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Navigating Pain: A Clinical inquiry into Marma Chikitsa for Kashtartava (Primary Dysmenorrhea) Alleviation

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ABSTRACT

Introduction: Pain is a natural and universal human experience, an acute reminder of our frailty and the complexity of our life. Unpleasant sensory experiences like pain are distinct from others like touch, warmth, and cold. Through a variety of peripheral nerves, a harmful signal from the periphery is sent to the spinal cord. *Kashtartava* i.e., dysmenorrhea is not separately described as a disease anywhere in Ayurvedic classics. But there are many other diseases in which *Kashtartava* is considered and described as a symptom. The purpose of this study is to gather scientific evidence on the effectiveness, safety, and feasibility of Marma Stimulation. By understanding this healthcare providers will be able to provide a range of evidence-based options for managing primary dysmenorrhea, allowing for personalized and holistic care that goes beyond pharmaceutical solutions.

Methodology: 101 diagnosed cases of primary dysmenorrhea with regular menstrual cycle were selected from OPD of Parul Ayurved Hospital between the age group of 18- 25 years. They were administered Marma Chikitsa once daily during premenstrual phase for two consecutive cycles. Pain, the duration of analgesia, and the use of pain medication were assessed before and after the intervention.

Observations and Results: A significant decrease in pain ($p<0.005$) was observed after the intervention of Marma Chikitsa, with a more long-lasting analgesia and improvement in working ability, duration as well as intensity of pain ($p<0.005$) and decreased need for pain medication.

Conclusion: In females with primary dysmenorrhea Marma Chikitsa was able to promote nearly complete analgesia, and the analgesia persisted for at least one additional menstrual cycle even after the treatment was stopped. Patients also got relief in the pre-menstrual symptoms like nausea, vomiting, lethargy and tenesmus. Use of analgesic drugs were significantly reduced post treatment.

Keywords: *Ayurveda, Kashtaratva, Marma Chikitsa, non-pharmacological, pain management, primary dysmenorrhea.*

1. INTRODUCTION

The World Health Organization has issued an appeal for immediate action within the health sector as well as outside it in order to enhance the overall health and quality of life of girls and women all over the world, from birth into older age[i].

Marma Chikitsa, also known as Marma treatment or Marma massage, is a centuries-old therapeutic method originating from Ayurveda, India's traditional medical system. It entails manipulating important places in the body known as "Marma points"

in order to foster healing and well-being. While Marma Chikitsa is not mainly concerned with pharmaceutical pain treatment, it can be utilized in conjunction with traditional medical techniques.[ii]

These points correlate to the many organs, systems, and tissues of the body. Marma Chikitsa strives to regulate the flow of energy, eliminate blockages, and boost the body's natural healing process by stimulating these areas.

