	20	100

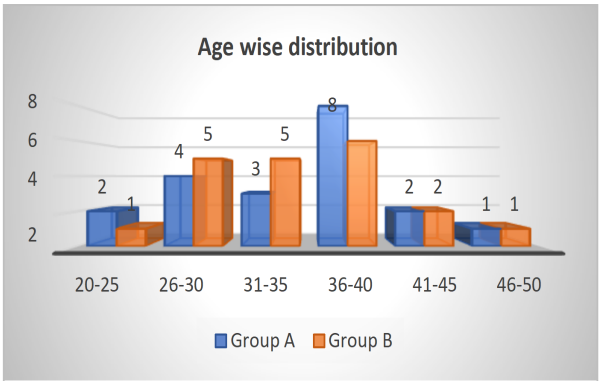

Fig. 1: Age wise distribution

Interpretation: The above table shows the age-wise distribution of patients in both groups.

In Group A, the highest proportion of patients belonged to the 36–40 years age group, accounting for 40% of the total. This was followed by the 26–30 years age group (20%) and the 31– 35 years age group (15%). Patients aged 20–25 years and 41– 45 years each constituted 10% of the group. The 46–50 years age group represented the smallest proportion, comprising 5% of patients.

In Group B, the maximum number of patients were observed in the 36–40 years age group (30%). The 26–30 years and 31– 35 years age groups each accounted for 25% of patients. The 41–45 years age group constituted 10%, while both the 20–25 years and 46–50 years age groups formed the lowest proportion, with 5% of patients each.

Religion:

Table 3: Religion wise distribution

Religion	**Group A**		**Group B**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Hindu	19	95	18	90
Muslim	1	5	2	10
Total	20	100	20	100

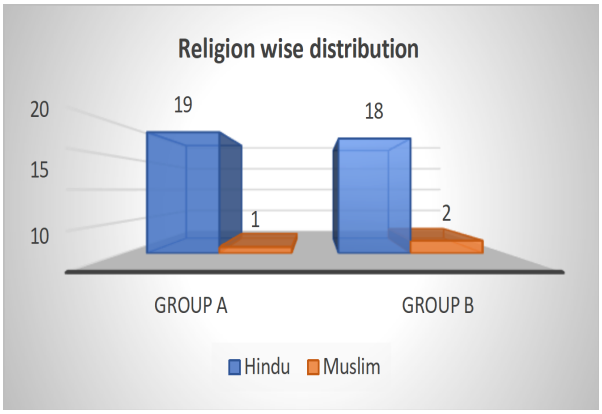

Fig. 2: Religion wise distribution

Interpretation: The above table shows the distribution of patients according to religion in both groups.
In Group A, the majority of patients were Hindus, accounting for 95% of the total, while Muslims constituted 5% of the group.
Similary, in Group B, Hindus formed the predominant religious group, comprising 90% of patients, whereas Muslims accounted for 10%.

Marital status:

Table 4: Marital status wise distribution

Marital status	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Married	20	100	20	100
Total	20	100	20	100

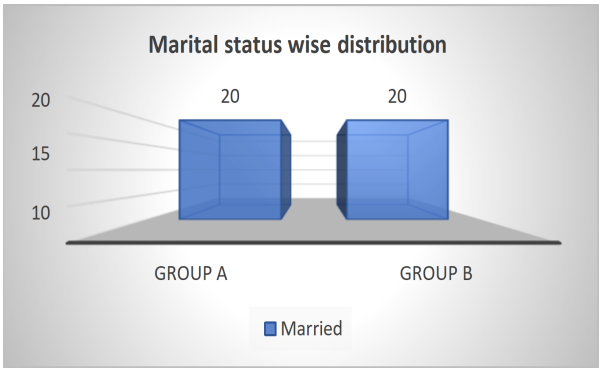

Fig. 3: Marital status wise distribution

Interpretation: The above table shows the distribution of patients according to marital status in both groups.
In Group A, all patients were married, accounting for 100% of the study population. Similarly, in Group B, 100% of the patients were also married.
Thus, marital status was uniform across both groups, with all participants being married.

Education:

Table 5: Education wise distribution

Education	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
High School	8	40	11	55
Graduate	12	60	9	45
Total	20	100	20	100

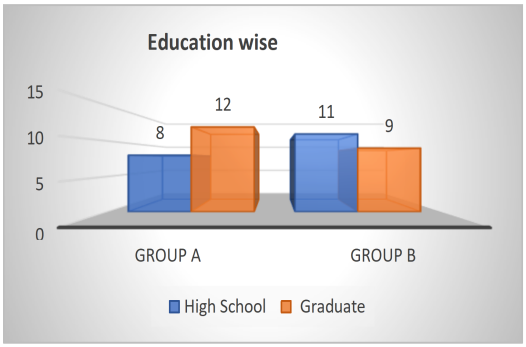

Fig. 5: Education wise distribution

Interpretation: The above table shows the distribution of patients according to educational status in both groups.

In Group A, the majority of patients were graduates, accounting for 60%, while 40% had completed education up to high school.

In Group B, a higher proportion of patients had education up to high school, constituting 55%, whereas 45% of patients were graduates.

Occupation:

Table 6: Occupation wise distribution

Occuption	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Housewife	7	35	12	60
Engineer	5	25	1	5
Business	4	20	1	5
Others	4	20	6	20
Total	20	100	20	100

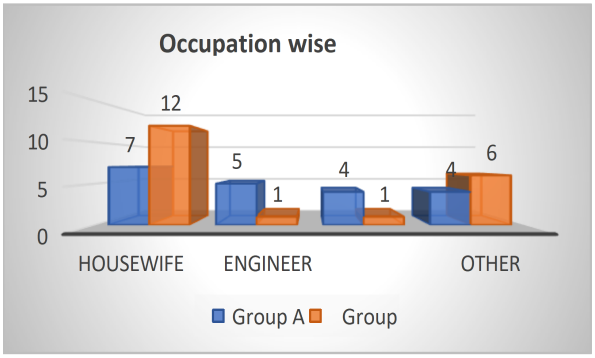

Fig. 6: Occupation wise distribution

Interpretation: The above table shows the distribution of patients according to occupation in both groups.

In Group A, the most common occupation was housewife, accounting for 35% of patients. This was followed by engineers (25%). Patients engaged in business and other occupations each constituted 20% of the group.

In Group B, the majority of patients were housewives, comprising 60% of the total. The "others" category accounted for 30%, while engineers and business professionals each represented the smallest proportion, at 5% each.

Economic status:

Table 7: Economic status wise distribution

Econom ic status	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
LMC	5	25	5	25
MC	9	45	2	10
HMC	6	30	13	65
Total	20	100	20	100

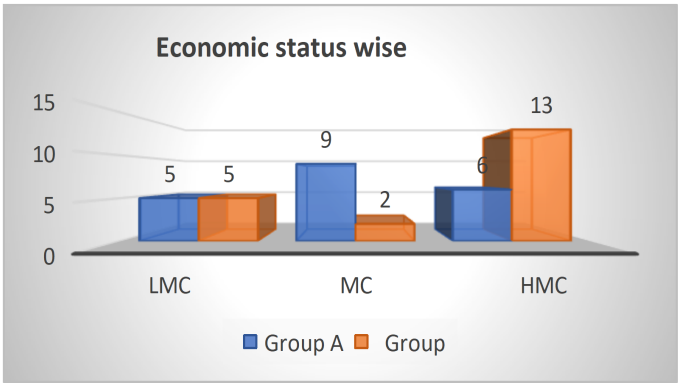

Fig. 7: Economic status wise distribution

Interpretation: The above table shows the distribution of patients according to economic status in both groups.
In Group A, the largest proportion of patients belonged to the middle-middle class (MC), accounting for 45% of the total. This was followed by the higher-middle class (HMC) at 30%, while the lower-middle class (LMC) constituted 25% of the group.
In Group B, the majority of patients were from the higher-middle class (HMC), comprising 65% of the total. The lower- middle class (LMC) accounted for 25%, whereas the middle- middle class (MC) formed the smallest proportion at 10%.

Table 8: Habitat wise distribution

Habitat	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Urban	13	65	17	85
Rural	7	35	3	15
Total	20	100	20	100

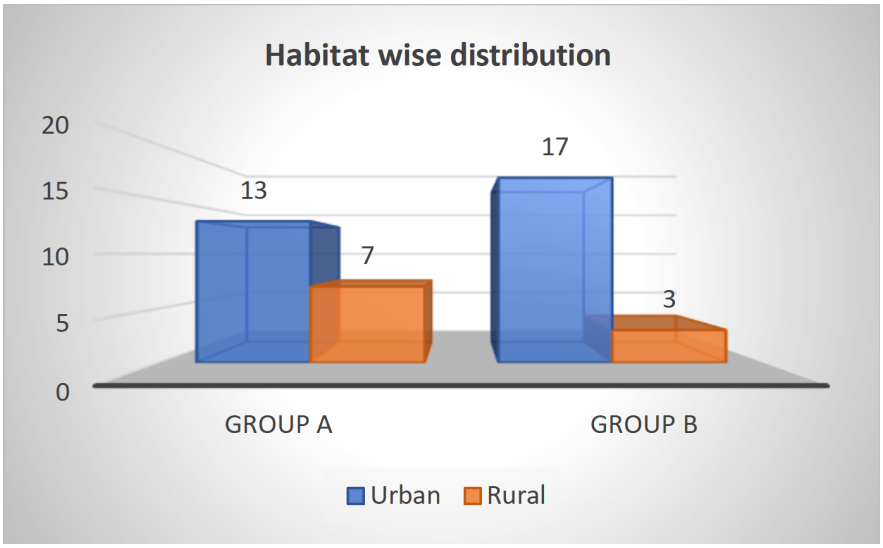

Fig. 8: Habitat wise distribution

Interpretation: The above table shows the distribution of patients according to habitat in both groups.
In Group A, the majority of patients were from urban areas, accounting for 65%, while 35% of patients belonged to rural areas.
In Group B, a higher proportion of patients were from urban areas, comprising 85%, whereas 15% were from rural areas.
Observations based on Chief Complaints

Yoni Pichhila Srava:

Table 9: Yoni Pichhila Srava wise distribution

Yoni Pichhil a Srava	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Mild	8	40	8	40
Moderate	9	45	12	60
Severe	3	15	0	0
Total	20	100	20	100

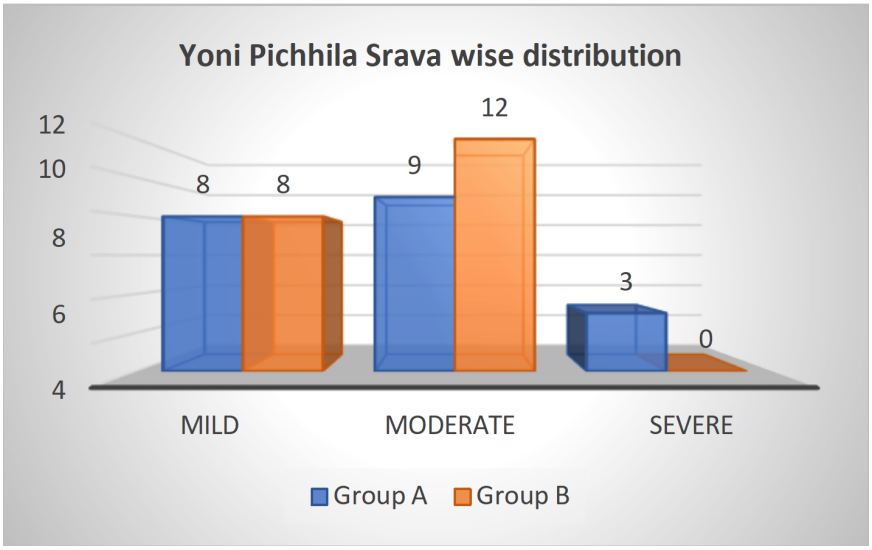

Fig. 9: Yoni Pichhila Srava wise distribution

In Group B, 60% of patients had no Yoni Kandu, whereas 40% exhibited the symptom. Overall, the majority of patients in both groups did not experience Yoni Kandu. severity in 40%. Notably, no patients in Group B exhibited severe Yoni Pichhila Srava.

10) Yoni Kandu:

Table 10: Yoni Kandu wise distribution

Yoni Kandu	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Absent	13	65	12	60
Present	7	35	8	40
Total	20	100	20	100

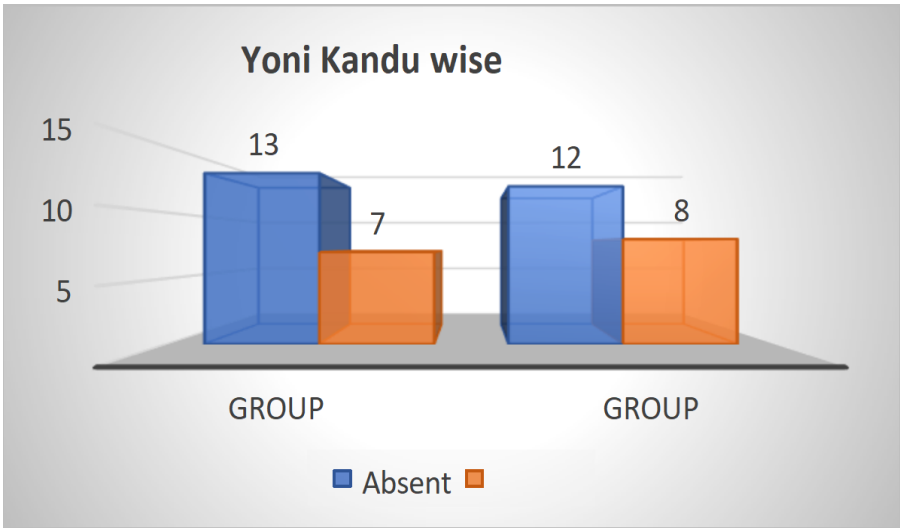

Fig. 10: Yoni Kandu wise distribution

Interpretation: The above table shows the distribution of patients according to the presence of Yoni Kandu in both groups.
In Group A, 65% of patients did not have Yoni Kandu, while 35% presented with Yoni Kandu.

In Group B, 60% of patients had no Yoni Kandu, whereas 40% exhibited the symptom.
Overall, the majority of patients in both groups did not experience Yoni Kandu

Onset:

Table 11: Onset wise distribution

Onset	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Sudden	4	20	3	15
Gradual	15	75	17	85
Associated With Coital Act	1	5	0	0
Total	20	100	20	100

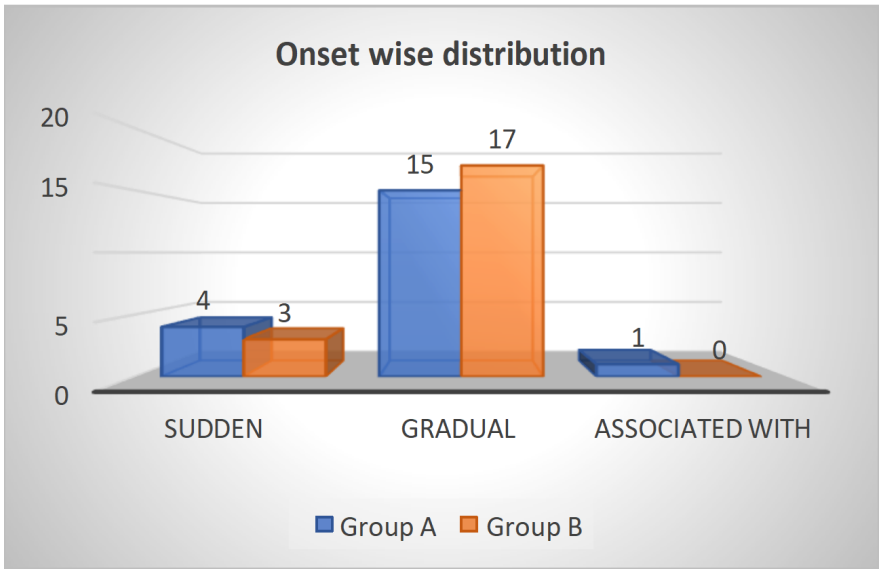

Fig. 11: Onset wise distribution

Interpretation: The above table shows the distribution of patients according to the onset of symptoms in both groups.
In Group A, the majority of patients had a gradual onset, accounting for 75% of cases. A sudden onset was observed in 20% of patients, while 5% of cases were reported to be associated with the coital act.
In Group B, gradual onset was the most common, seen in 85% of patients, followed by sudden onset in 15%. No cases in Group B were associated with the coital act.