When it comes to pain management, Marma Chikitsa may help in several ways

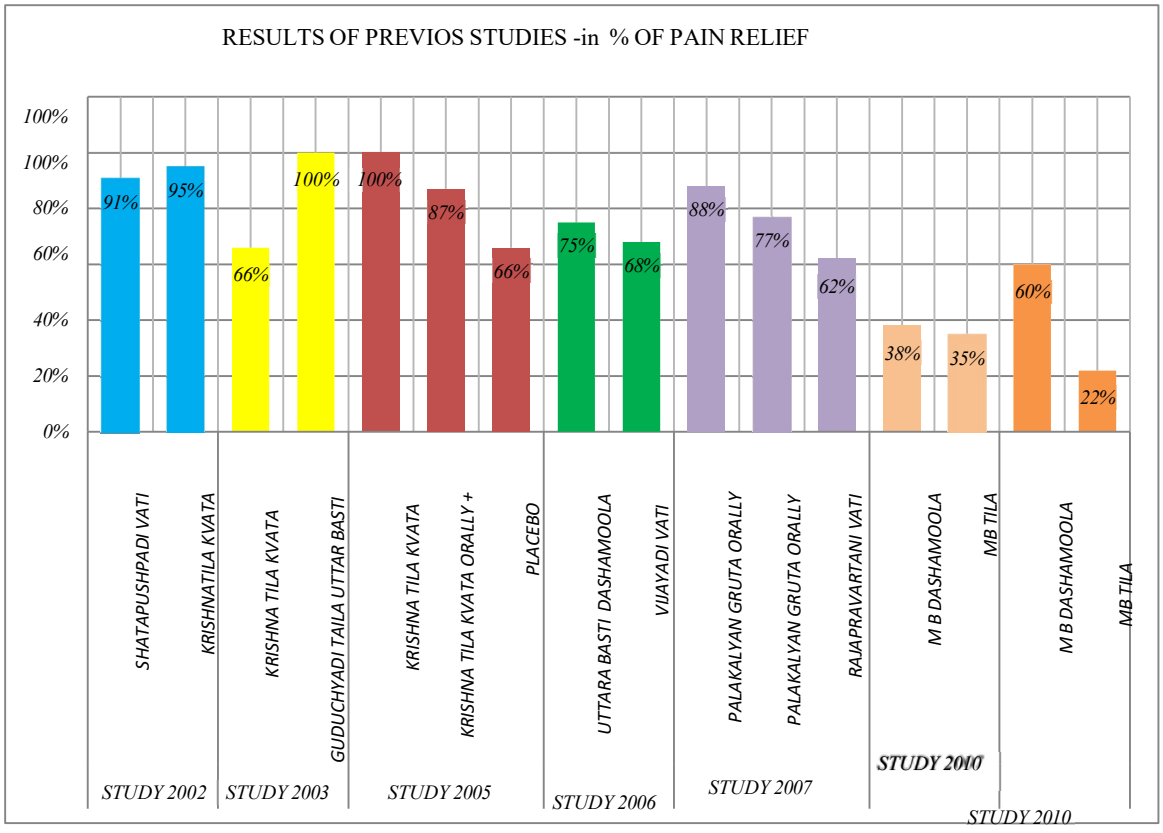
1. **Pain relief:** Gentle manipulation of Marma points can cause the release of endorphins, which are the body's natural pain-relieving compounds. This can aid in the relief of pain and discomfort.

2. **Relaxation and stress reduction:** Deep relaxation is promoted, and tension and anxiety are reduced. Relaxation techniques have been demonstrated to improve pain perception and management.

3. **Improved circulation:** By stimulating Marma points, blood circulation can be enhanced, which may help reduce pain caused by poor circulation or musculoskeletal issues.

4. **Balancing energy:** According to Ayurveda, pain and disease are often the result of an imbalance in the body's energy systems. Marma Chikitsa aims to restore balance and harmony, which may have a positive impact on pain management.

Dysmenorrhea is becoming a hot topic among gynecologists around the world due to today's lack of exercise and major changes in lifestyle that are less active than women a few decades ago. It causes discomfort for a woman's day-to-day activities and may result in absence from school and work, inability to participate in sports or other activities.[iii]



Graph 1: percentage of Pain relief of previous study

RESEARCH QUESTION:

Is *Marma* Chikitsa an efficient treatment modality for primary dysmenorrhea?

Aims

To evaluate the efficacy of *Marma Chikitsa* in *Kashtartava* (primary dysmenorrhea).

Objectives

1. To adopt and implement standard operative procedure of *Marma Chikitsa* in *Kashtartava*.
2. To evaluate the clinical efficacy of *Marma Chikitsa* using VAS score and WaLLID score for management of *Kashtartava* (primary dysmenorrhea).

2. MATERIAL AND METHODS

SOURCES OF DATA

111 women diagnosed with dysmenorrhea were recruited for the study from OPD of Parul Ayurveda Hospital, Parul Sevashram Hospital, Khemdas Ayurveda Hospital, and Vadodara.

Site of Study: Parul Ayurveda Hospital, Vadodara, Gujarat.

METHOD OF COLLECTION OF THE DATA

SAMPLE SIZE:

The sample size of the current study was 100, a total of 111 patients were selected based on the diagnostic and inclusion criteria.

MATERIALANDMETHODS:

SOURCESOF DATA

Women diagnosed with dysmenorrhea were recruited for the study from OPD of Parul Ayurveda Hospital, Vadodara.

CRITERIA FOR DIAGNOSIS

The diagnostic criteria for *Kashtartava* (Primary Dysmenorrhoea) were mainly based on a Proforma prepared containing detailed Clinical Signs & Symptoms and required Investigation of *Kashtartava* (Primary Dysmenorrhoea) mentioned in the *Ayurveda* texts as well as in Modern text.

Inclusion criteria

- Patients diagnosed with dysmenorrhea were selected randomly.
- Age groups between 18 to 30 years were selected.
- Patients suffering from dysmenorrhea for more than 2 consecutive cycles.
- Married and unmarried women were incorporated for the study.

Exclusion criteria

- Any space occupying lesion.
- Women with Irregular menstrual cycles.
- Secondary dysmenorrhea.
- IUCD in situ
- Women diagnosed with congenital anomalies of reproductive tract.
- Other medical disorders which make patient at high risk, like Epilepsy, Anaemia (<7gm), Heart disease, Diabetes, Bronchial Asthma.

Investigations

1. HB%
2. Urine investigation– routine, microscopic
3. U.S.G. (abdomen and pelvis)

STUDY DESIGN

This study was designed as an open labelled single arm clinical trial.

Follow up - the follow-up of this study was taken for 1 cycle after completion of treatment.

Ethical clearance

Ethical clearance was obtained from the Institutional Ethics Committee of Parul Institute of Ayurved prior to the recruitment of subject the study.

References - (PU/PIA/IEC/04/2022/105 dated 10/03/2022).

CTRI Registration

This study was registered in CTRI.

References - CTRI/2022/04/041670 (Registered on 05/04/2022)

STANDARD OPERATING PROCEDURE

Poorva Karma

- Patient is asked to empty the bladder.
- Patient is asked to lie down comfortably for marma stimulation.
- Hands are sanitized.

Pradhaan Karma

- Marma points are located and stimulated one by one.
- If the marma point is touched either with the inter-phalangeal joint of the thumb or the side tip of the thumb, it is considered as ¼ maathirai
- Each Marma point was pressed for 18 to 20 times. After giving pressure, the site was rubbed gently to avoid the creation of a mark at the site

Paschaatkarma

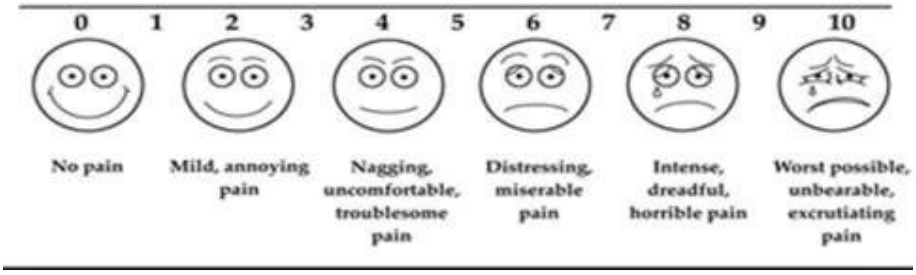
- After giving pressure, the site was rubbed gently to avoid the creation of a mark at the site.

Safety precaution

CRITERIA FOR ASSESSMENT:

The efficacy of the therapy was assessed on the basis of the following parameters.

VAS Score



WaLIDD Score[iv]

Working ability	Location	Intensity (Wong- baker)	Days of pain	scores
None	None	Does not hurt	0	0
Almost never	1	Hurts a little bit	1-2	1
Almost always	2-3	Hurts a little more- hurts even more	3-4	2
always	4	Hurts a whole lot- hurts worst	≥5	3

Total score: ……

Score:

0 Without Dysmenorrhea,

1-4 Mild Dysmenorrhea,

5-7 Moderate Dysmenorrhea

8-12 Severe Dysmenorrhea.