Course:

Table 12: Course wise distribution

Course	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Progressive	4	20	1	5
Intermittent	9	45	14	70
Continuous	7	35	5	25
Total	20	100	20	100

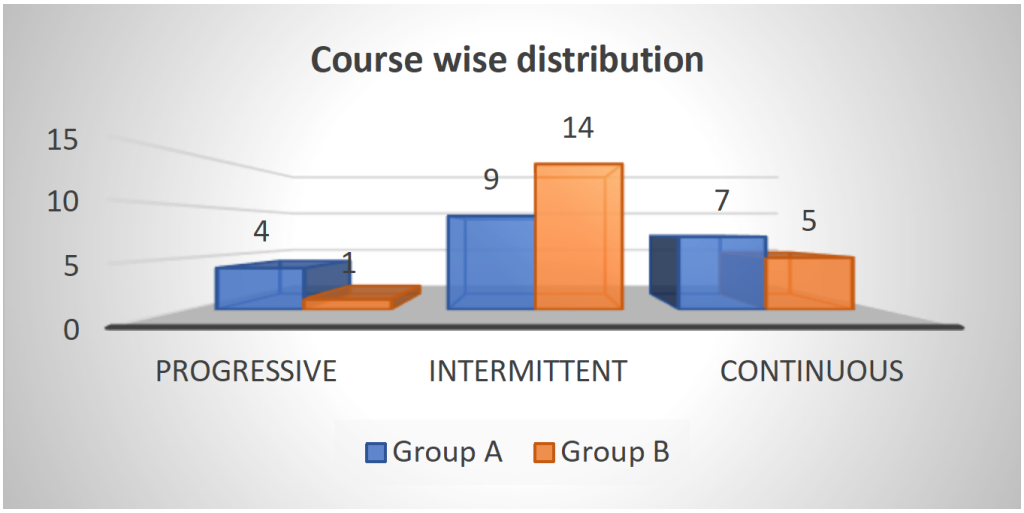

Fig. 12: Course wise distribution

Interpretation: The above table shows the distribution of patients according to the course of symptoms in both groups
In Group A, the most common course was intermittent, observed in 45% of patients, followed by continuous in 35%. Progressive symptoms were reported in 20% of patients.
In Group B, intermittent symptoms were the predominant course, seen in 70% of patients, followed by continuous in 25%, and progressive in 5%.

Chronicity:

Table 13: Chronicity wise distribution

Chronicity	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
1-3 Months	11	55	9	45
3-6 Months	6	30	6	30
6-9 Months	3	15	4	20
9-12 Months	0	0	0	0

>12 Months	0	0	1	5
Total	20	100	20	100

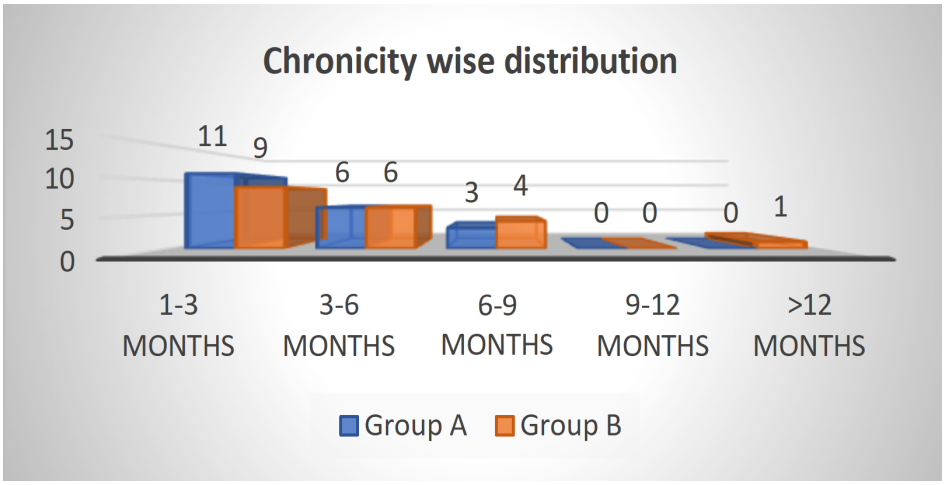

Fig. 13: Chronicity wise distribution

Interpretation: The above table shows the distribution of patients according to the chronicity (duration) of symptoms in both groups.

In Group A, the majority of patients had symptoms for 1–3 months, accounting for 55% of cases. This was followed by 3–6 months in 30% and 6–9 months in 15% of patients. No patients reported symptoms beyond 9 months.In Group B, 1– 3 months was also the most common duration, seen in 45% of patients, followed by 3–6 months in 30% and 6–9 months in 20%. Only 5% of patients reported symptoms lasting more

Observations based on Personal History

Diet:

Table 14: Diet wise distribution

Diet	Group A		Group B	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Vegetarian	9	45	8	40
Mixed	11	55	12	60
Total	20	100	20	100

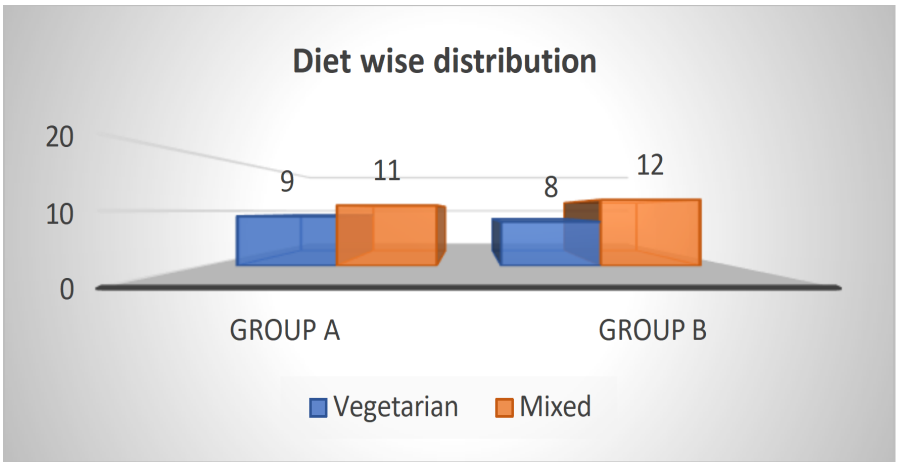

Fig. 14: Diet wise distribution

Interpretation: The above table shows the distribution of patients according to dietary habits in both groups.

In Group A, 55% of patients followed a mixed diet, while 45% were vegetarian.

In Group B, the majority of patients (60%) had a mixed diet, and 40% were vegetarian.

Dominant Rasa:

Table 15: Dominant Rasa wise distribution

Dominant Rasa	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Sarva Rasa	7	35	8	40
Mishra Rasa	7	35	4	20
Eka Rasa	6	30	8	40
Total	20	100	20	100

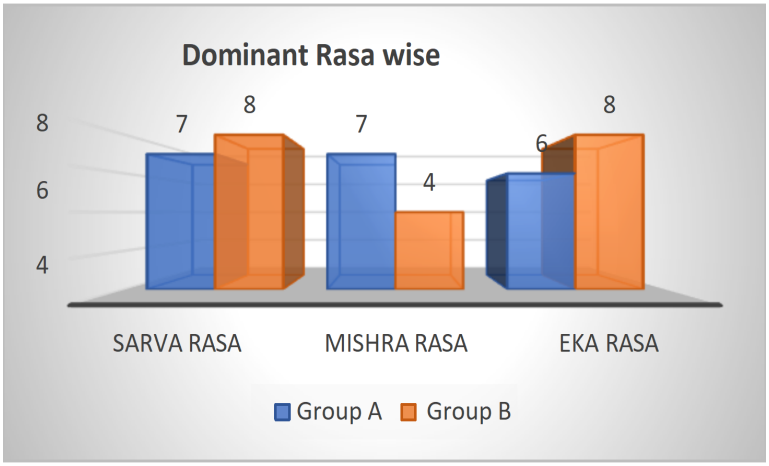

Fig. 15: Dominant Rasa wise distribution

Interpretation: The above table shows the distribution of patients according to the dominant Rasa in both groups.
In Group A, the patients were almost equally distributed among the three categories: Sarva Rasa and Mishra Rasa each accounted for 35%, while Eka Rasa was seen in 30% of patients.
In Group B, Sarva Rasa and Eka Rasa were the most common, each observed in 40% of patients, whereas Mishra Rasa was seen in 20%.

Appetite:

Table 12: Appetite wise distribution

Appetite	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Poor	4	20	5	25
Good	16	80	15	75
Total	20	100	20	100

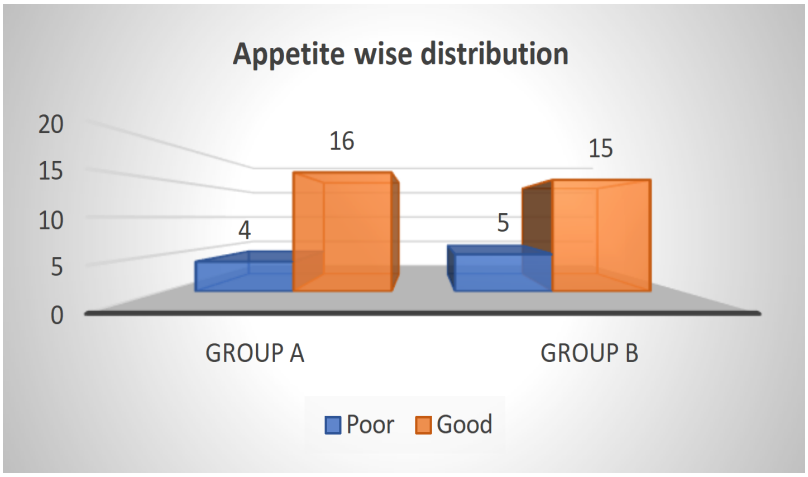

Fig. 12: Appetite wise distribution

Interpretation: The above table shows the distribution of patients according to appetite in both groups.
In Group A, the majority of patients (80%) had a good appetite, while 20% had a poor appetite
In Group B, 75% of patients had a good appetite, and 25% had a poor appetite.

Sleep:

Table 13: Sleep wise distribution

Sleep	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Sound	14	70	13	65
Disturbed	6	30	7	35
Total	20	100	20	100

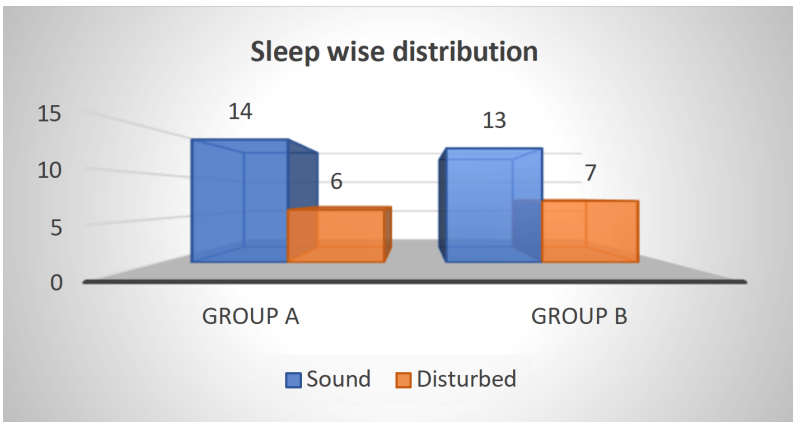

Fig. 13: Sleep wise distribution

Interpretation: The above table shows the distribution of patients according to sleep patterns in both groups.
In Group A, the majority of patients (70%) reported sound sleep, while 30% experienced disturbed sleep.
In Group B, 65% of patients had sound sleep, whereas 35% had disturbed sleep.

Habit:

Table 14: Habit wise distribution

Habit	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Nothing	14	70	16	80
Coffee	2	10	1	5
Tea	4	20	3	15

Total	20	100	20	100

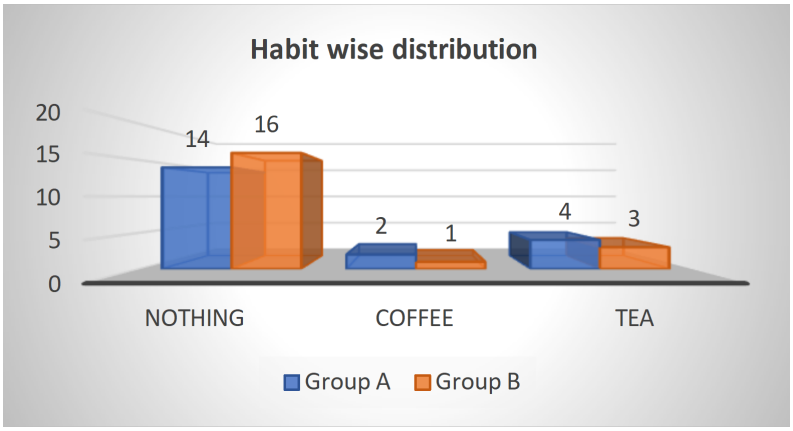

Fig. 14: Habit wise distribution

Interpretation: The above table shows the distribution of patients according to habitual consumption in both groups. In Group A, the majority of patients (70%) reported no habitual consumption, while 20% consumed tea and 10% consumed coffee. In Group B, 80% of patients had no habitual consumption, 15% consumed tea, and 5% consumed coffee.

Observations based on Menstrual Cycle Regularity:

Table 15: Regularity wise distribution

Regularity	**Group A**		**Group B**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Regular	15	75	17	85
Irregular	5	25	3	15
Total	20	100	20	100

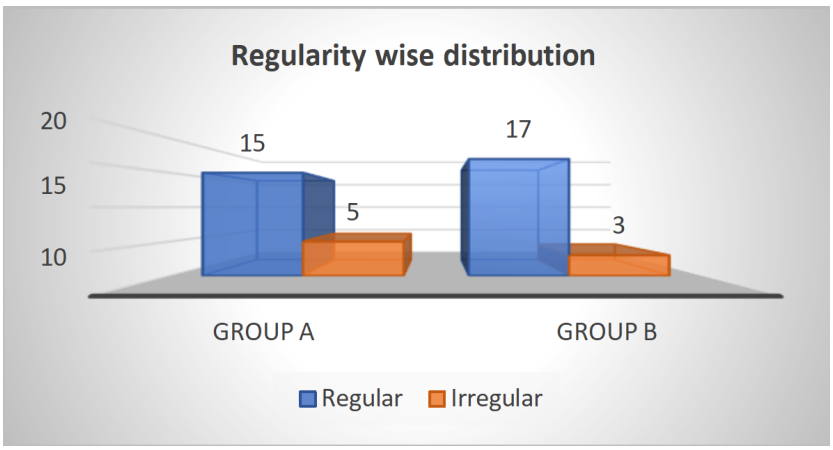

Fig. 15: Regularity wise distribution

Interpretation: The above table shows the distribution of patients according to menstrual cycle regularity in both groups. In Group A, the majority of patients (75%) had a regular menstrual cycle, while 25% experienced irregular cycles. In Group B, 85% of patients reported a regular cycle, and 15% had irregular cycles.