1. **Quantity of menstrual flow (by number of pads)**

6-7 pads/cycle	0	
4-5 pads/cycle	1	
2-3 pads/cycle	2	
Spotting or 1 pad/cycle	3	

2. **Days of menstrual period**

4-7 days	0	
3 days	1	
2 days	2	
1 day	3	

3. **Quantity of menstrual flow (by interval between menstrual cycles)**

25-35 days	0	
36-45 days	1	
46-55 days	2	
56-65 day	3	

OVER ALL ASSESSMENT OF THE THERAPY:

All the Comparisons for assessment were made separately on 4 occasions i.e.

1. Before treatment.
2. During treatment in first menstrual cycle
3. During treatment in second menstrual cycle
4. After treatment.

Then these were compared to assess the efficacy of procedures. Overall percentage improvement of each patient was calculated by the following formula

$$\frac{\text{Total BT - Total AT}}{\text{Total BT}} \times 100$$

Criteria for overall assessment:

Complete relief- 75% to 100% result

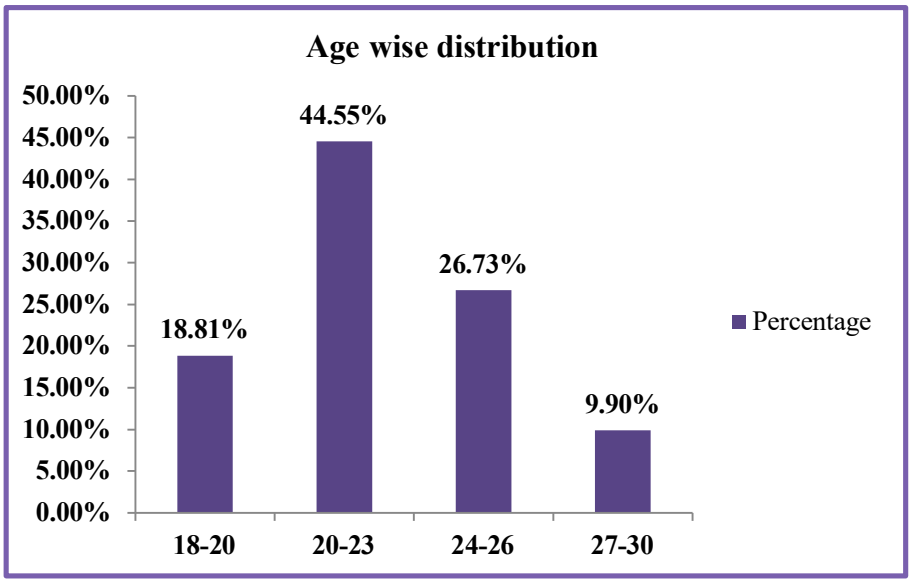
Marked improvement- 51% to 75% result

Mild improvement- 26% to 50% result

Improved- 1% to 25% result

3. RESULTS

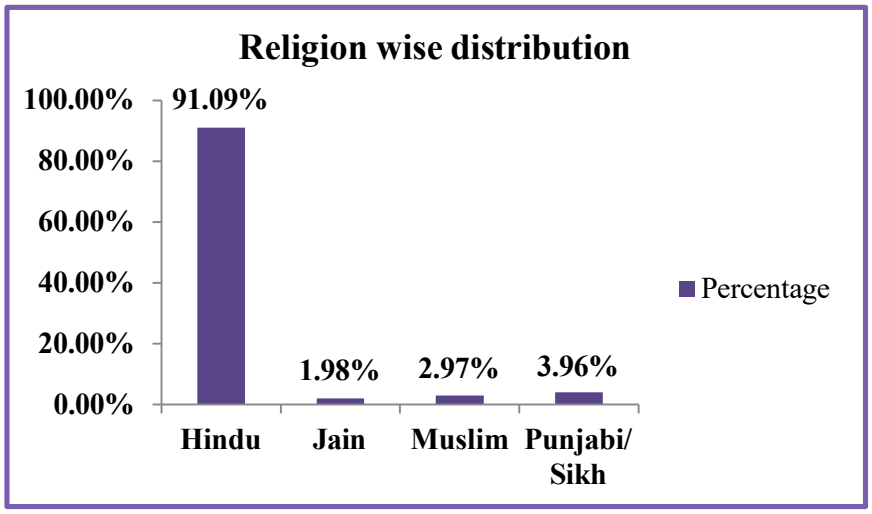
AGE:



Graph No. 1: Age wise distribution

Conclusion: Graph 1 indicates that majority of the patients i.e. 45 (44.55 %) were in the age group of 20-23 years, followed by 27 (26.73 %) patients were in the age group of 24-26, and 19 (18.81 %) patients observed in 18-20 years of age group, Graph also indicates that age group 27-30 years had least no. of patients i.e., 10 (9.90%).