Amount of Flow:

Table 16: Amount of Flow wise distribution

Amount of Flow	**Group A**		**Group B**	
	Frequency	**Percentage**	**Frequency**	**Percentage**

Scanty	3	15	0	0
Moderate	17	85	20	100
Total	20	100	20	100

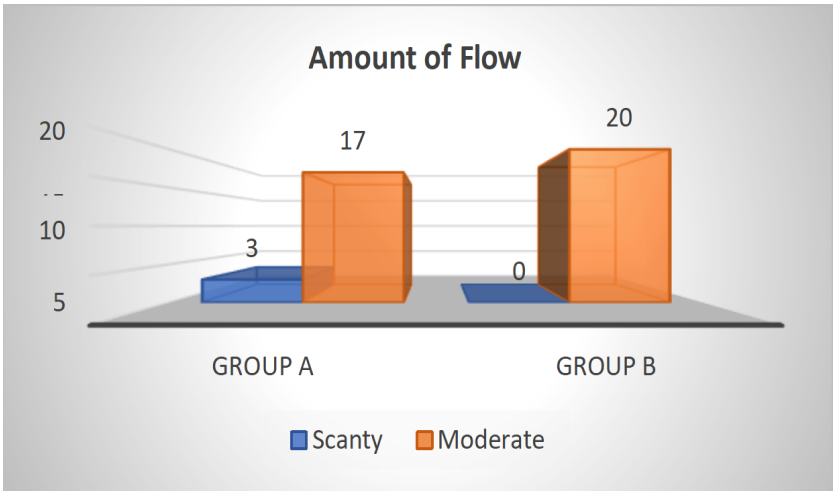

Fig. 16: Amount of Flow wise distribution

Interpretation: The above table shows the distribution of patients according to the amount of menstrual flow in both groups.

In Group A, the majority of patients (85%) had moderate flow, while 15% experienced scanty flow.

In Group B, all patients (100%) had moderate flow, and no patients reported scanty flow.

Discomfort:

Table 17: Discomfort wise distribution

Discomfort	**Group A**		**Group B**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Absent	7	35	10	50
Present	13	65	10	50
Total	20	100	20	100

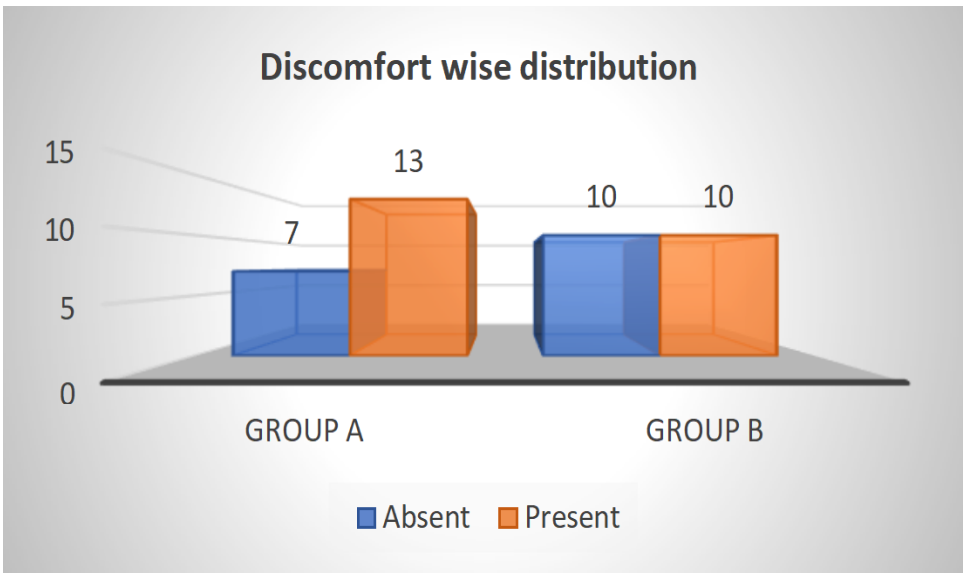

Fig. 17: Discomfort wise distribution

Interpretation: The above table shows the distribution of patients according to menstrual discomfort in both groups.

In Group A, 65% of patients reported discomfort during menstruation, while 35% experienced no discomfort.

In Group B, discomfort was reported by 50% of patients, with the remaining 50% experiencing no discomfort.

Foul Smell:

Table 18: Foul Smell wise distribution

Foul Smell	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Absent	17	85	17	85
Present	3	15	3	15
Total	20	100	20	100

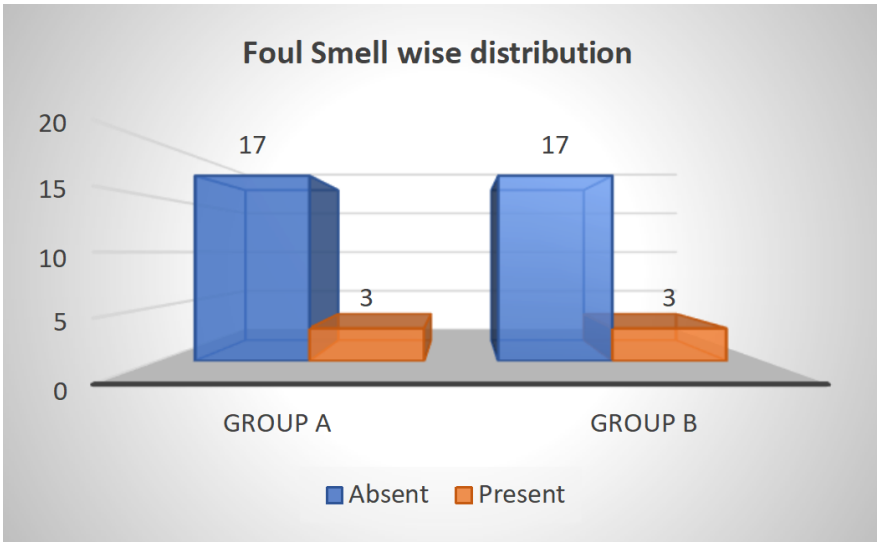

Fig. 18: Foul Smell wise distribution

Interpretation: The above table shows the distribution of patients according to the presence of foul smell during menstruation in both groups.
In both Group A and Group B, the majority of patients (85%) did not report any foul smell, while 15% of patients in each group experienced a foul smell.

Overall, the occurrence of foul smell was relatively low and similar in both groups.
Observations based on Obstetric History

Parity:

Table 19: Parity wise distribution

Parity	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Nulliparous	2	10	4	20
Parous	5	25	8	40
Multiparous	13	65	8	40
Total	20	100	20	100

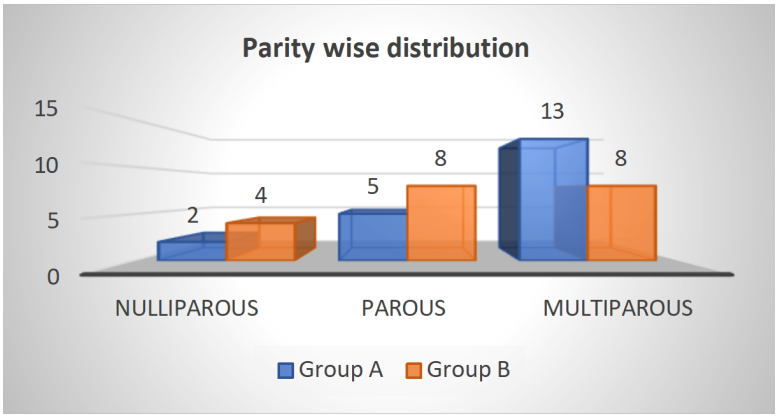

Fig. 19: Parity wise distribution

Interpretation: The above table shows the distribution of patients according to parity in both groups.
In Group A, the majority of patients (65%) were multiparous, followed by parous women (25%) and nulliparous women (10%).
In Group B, parous and multiparous women each accounted for 40% of the patients, while nulliparous women made up 20%.

Abortion:

Table 20: Abortion wise distribution

Abortion	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
0	7	35	11	55
1	9	45	9	45
>2	4	20	0	0
Total	20	100	20	100

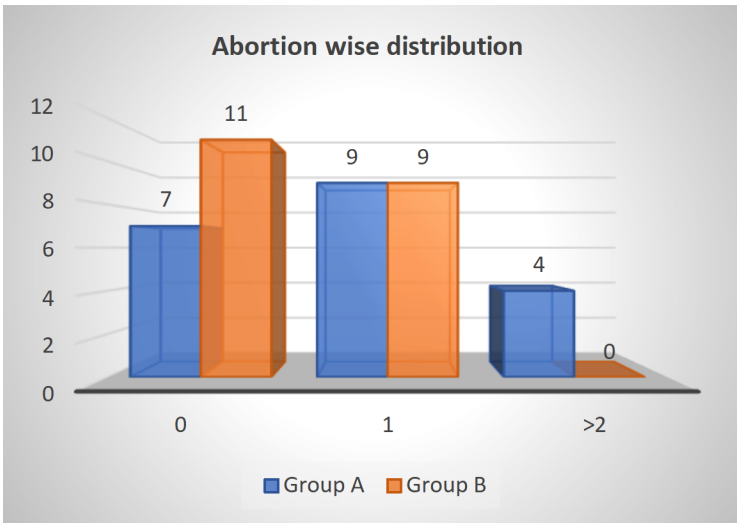

Fig. 20: Abortion wise distribution

Interpretation: The above table shows the distribution of patients according to the history of abortion in both groups.
In Group A, 45% of patients had one abortion, 35% had no history of abortion, and 20% had more than two abortions.
In Group B, the majority of patients (55%) had no history of abortion, while 45% had one abortion. No patients in Group B had more than two abortions.

Living Children:

Table 21: Living Children wise distribution

Living Children	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
1	2	10	4	20
2	5	25	8	40
3	13	65	8	40
Total	20	100	20	100

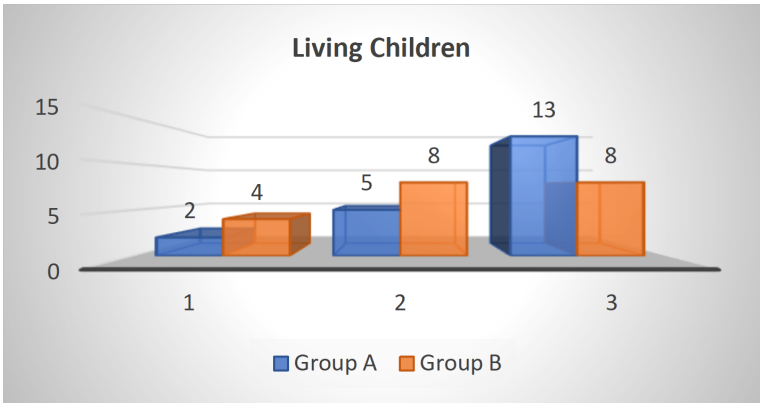

Fig. 21: Living Children wise distribution

Interpretation: The above table shows the distribution of patients according to the number of living children in both groups.
In Group A, the majority of patients (65%) had three living children, followed by two children in 25% of patients and one child in 10%.
In Group B, two and three living children were equally common, each accounting for 40% of patients, while one child was observed in 20% of patients.

Nature of Delivery:

Table 22: Nature of Delivery wise distribution

Nature of Delivery	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
NULLI	2	10	4	20
FTND	12	60	14	70
LSCS	3	15	1	5
FTND & LSCS	3	15	1	5
Total	20	100	20	100

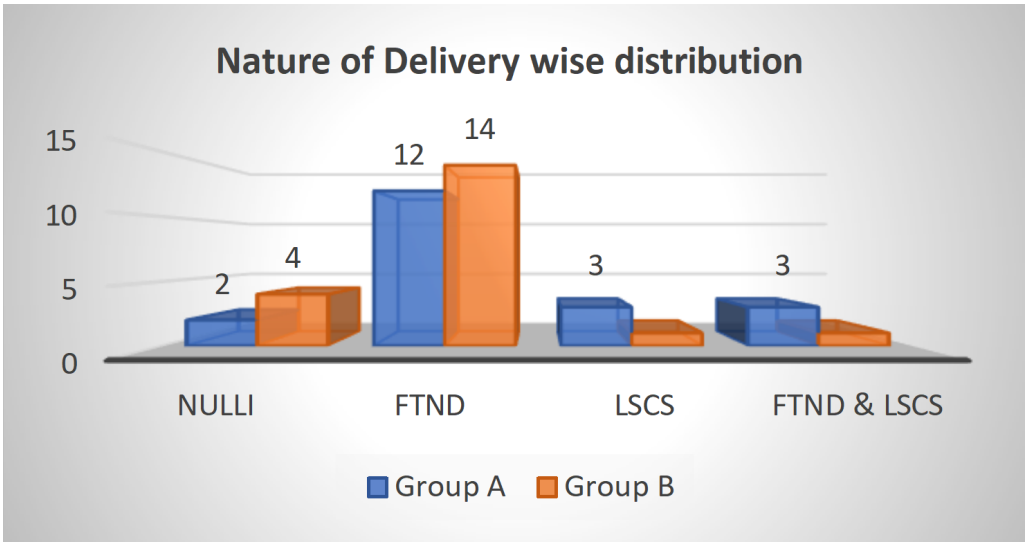

Fig. 22: Nature of Delivery wise distribution

Interpretation: The above table shows the distribution of patients according to the nature of delivery in both groups. In Group A, the majority of patients (60%) had a full-term normal delivery (FTND). LSCS (cesarean section) was reported in 15%, while FTND & LSCS occurred in another 15%. Nulliparous (NULLI) patients accounted for 10%.

In Group B, FTND was also the most common mode of delivery, seen in 70% of patients. Nulliparous (NULLI) patients accounted for 20%, while both LSCS and FTND & LSCS were reported in 5% each.

Contraceptive History:

Table 23: Contraceptive History wise distribution

Contraceptive History	Group A		Group B	
	Frequency	Percentage	Frequency	Percent age
Absent	14	70	13	65
Present	6	30	7	35
Total	20	100	20	100

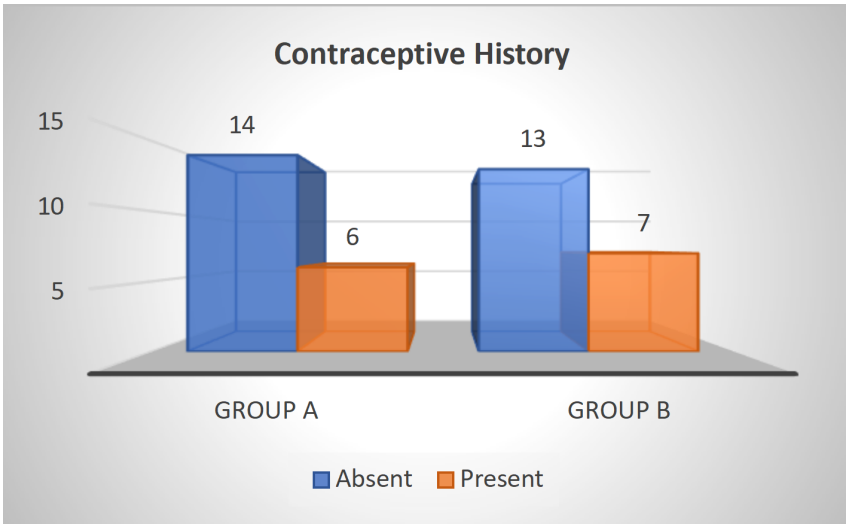

Fig. 23: Contraceptive History wise distribution

Interpretation: The above table shows the distribution of patients according to contraceptive history in both groups.
In Group A, the majority of patients (70%) had no history of contraceptive use, while 30% had used contraceptives.
In Group B, 65% of patients had no contraceptive history, and 35% reported using contraceptives.