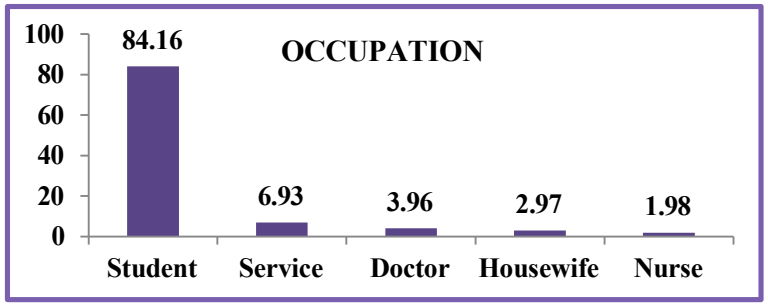
Religion:



Graph No. 2: Religion wise distribution

Conclusion: Graph 2 indicates that majority of the patients were Hindu i.e. 92 (91.09 %), followed by Punjabi/Sikh communities with total patients 4 (3.96 %). 3 (2.97%) patients belonged to Muslim Community, whereas only 2 (1.98%) patients were of Jain community.

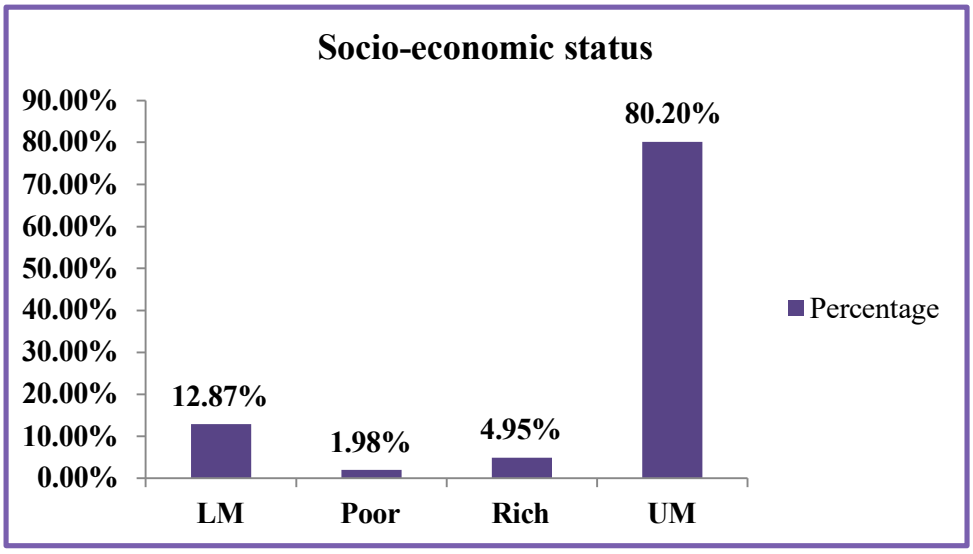
Occupation:



Graph No. 3: Distribution on the basis of occupation of the patients.

Conclusion: Graph 3 indicates that majority of the patients were students i.e., 85 (84.16%). Followed by 7(6.93%) patients were doing private jobs (service), 4 (3.96%) were doctors, 3 (2.97%) were housewives, whereas only 2(1.98%) were nurses.