Dyspareunia:

Table 24: Dyspareunia wise distribution

Dyspareunia	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Absent	20	100	20	100
Total	20	100	20	100

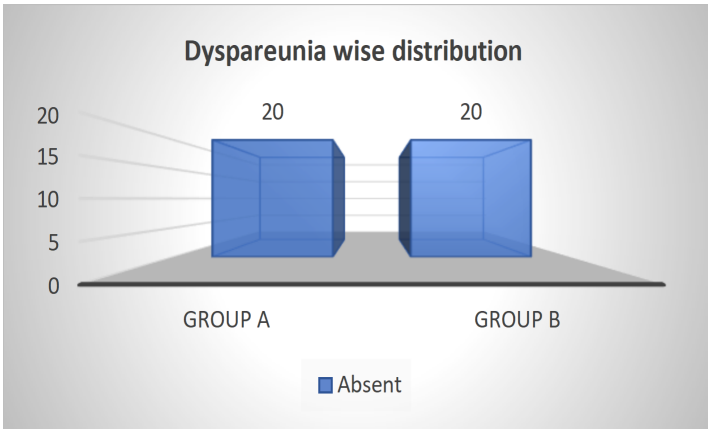

Fig. 24: Dyspareunia wise distribution

Interpretation: The above table shows the distribution of patients according to dyspareunia (pain during intercourse) in both groups.
In both Group A and Group B, all patients (100%) reported no dyspareunia.
Overall, none of the patients in either group experienced pain during sexual activity.

Coital History:

Table 25: Coital History wise distribution

Coital History	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
1-2 Times/Month	8	40	10	50
3-5 Times/Month	11	55	9	45
>8-10 Times/Month	1	5	1	5
Total	20	100	20	100

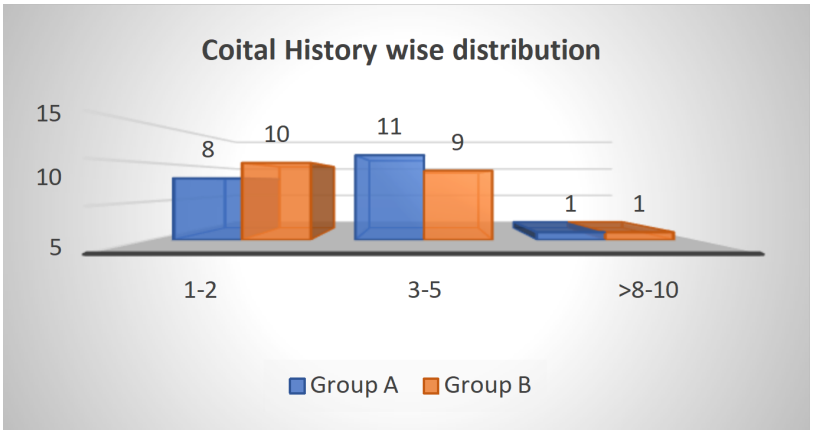

Fig. 25: Coital History wise distribution

Interpretation: The above table shows the distribution of patients according to coital frequency in both groups.
In Group A, the majority of patients (55%) reported 3–5 times per month, followed by 1–2 times per month in 40%, and >8– 10 times per month in 5%.
In Group B, 50% of patients reported 1–2 times per month, 45% reported 3–5 times per month, and 5% reported >8–10 times per month.
Observations based on Dashavidha Pareeksha

Prakruti:

Table 26: Prakruti wise distribution

Prakruti	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
VP	6	30	10	50
VK	3	15	0	0
KP	7	35	3	15
KV	2	10	2	10
PK	2	10	1	5
PV	0	0	4	20
Total	20	100	20	100

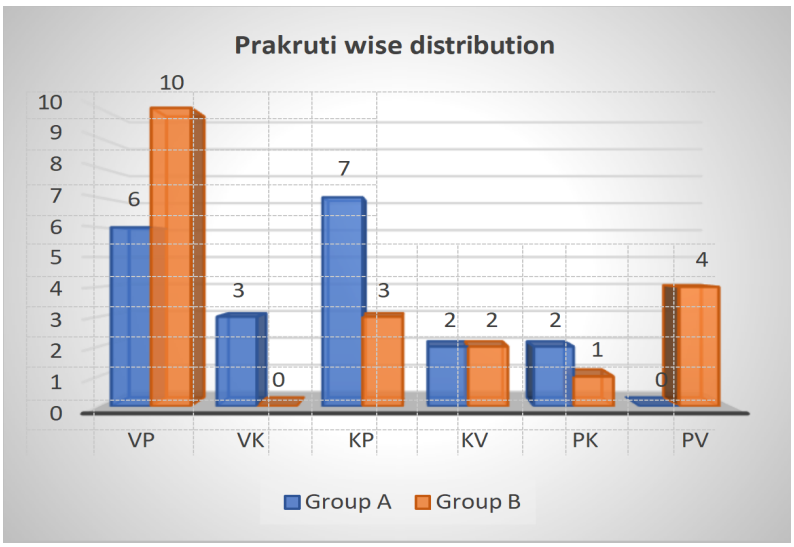

Fig. 26: Prakruti wise distribution

Interpretation: The above table shows the distribution of patients according to Prakruti (Ayurvedic body constitution) in both groups.
In Group A, the most common Prakruti was Kapha-Pitta (KP), seen in 35% of patients, followed by Vata-Pitta (VP) in 30%, Vata-Kapha (VK) in 15%, Kapha-Vata (KV) in 10%, and Pitta-Kapha (PK) in 10%. No patients had Pitta-Vata (PV) constitution.
In Group B, Vata-Pitta (VP) was the most common, observed in 50% of patients. Pitta-Vata (PV) accounted for 20%, Kapha-Pitta (KP) for 15%, Kapha-Vata (KV) for 10%, and Pitta-Kapha (PK) for 5%. No patients had Vata-Kapha (VK) constitution.

Saara:

Table 27: Saara wise distribution

Saara	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Pravara	0	0	0	0
Madhyama	20	100	20	100
Avara	0	0	0	0
Total	20	100	20	100

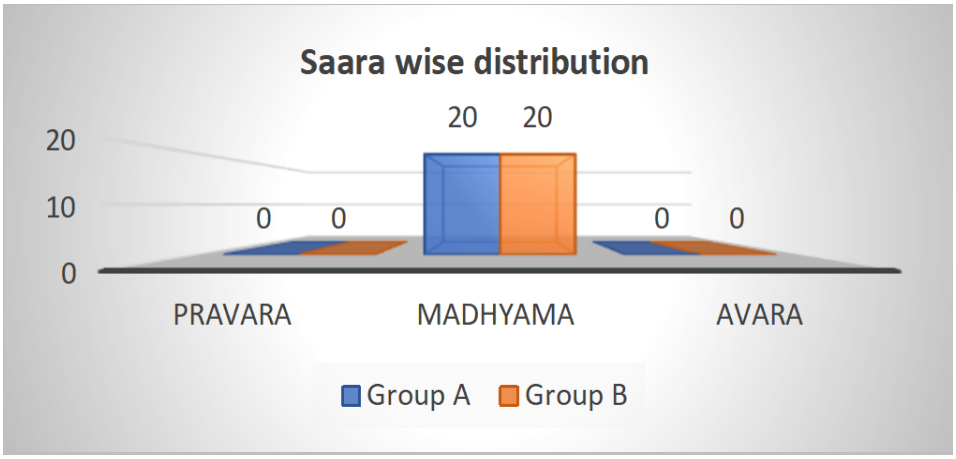

Fig 27: Saara wise distribution

Interpretation: The above table shows the distribution of patients according to Saara in both groups.
In both Group A and Group B, all patients (100%) were classified as Madhyama Saara. No patients were categorized as Pravara (excellent) or Avara (low).

Samhanana:

Table 27: Samhanana wise distribution

Samhanana	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Pravara	0	0	0	0
Madhyama	20	100	20	100
Avara	0	0	0	0
Total	20	100	20	100

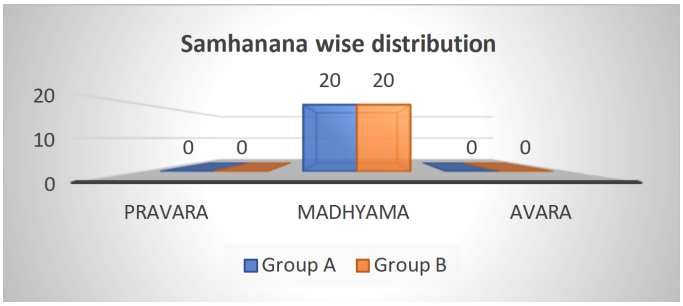

Fig. 28: Samhanana wise distribution

Interpretation: The above table shows the distribution of patients according to Samhanana (body built or compactness) in both groups.
In both Group A and Group B, all patients (100%) were classified as Madhyama Samhanana. No patients were categorized as Pravara (well-built) or Avara (poorly built).

Pramana:

Table 28: Pramana wise distribution

Pramana	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Pravara	5	25	2	10
Madhyama	11	55	14	70
Avara	4	20	4	20
Total	20	100	20	100

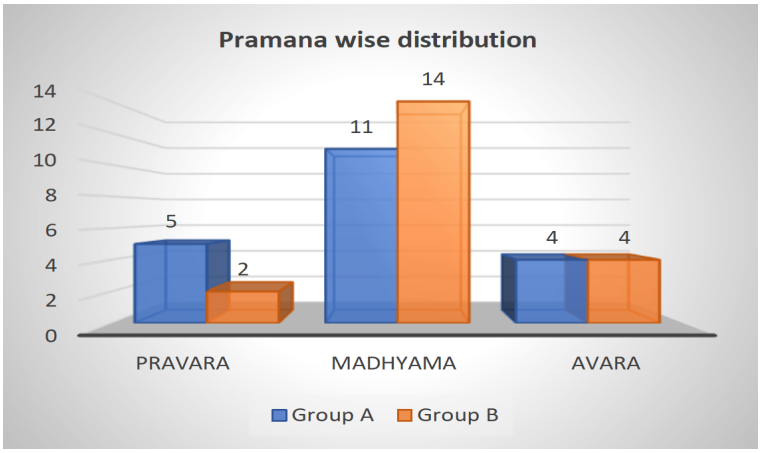

Fig. 28: Pramana wise distribution

Interpretation: The above table shows the distribution of patients according to Pramana (physical stature or measurement) in both groups.
In Group A, the majority of patients (55%) were classified as Madhyama Pramana, 25% as Pravara, and 20% as Avara.
In Group B, Madhyama Pramana was also the most common, seen in 70% of patients, followed by Avara in 20% and Pravara in 10%.

Satwa:

Table 29: Satwa wise distribution

Satwa	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Pravara	0	0	0	0
Madhyama	20	100	20	100
Avara	0	0	0	0
Total	20	100	20	100

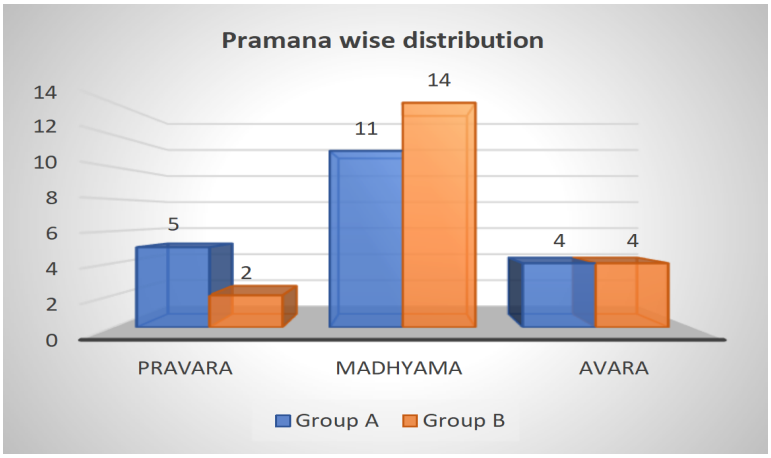

Fig. 29: Satwa wise distribution

Interpretation: The above table shows the distribution of patients according to Satwa (mental strength or psychological resilience) in both groups.

In both Group A and Group B, all patients (100%) were classified as Madhyama Satwa. No patients were categorized as Pravara (excellent) or Avara (low).

Vaya:

Table 30: Vaya wise distribution

Vaya	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
20 - 40	17	85	16	80
>40	3	15	4	20
Total	20	100	20	100

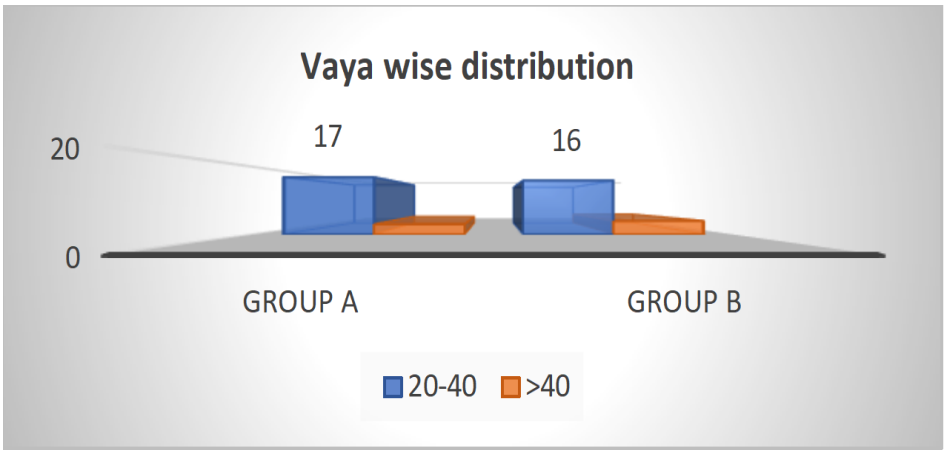

Fig. 30: Vaya wise distribution

Interpretation: The above table shows the distribution of patients according to Vaya (age group) in both groups.
In Group A, the majority of patients (85%) were in the 20–40 years age group, while 15% were above 40 years.
In Group B, 80% of patients were in the 20–40 years age group, and 20% were above 40 years.

Overall, most patients in both groups were young adults (20– 40 years), with only a small proportion above 40 years of age.

Observations based on Findings of Cervix During P/S

Appearance of Cervix:

Table 31: Appearance of Cervix wise distribution

Appearance of Cervix	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Normal	0	0	0	0
Hypertrophied	20	100	20	100
Atrophied	0	0	0	0
Total	20	100	20	100

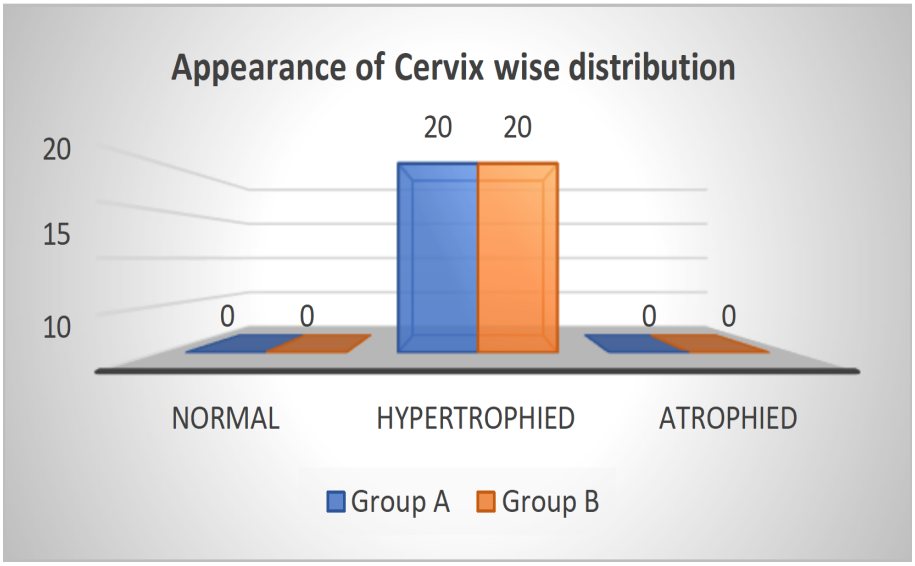

Fig. 31: Appearance of Cervix wise distribution

Interpretation: The above table shows the distribution of patients according to the appearance of the cervix in both groups.

In both Group A and Group B, all patients (100%) had a hypertrophied cervix. No patients had a normal or atrophied cervix.

External OS:

Table 32: External OS wise distribution

External OS	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Nulliparous	2	10	4	20
Parous	18	90	16	80
Total	20	100	20	100

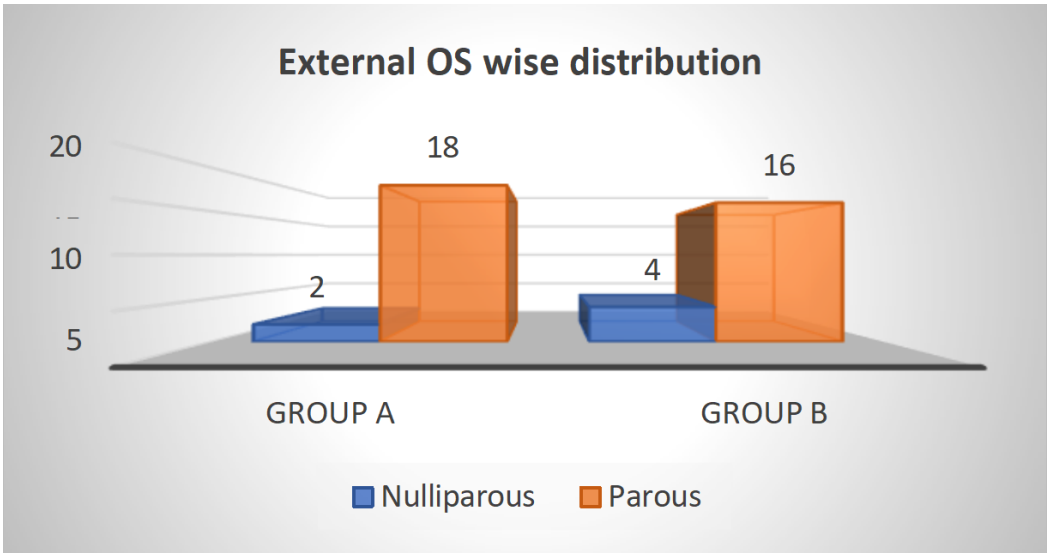

Fig. 32: External OS wise distribution

Interpretation: The above table shows the distribution of patients according to the external OS status in both groups.
In Group A, the majority of patients (90%) had a parous external OS, while 10% were nulliparous.
In Group B, 80% of patients had a parous external OS, and 20% were nulliparous.

38) Presence of Erosion:

Table 33: Presence of Erosion wise distribution

Presence of Erosion	Group A		Group B	
	Frequency	Percentage	Frequency	Percentage
Present	20	100	20	100
Total	20	100	20	100

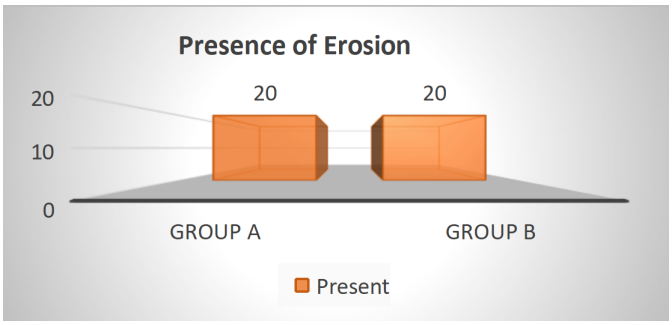

Fig. 33: Presence of Erosion

Interpretation: The above table shows the distribution of patients according to the presence of cervical erosion in both groups.
In both Group A and Group B, all patients (100%) showed the presence of cervical erosion. No patients had an absence of erosion.

Statistical Analysis

In both groups A and B sample size was 20. On each sample 6 parameters were measured in 3 follow ups, out of which 5 parameters were qualitative (ordinal) in nature and 1 parameter was nominal in nature.
According to type of parameter the appropriate statistical tests are as follows:

Type of variable	What is going to check	Appropriate test
Ordinal	Follow up wise results	Friedman test

	Before and after treatment results	Wilcoxon signed rank test
Nominal	Follow up wise results	Cochran Q test
	Before and after treatment results	McNemar test

These tests are applied in SPSS software (Version-16.0) and the results are as follows:

Results within Group A and Group B
Quantity of Discharge: Follow up wise result by Friedman test as follows:

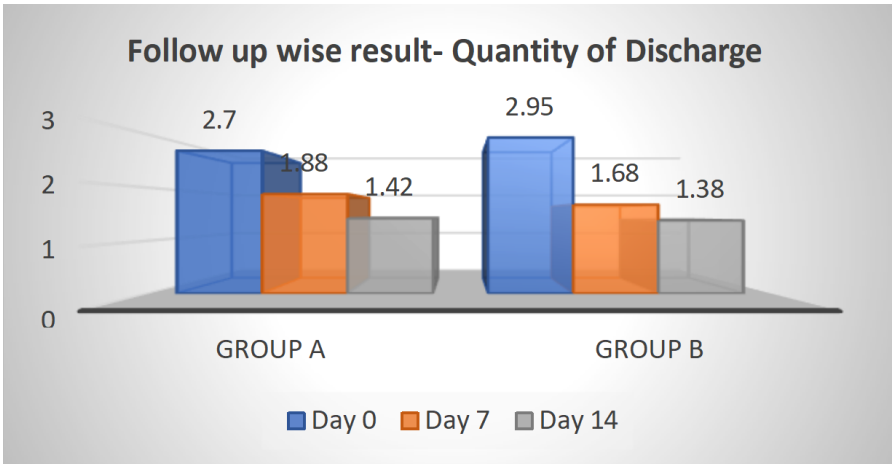

Fig. 34: Follow up wise result- Quantity of Discharge

Table 34: Result of Friedman test- Quantity of Discharge

Quantity of Discharge	Mean Rank	
	Group A	Group B
Day 0	2.70	2.95
Day 7	1.88	1.68
Day 14	1.42	1.38
Test Statistic	26.235	35.524
P value	<0.05 (Significant)	<0.05 (Significant)

Interpretation: As the p-value is less than 0.05 in both Group A and Group B, there is a statistically significant difference in the mean rank of Quantity of Discharge across the follow-up periods. In both groups, the mean rank shows a progressive decrease from Day 0 to Day 7 and further to Day 14, indicating a consistent reduction in the quantity of discharge over time. The significant test statistics further support that this change is not due to chance. Overall, these findings suggest that the treatment was effective in significantly reducing the quantity of discharge in both Group A and Group B across the study period.
Result of before and after treatment by Wilcoxon signed rank test as follows:

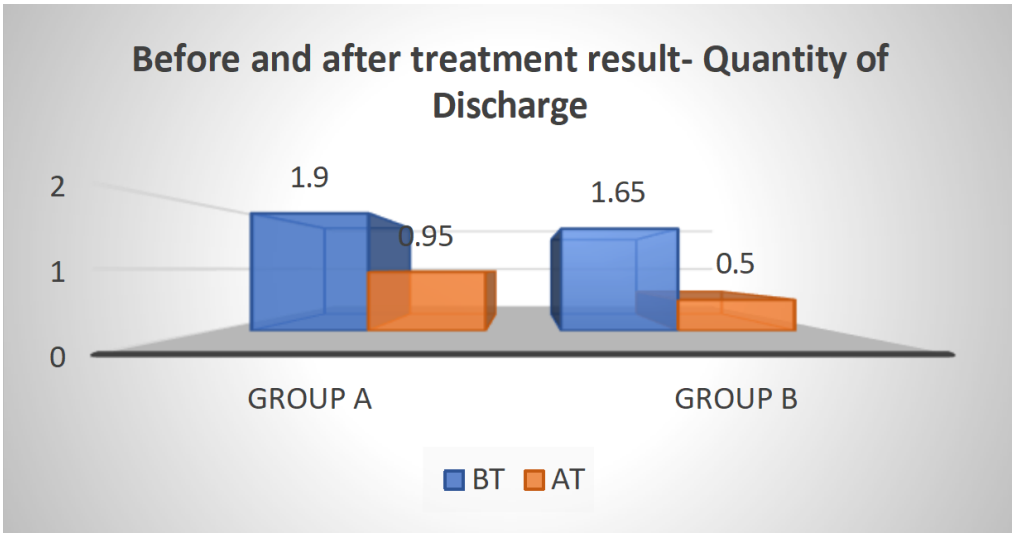

Fig.35: Before and after treatment result- Quantity of Discharge

Table 35: Result of Wilcoxon signed rank test- Quantity of Discharge

Quantity of Discharge	Mean		% of improvement	Negative rank	Positive rank	Ties	W	P value
	B T	A T						
Group A	1.9	0.95	50	16	0	4	-3.755	<0.05 (Signi ficant)
Group B	1.65	0.5	69.7	20	0	0	-4.234	<0.05 (Signi ficant)

Interpretation: The Wilcoxon signed-rank test was conducted to evaluate the effect of treatment on Quantity of Discharge in both groups.
In Group A, the mean score decreased from 1.9 before treatment (BT) to 0.95 after treatment (AT), reflecting a 50% improvement. The analysis showed 16 negative ranks, 4 positive ranks, and no ties, with a test statistic of W = –3.755, which was statistically significant ($p < 0.05$). This indicates a significant reduction in the quantity of discharge following treatment in Group A.
Similarly, in Group B, the mean score decreased from 1.65 (BT) to 0.5 (AT), representing a 69.7% improvement. The analysis revealed 20 negative ranks, 0 positive ranks, and 0 ties, with a test statistic of W = –4.234, which was statistically significant ($p < 0.05$). These findings indicate a statistically significant improvement in the quantity of discharge in Group B as well.

Consistency of Discharge: Follow up wise result by Friedman test as follows:

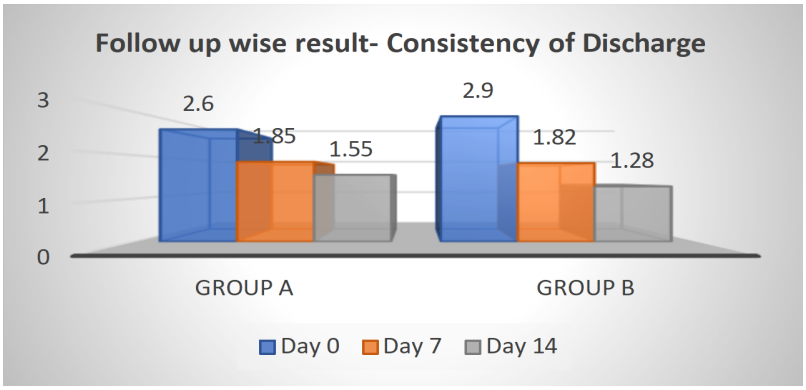

Fig. 36: Follow up wise result- Consistency of Discharge

Table 36: Result of Friedman test- Consistency of Discharge

Consistency of Discharge	Mean Rank	
	Group A	Group B
Day 0	2.60	2.90
Day 7	1.85	1.82
Day 14	1.55	1.28
Test Statistic	22.286	33.631
P value	<0.05 (Significant)	<0.05 (Significant)

Interpretation: As the p-value is less than 0.05 in both Group A and Group B, there is a statistically significant difference in the mean rank of Consistency of Discharge across the follow- up periods. The mean rank decreased progressively in both groups from Day 0 to Day 7 and further to Day 14, indicating a consistent improvement over time. The significant test statistics confirm that these changes are not due to chance. Overall, the findings suggest that the treatment was effective in significantly improving the consistency of discharge in both Group A and Group B across the study period.

Result of before and after treatment by Wilcoxon signed rank test as follows:

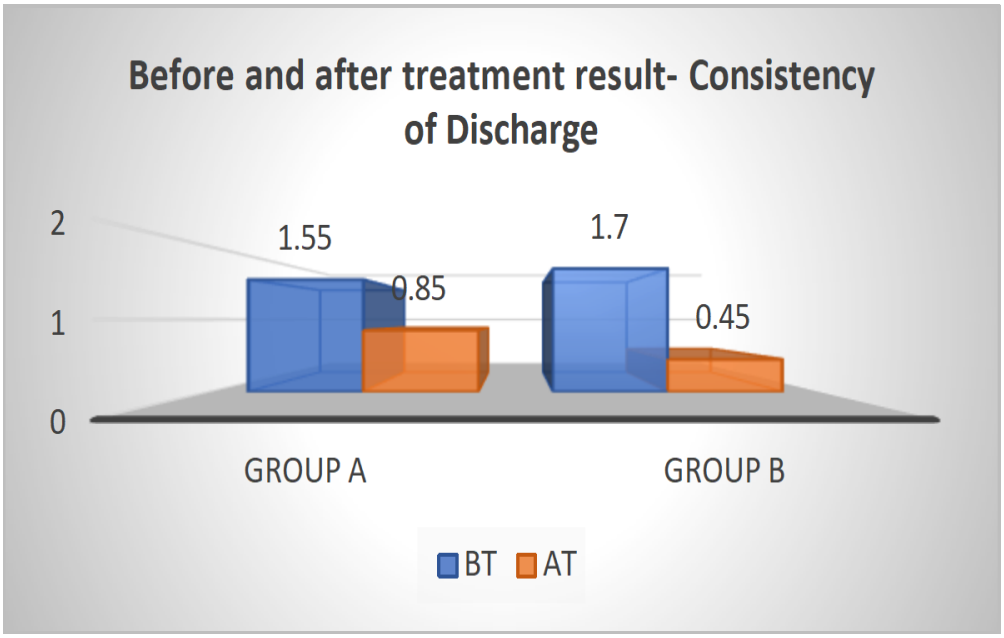

Fig. 37: Before and after treatment result- Consistency of Discharge

Table 37: Result of Wilcoxon signed rank test- Area involved

Area involved	Mean		% of improvement	Negative rank	Positiv e rank	T ies	W	P value
	B T	A T						
Group A	1.55	0.85	45.2	14	0	6	- 3.742	<0.05 (Signi ficant)
Group B	1.55	0.35	77.4	20	0	0	- 4.179	<0.05 (Signi ficant)

Interpretation: The Wilcoxon signed-rank test was conducted to evaluate the effect of treatment on Area Involved in both groups.