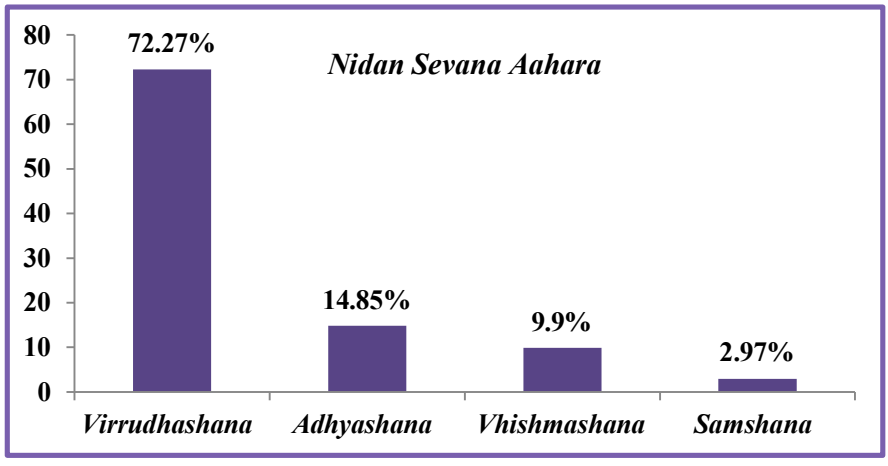
Socio-economic status:



Graph No. 4: Distribution on the basis of Socio-economic status.

Conclusion: Graph 4 indicates that majority of the patients were from Upper Middle class i.e., 81 (80.20%). Followed by 13(12.87%) patients were from Lower Middle class, 5 (4.95%) were Rich, whereas only 2 (1.98%) were Poor.

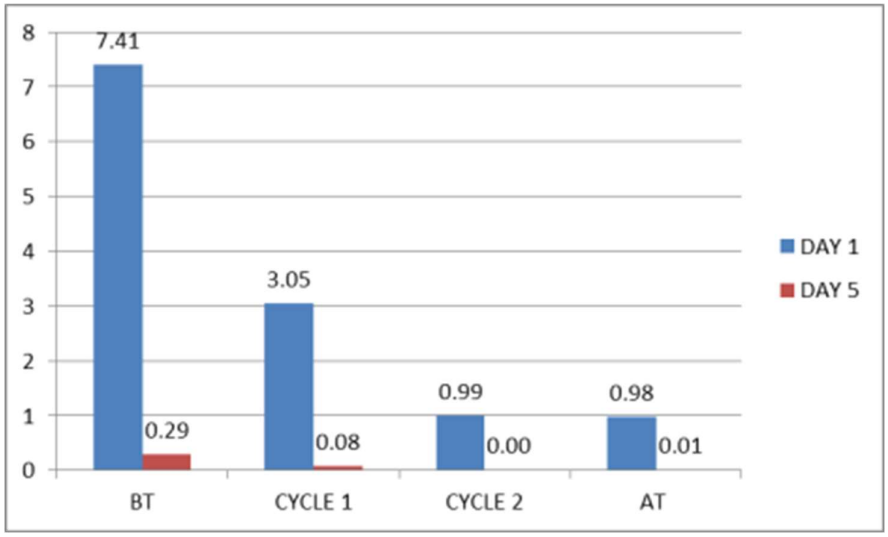
Nidan Sevana Aahara:



Graph No. 5: Distribution on the basis of *Nidan Sevana Aahara*.

Conclusion: Graph 5 indicates that 73(72.27%) patients had habits of *Virudhashana Sevana*. 15 (14.85%) had habit of *Adhyashana* and 10(9.90%) had habits of *Vishamashana.*