In Group A, the mean score decreased from 1.55 before treatment (BT) to 0.85 after treatment (AT), reflecting a 45.2% improvement. The analysis showed 14 negative ranks, 6 positive ranks, and no ties, with a test statistic of $W = -3.742$, which was statistically significant ($p < 0.05$). This indicates a significant reduction in the area involved following treatment in Group A.

Similarly, in Group B, the mean score decreased from 1.55 (BT) to 0.35 (AT), representing a 77.4% improvement. The analysis revealed 20 negative ranks, no positive ranks, and no ties, with a test statistic of W = –4.179, which was statistically significant ($p < 0.05$). These findings indicate a statistically significant reduction in the area involved in Group B as well.

Size of erosion: Follow up wise result by Friedman test as follows:

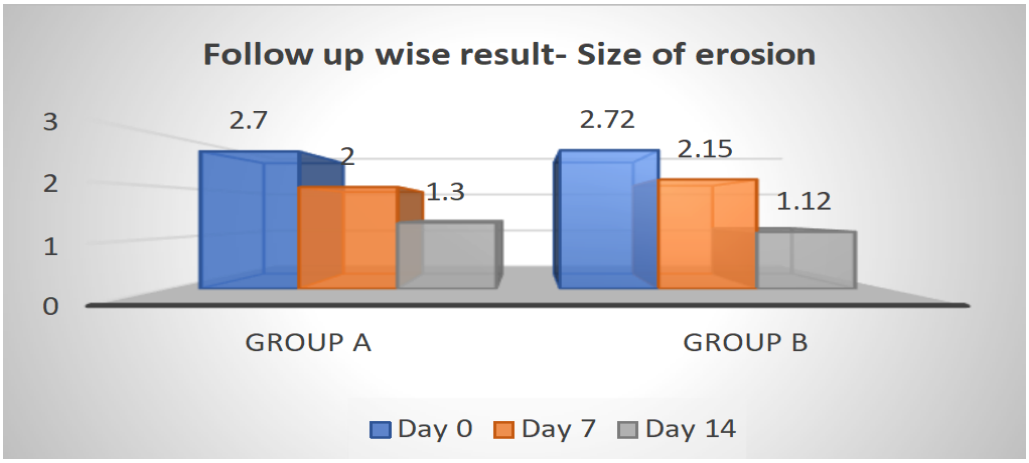

Fig. 38: Follow up wise result- Size of erosion

Table 38: Result of Wilcoxon signed rank test- Quantity of Discharge

Consistency of Discharge	Mean Rank	
	Group A	Group B
Day 0	2.60	2.90
Day 7	1.85	1.82
Day 14	1.55	1.28
Test Statistic	22.286	33.631
P value	<0.05 (Significant)	<0.05 (Significant)

Interpretation: As the p-value is less than 0.05 in both Group A and Group B, there is a statistically significant difference in the mean rank of Consistency of Discharge across the follow- up periods. The mean rank decreased progressively in both groups from Day 0 to Day 7 and further to Day 14, indicating a consistent improvement over time. The significant test statistics confirm that these changes are not due to chance. Overall, the findings suggest that the treatment was effective in significantly improving the consistency of discharge in both Group A and Group B across the study period.
Result of before and after treatment by Wilcoxon signed rank test as follows:

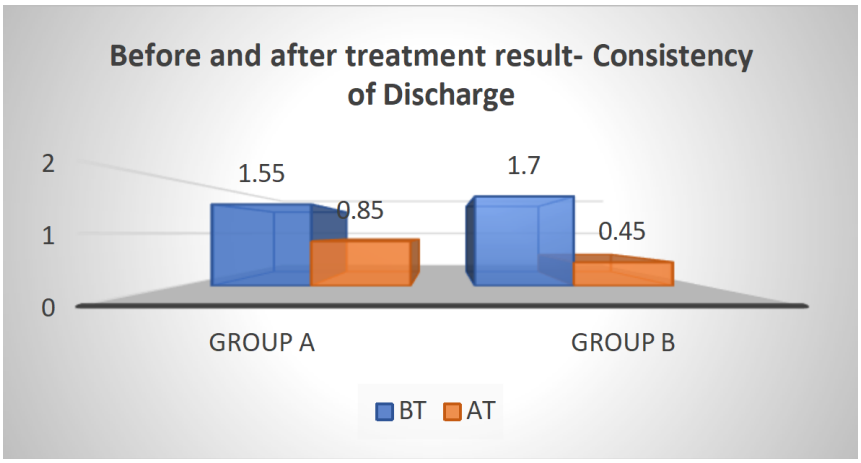

Fig. 38: Before and after treatment result- Consistency of Discharge

Table 39: Result of Wilcoxon signed rank test- Consistency of Discharge

Consistency of Discharge	Mean		% of improvement	Negative rank	Positive rank	Ties	W	P value
	B T	A T						
Group A	1.55	0.85	45.2	14	0	6	-3.742	<0.05 (Signi ficant)
Group B	1.7	0.45	73.5	20	0	0	-4.134	<0.05 (Signi ficant)

Interpretation: The Wilcoxon signed-rank test was conducted to evaluate the effect of treatment on Consistency of Discharge in both groups.
In Group A, the mean score decreased from 1.55 before treatment (BT) to 0.85 after treatment (AT), showing a 45.2% improvement. The analysis revealed 14 negative ranks, 6 positive ranks, and no ties, with a test statistic of W = –3.742, which was statistically significant ($p < 0.05$). This indicates a significant improvement in the consistency of discharge following treatment in Group A. Similarly, in Group B, the mean score decreased from 1.7 (BT) to 0.45 (AT), reflecting a 73.5% improvement. The analysis showed 20 negative ranks, no positive ranks, and no ties, with a test statistic of W = –4.134, which was statistically significant ($p < 0.05$). These findings indicate a statistically significant improvement in the consistency of discharge in Group B as well.

Area involved: Follow up wise result by Friedman test as follows:

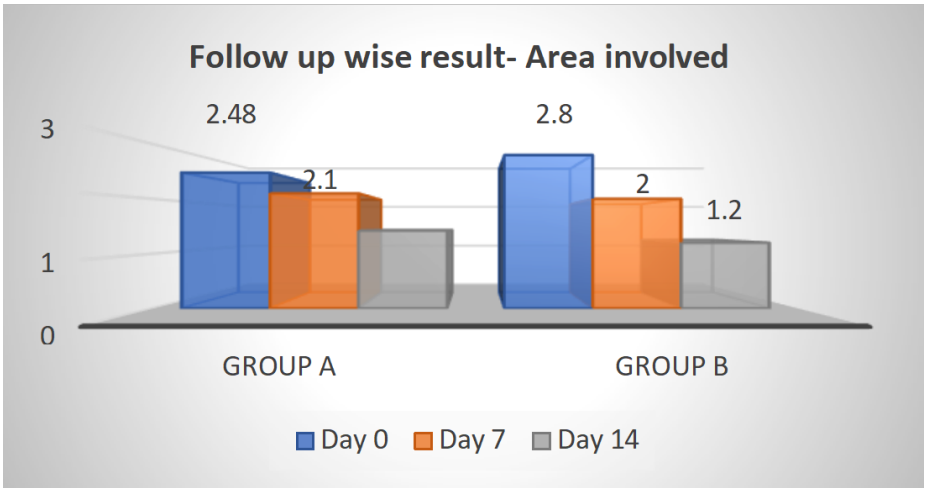

Fig. 39: Follow up wise result- Area involved

Table 40: Result of Friedman test- Area involved

Area involved	Mean Rank	
	Group A	Group B
Day 0	2.48	2.80
Day 7	2.10	2.00
Day 14	1.42	1.20
Test Statistic	21.571	32.000
P value	<0.05 (Significant)	<0.05 (Significant)

Interpretation: As the p-value is less than 0.05 in both Group A and Group B, there is a statistically significant difference in the mean rank of Area Involved across the follow-up periods. The mean rank shows a progressive decrease in both groups from Day 0 to Day 7 and further to Day 14, indicating a consistent reduction in the area involved over time. The significant test statistics confirm that these changes are not due to chance. Overall, the findings suggest that the treatment was effective in

significantly reducing the area involved in both Group A and Group B across the study period.

Result of before and after treatment by Wilcoxon signed rank test as follows:

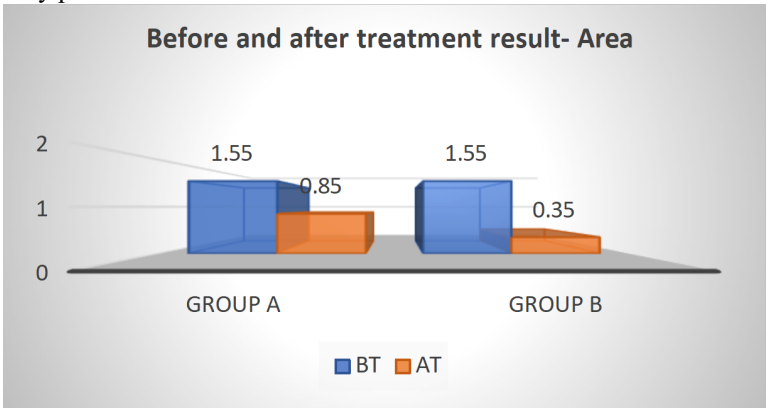

Fig. 40: Before and after treatment result-Area involved

Table 39: Result of Wilcoxon signed rank test- Area involved

Area involved	Mean		% of improvement	Negativ e rank	Pos itiv e rank	Ties	W	P value
	B T	A T						
Group A	1.55	0.85	45.2	14	0	6	- 3.742	<0.05 (Signi ficant)
Group B	1.55	0.35	77.4	20	0	0	- 4.179	<0.05 (Signi ficant)

Interpretation: The Wilcoxon signed-rank test was conducted to evaluate the effect of treatment on Area Involved in both groups.

In Group A, the mean score decreased from 1.55 before treatment (BT) to 0.85 after treatment (AT), reflecting a 45.2% improvement. The analysis showed 14 negative ranks, 6 positive ranks, and no ties, with a test statistic of $W = -3.742$, which was statistically significant ($p < 0.05$). This indicates a significant reduction in the area involved following treatment in Group A.

Similarly, in Group B, the mean score decreased from 1.55 (BT) to 0.35 (AT), representing a 77.4% improvement. The analysis revealed 20 negative ranks, no positive ranks, and no ties, with a test statistic of $W = -4.179$, which was statistically significant ($p < 0.05$). These findings indicate a statistically significant reduction in the area involved in Group B as well.

Size of erosion: Follow up wise result by Friedman test as follows:

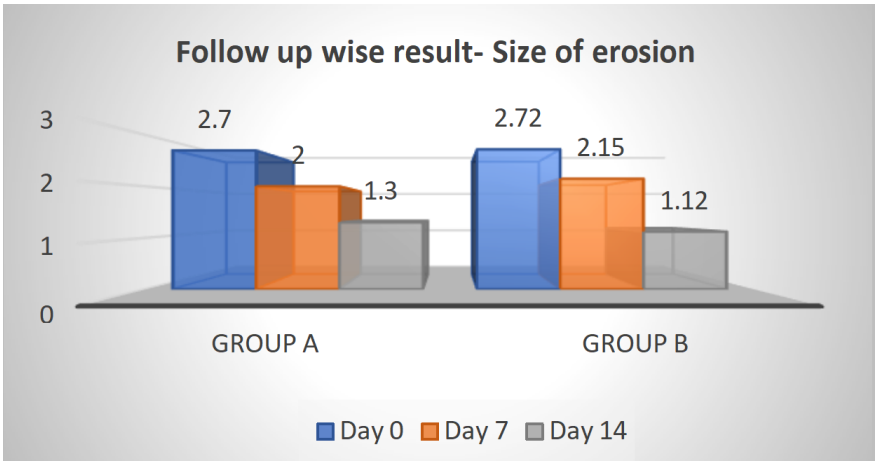

Fig. 41: Follow up wise result- Size of erosion

Table 40: Result of Friedman test- Size of erosion

Size of erosion	Mean Rank	
	Group A	Group B
Day 0	2.70	2.72
Day 7	2.00	2.15
Day 14	1.30	1.12
Test Statistic	28.000	32.844
P value	<0.05 (Significant)	<0.05 (Significant)

Interpretation: As the p-value is less than 0.05 in both Group A and Group B, there is a statistically significant difference in the mean rank of Size of Erosion across the follow-up periods. The mean rank decreased progressively in both groups from Day 0 to Day 7 and further to Day 14, indicating a consistent reduction in the size of erosion over time. The significant test statistics confirm that these changes are not due to chance. Overall, the results suggest that the treatment was effective in significantly reducing the size of erosion in both Group A and Group B throughout the study period.

Result of before and after treatment by Wilcoxon signed rank test as follows:

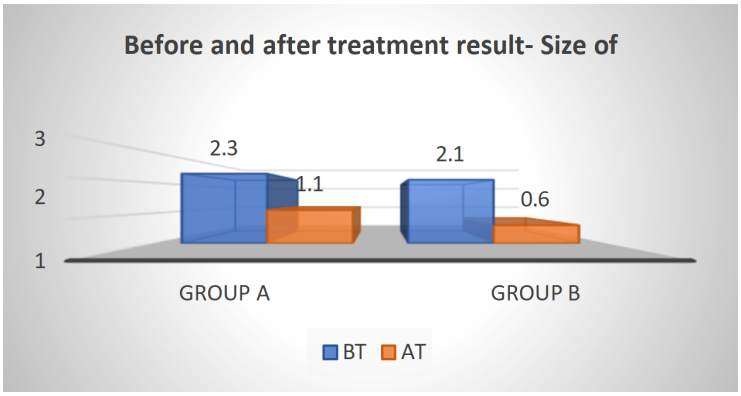

Fig. 41: Before and after treatment result- Size of erosion

Table 41: Result of Wilcoxon signed rank test- Size of erosion

Size of erosion	Mean		% of improvement	Negative rank	Positive rank	Ties	W	P value
	B T	A T						
Group A	2.3	1.1	52.2	16	0	4	-3.619	<0.05 (Signi ficant)
Group B	2.1	0.6	71.4	19	0	1	-3.945	<0.05 (Signi ficant)

Interpretation: The Wilcoxon signed-rank test was conducted to evaluate the effect of treatment on Size of Erosion in both groups.

In Group A, the mean score decreased from 2.3 before treatment (BT) to 1.1 after treatment (AT), reflecting a 52.2% improvement. The analysis showed 16 negative ranks, 4 positive ranks, and no ties, with a test statistic of $W = -3.619$, which was statistically significant ($p < 0.05$). This indicates a significant reduction in the size of erosion following treatment in Group A.

Similarly, in Group B, the mean score decreased from 2.1 (BT) to 0.6 (AT), representing a 71.4% improvement. The analysis revealed 19 negative ranks, 1 positive rank, and no ties, with a test statistic of $W = -3.945$, which was

statistically significant ($p < 0.05$). These findings indicate a statistically significant reduction in the size of erosion in Group B as well.

Appearance of erosion: Follow up wise result by Friedman test as follows:

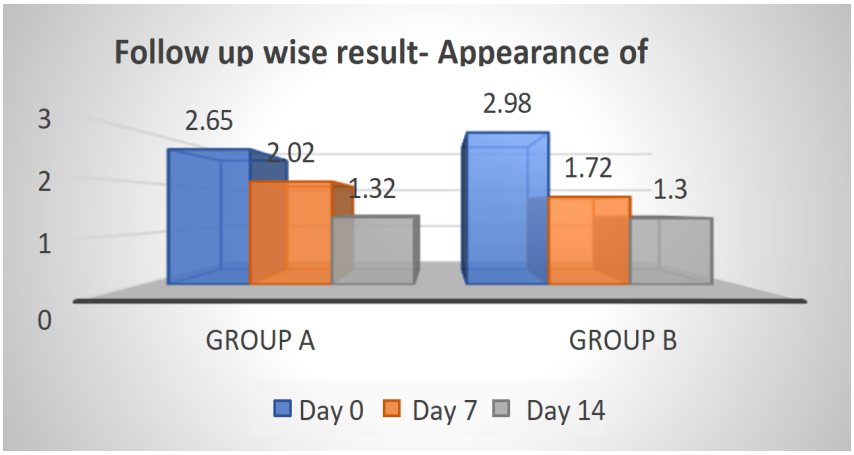

Fig. 42: Follow up wise result- Appearance of erosion

Table 42: Result of Friedman test- Appearance of erosion

Appearance of erosion	Mean Rank	
	Group A	Group B
Day 0	2.65	2.98
Day 7	2.02	1.72
Day 14	1.32	1.30
Test Statistic	26.528	36.209
P value	<0.05 (Significant)	<0.05 (Significant)

Interpretation: As the p-value is less than 0.05 in both Group A and Group B, there is a statistically significant difference in the mean rank of Appearance of Erosion across the follow-up periods. The mean rank decreased progressively in both groups from Day 0 to Day 7 and further to Day 14, indicating a continuous improvement over time. The significant test statistics confirm that these changes are not due to chance. Overall, the findings suggest that the treatment was effective in significantly improving the appearance of erosion in both Group A and Group B throughout the study period.

Result of before and after treatment by Wilcoxon signed rank test as follows:

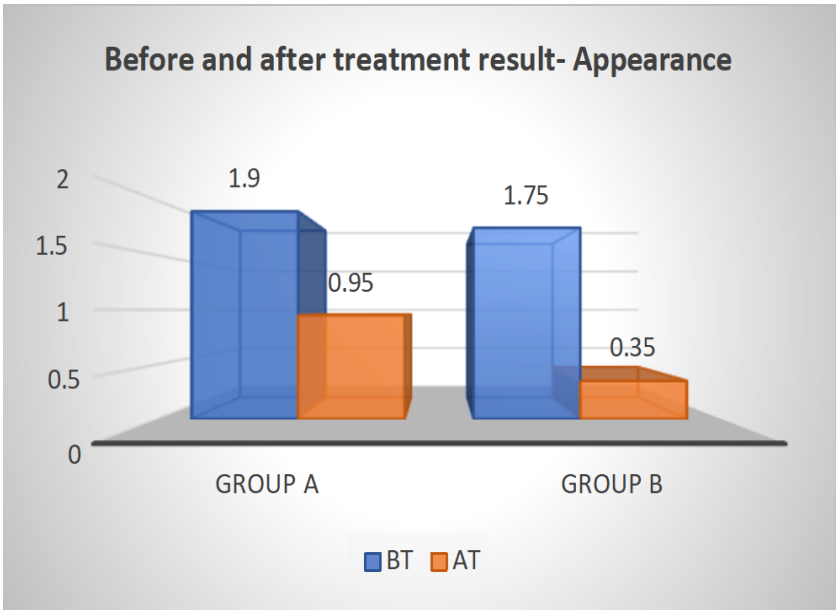

Fig. 43: Before and after treatment result- Appearance of erosion

Table 43: Result of Wilcoxon signed rank test- Appearance of erosion

Appearance of erosion	Mean		% of improvement	Negative rank	Positive rank	Ties	W	P value
	B T	A T						
Grou p A	1.9	0.95	50	17	0	3	- 3.945	<0.05 (Sign ifican t)
Grou p B	1.75	0.35	80	20	0	0	-4.053	<0.05 (Sign ifican t)

Interpretation: The Wilcoxon signed-rank test was conducted to evaluate the effect of treatment on Appearance of Erosion in both groups.

In Group A, the mean score decreased from 1.9 before treatment (BT) to 0.95 after treatment (AT), reflecting a 50% improvement. The analysis showed 17 negative ranks, 3 positive ranks, and no ties, with a test statistic of $W = -3.945$, which was statistically significant ($p < 0.05$). This indicates a significant improvement in the appearance of erosion following treatment in Group A.

Similarly, in Group B, the mean score decreased from 1.75 (BT) to 0.35 (AT), representing an 80% improvement. The analysis revealed 20 negative ranks, no positive ranks, and no ties, with a test statistic of $W = -4.053$, which was statistically significant ($p < 0.05$). These findings indicate a statistically significant improvement in the appearance of erosion in Group B as well.

Pruritis Vulvae: Follow up wise result by Cochran Q test as follows:

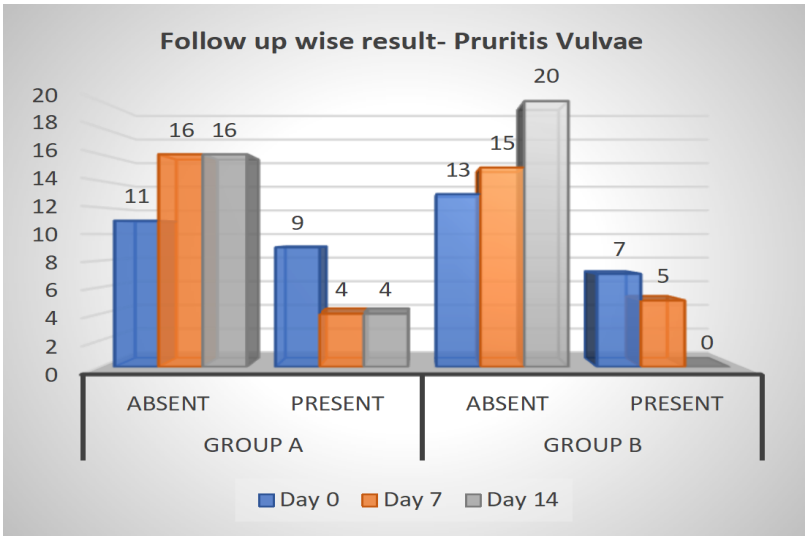

Fig. 44: Follow up wise result- Pruritis Vulvae

Table 44: Result of Cochran Q test- Pruritis Vulvae

Pruritis Vulvae	Group A		Group B	
	Absent	Present	Absent	Present
Day 0	11	9	13	7
Day 7	16	4	15	5
Day 14	16	4	20	0
Test Statistic	8.333		11.143	
P value	<0.05 (Significant)		<0.05 (Significant)	

Interpretation: The Cochran Q test was conducted to evaluate changes in Pruritis Vulvae over the follow-up period in both groups.

In Group A, the number of participants reporting absence of pruritis increased from 11 on Day 0 to 16 on Day 7 and Day 14, while those reporting presence of pruritis decreased from 9 to 4. The test statistic was 8.333, and the p-value was <0.05, indicating a statistically significant reduction in pruritis vulvae over time in Group A.

Similarly, in Group B, participants with absent pruritis increased from 13 on Day 0 to 15 on Day 7 and 20 on Day 14, with those reporting presence decreasing from 7 to 5 and then 0. The test statistic was 11.143, with a p-value <0.05, indicating a statistically significant improvement in pruritis vulvae in Group B as well.

Result of before and after treatment by McNemar test as follows:

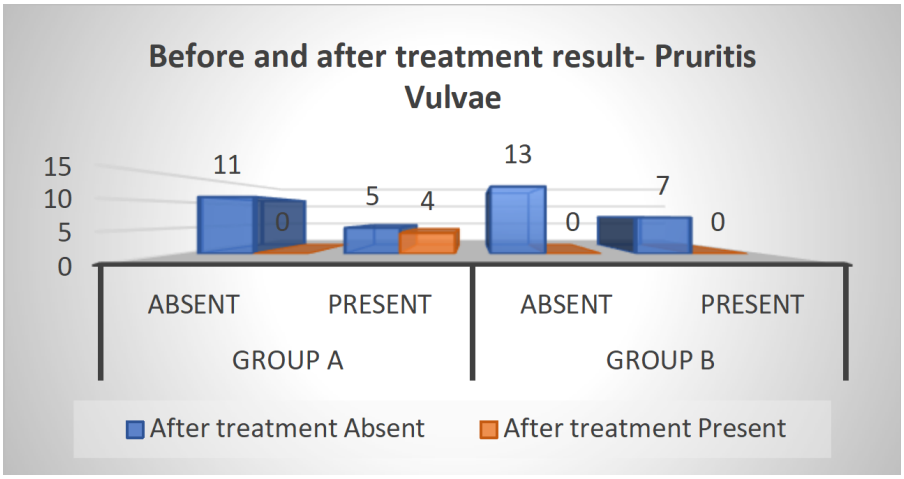

Fig. 45: Before and after treatment result- Pruritis Vulvae

Table 45: Result of McNemar test- Pruritis Vulvae

Pruritis Vulvae	Before treatment	After treatment		Test Statistic	P value
		Absent	Present		
Group A	Absent	11	0	3.200	<0.05 (Significant)
	Present	5	4		
Group B	Absent	13	0	5.143	<0.05 (Significant)
	Present	7	0		

Interpretation: The McNemar test was conducted to evaluate the effect of treatment on Pruritis Vulvae in both groups.
In Group A, before treatment, 11 participants were absent for pruritis and 9 were present. After treatment, 11 remained absent, and 4 of those who previously had pruritis showed improvement. The test statistic was 3.200, with a p-value <0.05, indicating a statistically significant reduction in pruritis vulvae following treatment in Group A.
In Group B, before treatment, 13 participants were absent and 7 were present for pruritis. After treatment, all participants who were previously present showed improvement, with none reporting pruritis. The test statistic was 5.143, with a p-value <0.05, indicating a statistically significant improvement in pruritis vulvae in Group B as well.

Comparison between Group A and B

According to type of variable the appropriate statistical tests for comparison are as follows:

Type of variable	Appropriate test
Qualitative (Ordinal)	Mann Whitney test
Nominal	Chi-square test

Above tests are applied in SPSS software the results are as follows:
Quantity of discharge: Result of Mann Whitney U test is as follows:

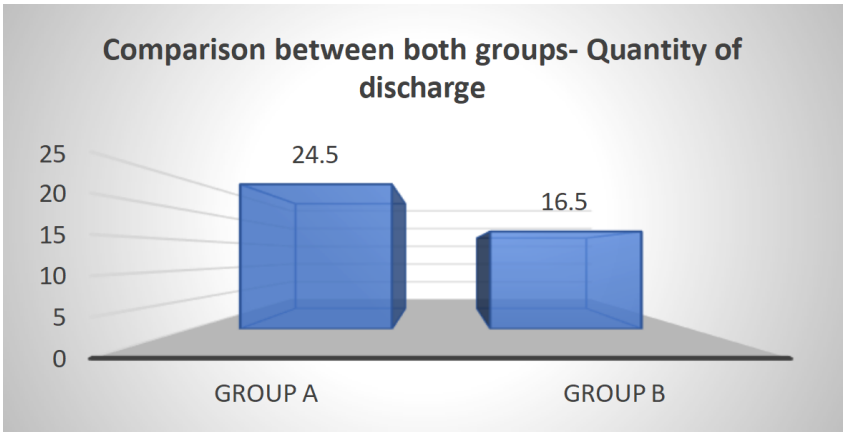

Fig. 46: Comparison between both groups- Quantity of discharge

Table 46: Result of Mann Whitney U test- Quantity of discharge

Quantity of discharge	Mean Rank	Test statistic	P value
Group A	24.50		

Group B	16.50	120.000	0.030 (Significant)

Interpretation: Mean rank of 'Quantity of discharge' is less in group B and as p value < 0.05, there is significant difference between both groups. So, group B is more effective to reduce grades of 'Quantity of discharge'.
Consistency of discharge: Result of Mann Whitney U test is as follows:

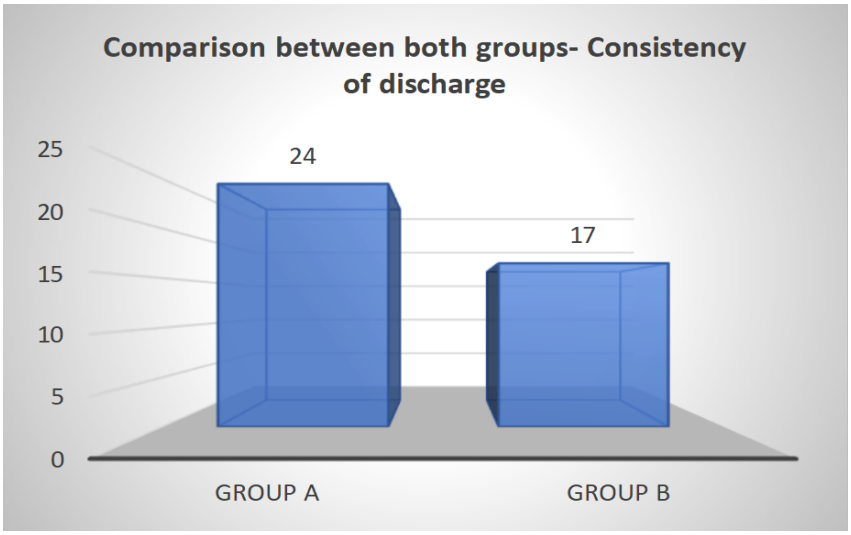

Fig. 47: Comparison between both groups- Consistency of discharge

Table 47: Result of Mann Whitney U test- Consistency of discharge

Consistency of discharge	Mean Rank	Test statistic	P value
Group A	24.00	130.000	0.030 (Significant)
Group B	17.00		

Interpretation: Mean rank of 'Consistency of discharge' is less in group B and as p value < 0.05, there is significant difference between both groups. So, group B is more effective to reduce grades of 'Consistency of discharge'.
Area involved: Result of Mann Whitney U test is as follows:

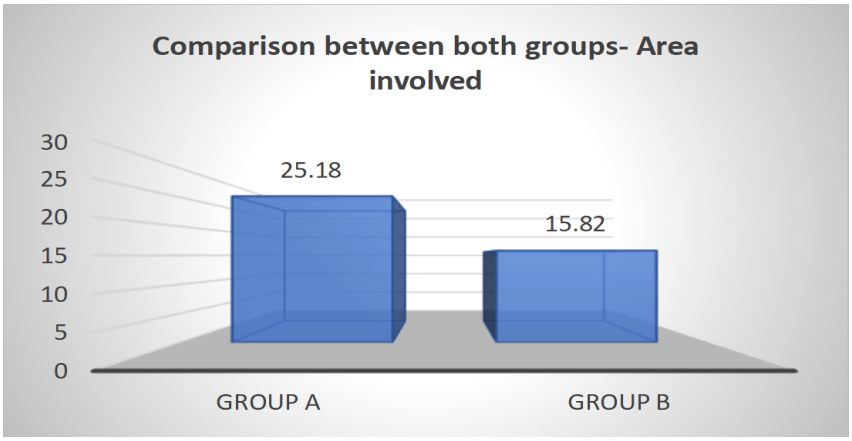

Fig. 48: Comparison between both groups- Area involved

Table 49: Result of Mann Whitney U test- Area involved

Area involved	Mean Rank	Test statistic	P value

Group A	25.18	106.500	0.010 (Significant)
Group B	15.82		

Interpretation: Mean rank of 'Area involved' is less in group B and as p value < 0.05, there is significant difference between both groups. So, group B is more effective to reduce grades of 'Area involved'.
Size of erosion: Result of Mann Whitney U test is as follows:

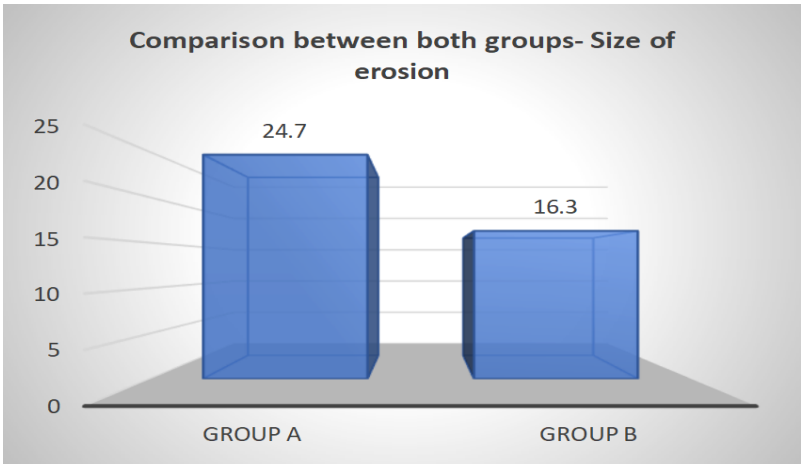

Fig. 49: Comparison between both groups- Size of erosion

Table 50: Result of Mann Whitney U test- Size of erosion

Size of erosion	Mean Rank	Test statistic	P value
Group A	24.70	116.000	0.023 (Significant)
Group B	16.30		

Interpretation: Mean rank of 'Size of erosion' is less in group B and as p value < 0.05, there is significant difference between both groups. So, group B is more effective to reduce grades of 'Size of erosion'.
Appearance of erosion: Result of Mann Whitney U test is as follows:

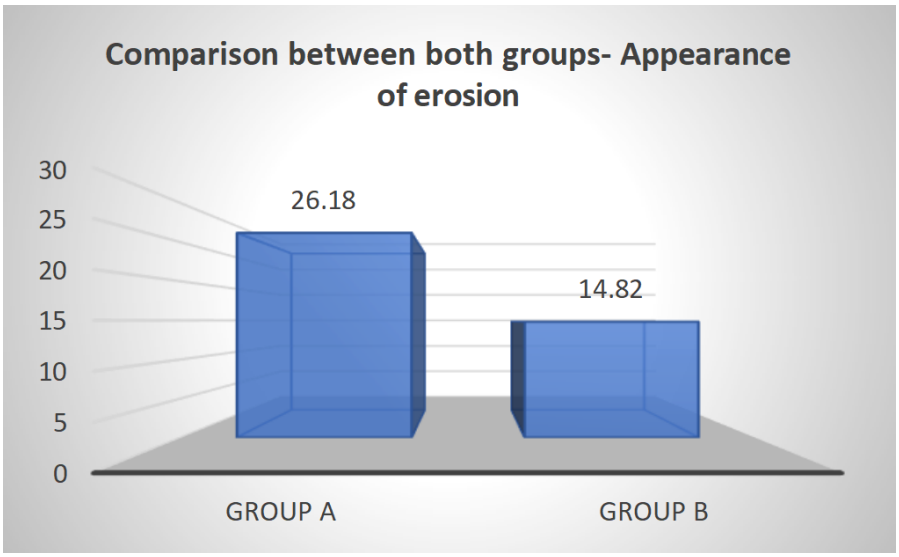

Fig. 50: Comparison between both groups- Appearance of erosion

Table 51: Result of Mann Whitney U test- Appearance of erosion

Appearance of erosion	Mean Rank	Test statistic	P value
Group A	26.18	86.500	0.002 (Significant)
Group B	14.82		

Interpretation: Mean rank of 'Appearance of erosion' is less in group B and as p value < 0.05, there is significant difference between both groups. So, group B is more effective to reduce grades of 'Appearance of erosion'

Pruritis Vulvae: Result of chi square test is as follows:

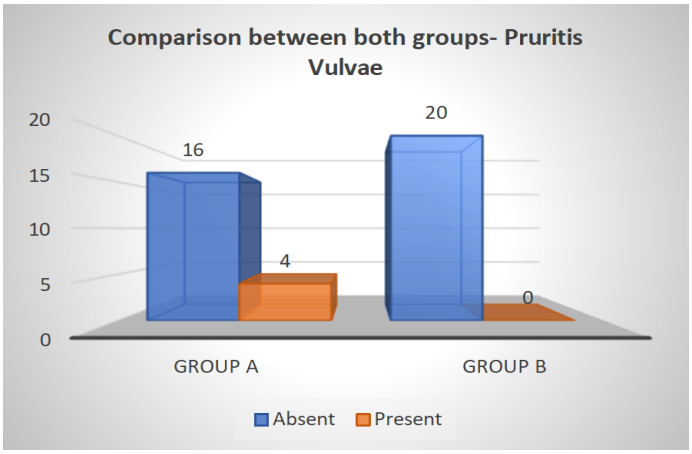

Fig. 51: Comparison between both groups - Pruritis Vulvae

Table 52: Result of Chi square test- Pruritis Vulvae

Pruritis Vulvae	Absent	Present	Test statistic	P value
Group A	16	4	4.444	0.035 (Significant)
Group B	20	0		

Interpretation: The Chi-square test was used to compare Pruritis Vulvae between Group A and Group B after treatment: After treatment, 16 participants in Group A and 20 participants in Group B were absent for pruritis, while 4 participants in Group A and 0 in Group B were present. The Chi-square test statistic was 4.444 with a p-value of 0.035, indicating a statistically significant difference between the two groups.
This means that Group B had a significantly better outcome than Group A, with more participants free from pruritis vulvae after treatment.

Overall result

Table 53: Subjective Parameters (Symptom-based, measured)

Parameter	Group	% Improve ment	Test Statistic (W)	P value	Significa nce
Quantity of Discharge	Group A	50%	– 3.755	<0.05	Significant
	Group B	69.7%	– 4.234	<0.05	Significant

Consistency of Discharge	Group A	45.2%	– 3.742	<0.05	Significant
	Group B	73.5%	– 4.134	<0.05	Significant
Area Involved	Group A	45.2%	– 3.742	<0.05	Significant
	Group B	77.4%	– 4.179	<0.05	Significant
Size of Erosion	Group A	52.2%	– 3.619	<0.05	Significant
	Group B	71.4%	– 3.945	<0.05	Significant
Appearance of Erosion	Group A	50%	– 3.945	<0.05	Significant
	Group B	80%	– 4.053	<0.05	Significant

Table 54: Nominal Parameter (Categorical, analyzed by McNemar test

Parameter	Group	% Improvement	Test Statistic	P value	Significance
Pruritis Vulvae	Group A	44.4%	3.200	<0.05	Significant
	Group B	100%	5.143	<0.05	Significant

Interpretation:

• **Subjective parameters:** Both groups showed statistically significant improvement in all symptom-based parameters related to discharge and erosion. The average improvement in Group A was 48.7%, while in Group B it was 74.1%, indicating a stronger overall effect of treatment in Group B. Both groups demonstrated progressive improvement in Quantity of Discharge, Consistency of Discharge, Area Involved, Size of Erosion, and Appearance of Erosion, confirming the treatment's efficacy in reducing patient-reported symptoms.

• **Nominal parameter:** Pruritis Vulvae showed significant reduction in both groups. In Group A, there was a 44.4% improvement, while in Group B, a 100% resolution was observed after treatment, indicating complete alleviation of this symptom in Group B.

• **Overall:** The findings suggest that the treatment was effective in significantly improving both subjective symptoms and categorical outcomes, with Group B showing a higher overall response.

Table 55: Summary of comparison between the groups: All parameters

Parameter	More Effective Group	Test Name	Test Statistic	P value	Significant?
Quantity of Discharge	Group B	Mann – Whitney U	120.000	0.030	Yes
Consistency of Discharge	Group B	Mann – Whitney U	130.000	0.030	Yes

Area Involved	Group B	Mann – Whitney U	106.500	0.010	Yes
Size of Erosion	Group B	Mann – Whitney U	116.000	0.023	Yes
Appearance of Erosion	Group B	Mann – Whitney U	86.500	0.002	Yes
Pruritis Vulvae	Group B	Chi- square	4.444	0.035	Yes

Interpretation:

• **Subjective parameters (discharge and erosion):** Group B was significantly more effective than Group A in reducing Quantity of Discharge, Consistency of Discharge, Area Involved, Size of Erosion, and Appearance of Erosion ($p < 0.05$).

• **Nominal parameter (Pruritis Vulvae):** Group B also showed significantly better outcomes than Group A, with more participants completely free from pruritis after treatment ($p < 0.05$).

• **Overall:**

Across all measured parameters, Group B demonstrated superior efficacy compared to Group A in improving both subjective symptoms and categorical outcomes.

Overall Effect:

Table 56: Overall Effect

Overall effect	Group A		Group B	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Marked Improvement (75%-100%)	0	0.0	13	65.0
Moderate Improvement (50% - 75%)	12	60.0	7	35.0
Mild Improvement (25% - 50%)	8	40.0	0	0.0
No Improvement (0% - 25%)	0	0.0	0	0.0
Total	30	100	30	100

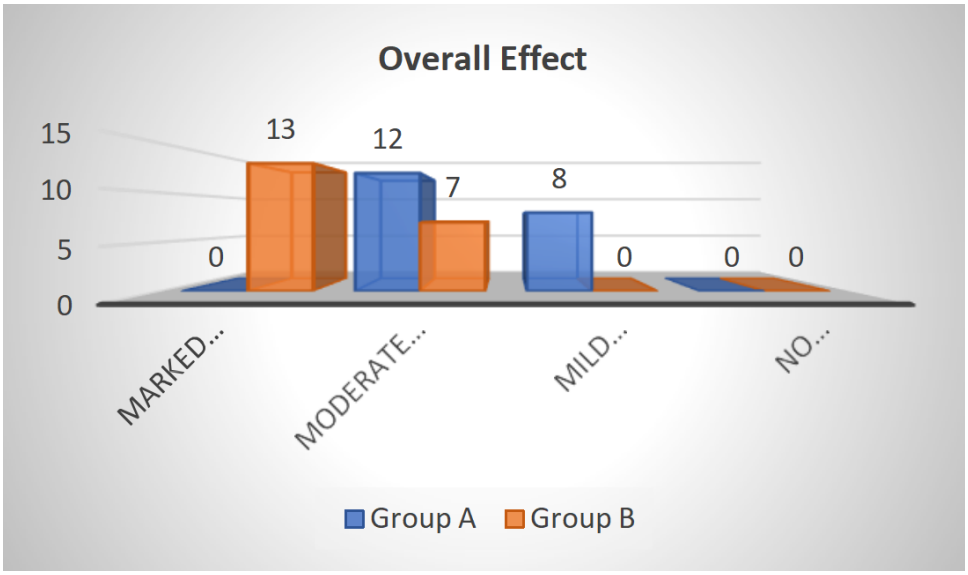

Fig. 52: Overall Effect

Interpretation: In Group B, the majority of participants (65%) achieved marked improvement, while 35% had moderate improvement. None had mild or no improvement.

In Group A, most participants (60%) showed moderate improvement, 40% had mild improvement, and none achieved marked improvement.

Overall, Group B demonstrated a higher efficacy, with a greater proportion of participants reaching marked improvement compared to Group A.

Yoni Kshara Lepa acts locally through its Katu–Tikta Rasa, Ushna Virya, and Tikshna Guna, which counteract Kapha dominance and facilitate effective Sthānika Chikitsā.[12-14]) The Lekhana property of Kshara helps in scraping and removing unhealthy cervical epithelium (Dushta Mamsa), while its Shodhana action clears excessive Kleda and abnormal discharge.[12] The Shothahara effect reduces local inflammation and congestion, and the Ropana property promotes regeneration of healthy cervical tissue and restoration of normal epithelial architecture.[13] From a modern perspective, Kshara Lepa produces a controlled chemical cauterization effect, selectively destroying eroded columnar epithelium and encouraging re-epithelialization by healthy squamous cells, thereby reducing glandular secretion, inflammation, and pruritis.[16,17] Apamarga Kshara, due to its stronger Tikshna, Ushna, and Sara properties, penetrates deeper and produces more effective debridement and faster healing when compared to Arka Kshara, which explains its superior clinical outcomes observed in the present study.[15]

Discussion

Karnini Yonivyapath is described in Ayurvedic classics as a disorder predominantly caused by vitiation of Vata and Kapha Doshas leading to derangement of Artavavaha Srotas.[18],[19] Clinically, it presents with Yoni Pichhila Srava, Kandu, and formation of Karnika, which closely resembles cervical erosion described in modern gynecology.[20],[21] Conventional management modalities such as cauterization and cryotherapy, though effective, are often associated with pain, excessive discharge, recurrence, and cervical scarring, necessitating a safe, minimally invasive alternative therapy.[22]

In the present open-labelled comparative clinical study, both Arka Yoni Kshara Lepa (Group A) and Apamarga Yoni Kshara Lepa (Group B) showed statistically significant improvement in all subjective and objective parameters. The reduction in vaginal discharge can be attributed to the Lekhana and Shodhana properties of Kshara, which help remove unhealthy secretions (Kleda) and pathological tissue.[23] Improvement in pruritis vulvae may be due to the Kapha–Vata Shamaka and Krimighna actions of Kshara, resulting in reduced local irritation and inflammation.[24]Yoni Kshara Lepa acts locally through its Katu–Tikta Rasa, Ushna Virya, and Tikshna Guna, facilitating effective Sthānika Chikitsā. The Lekhana action aids in removal of Dushta Mamsa, while Shodhana clears excessive discharge and Ropana promotes regeneration of healthy cervical epithelium.[23],[25] From a modern perspective, Kshara Lepa produces a controlled chemical cauterization effect, encouraging re-epithelialization and reducing glandular secretion and inflammation.[22],[26]

When comparing both groups, Apamarga Yoni Kshara Lepa demonstrated superior clinical outcomes, possibly due to its stronger Tikshna, Ushna, Sara, and Lekhana properties, enabling deeper tissue penetration, effective scraping of eroded epithelium, and faster healing.[26] Thus, the study supports the efficacy of Kshara Karma as a potent Sthānika Chikitsā in the management of Karnini Yonivyapath.[23],[25]

Conclusion

The present study concludes that both Arka Yoni Kshara Lepa and Apamarga Yoni Kshara Lepa are effective in the management of Karnini Yonivyapath vis-à-vis cervical

erosion. Both interventions produced statistically significant improvement in subjective symptoms and objective cervical findings. However, Apamarga Yoni Kshara Lepa demonstrated comparatively superior clinical efficacy, with greater reduction in vaginal discharge, pruritis vulvae, and cervical erosion. Kshara Lepa therapy emerges as a safe, effective, minimally invasive, and economical alternative to conventional procedures, with minimal complications and good patient acceptability. Further studies with larger sample size and longer follow-up are recommended to establish long- term efficacy and recurrence rates.

Acknowledgement
The authors gratefully acknowledge JSS Mahavidyapeeta, Mysore for the financial support extended under the Research Promotion Scheme (Faculty Projects). A grant owas generously sanctioned for the successful conduct of this clinical research study. The authors sincerely appreciate the institution's continued encouragement and commitment toward promoting academic excellence and quality research.

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