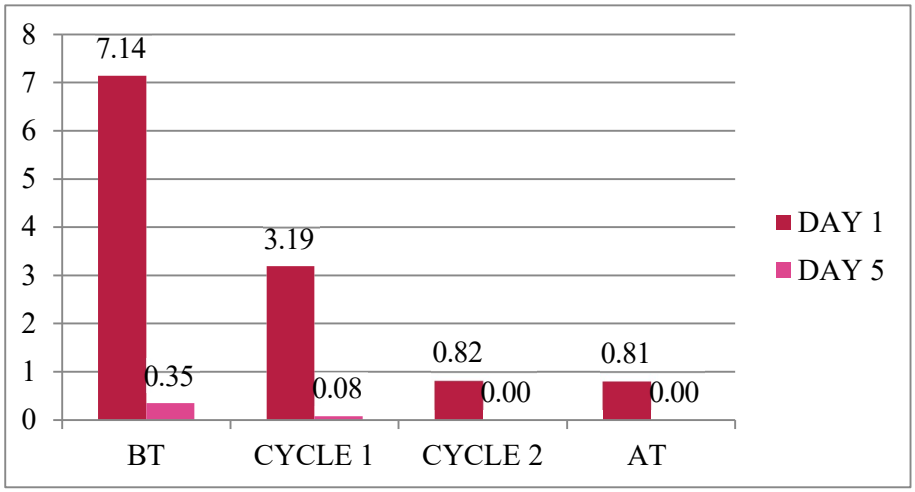
Vas Score Improvement



Graph No. 6: Improvement in VAS score can be seen after treatment

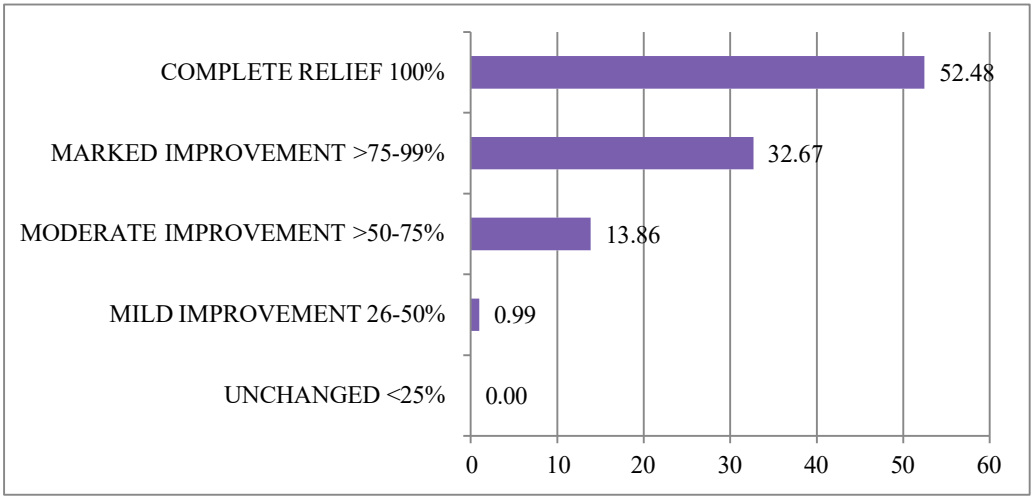
Graph No. 6: The mean of VAS score decreased from 7.41 on day 1 of menses before treatment started to 0.98 on day 1 of menses after the completion of treatment. Similarly mean of VAS score decreased from 0.29 on day 5 of menses before treatment started to 0.01 on day 5 of menses after the completion of treatment**.**

WaLLID Score Improvement



Graph No. 7: Improvement in WaLLID score can be seen after treatment

Graph No. 7: The mean of WaLLID score decreased from 7.14 on day 1 of menses before treatment started to 0.81 on day 1 of menses after the completion of treatment. Similarly mean of VAS score decreased from 0.35 on day 5 of menses before treatment started to 0.00 on day 5 of menses after the completion of treatment



Graph No. 8: Percentage of patients and overall improvement in symptoms of dysmenorrhea

4. DISCUSSION

The results of the present study show important improvement in pain experienced by females with primary dysmenorrhea by *Marma Chikitsa. Marma Chikitsa* already presents evidence of analgesic results for low back ache.

Demographic data: The study population predominantly consisted of young women aged 20–23 years (44.55%), followed by the 24–26 age group (26.73%). This distribution aligns with global epidemiological data showing that primary dysmenorrhea is most prevalent among adolescent and young adult females, especially within the first 5–10 years of menarche onset. Increased prostaglandin activity, higher uterine contractility, and psychosomatic stress responses are more pronounced in these age groups, making them more vulnerable to dysmenorrhea.

A high proportion of subjects (52.48%) had completed senior secondary education, and 46.53% were graduates. The educational level impacts awareness of menstrual health, healthcare-seeking behavior, and receptivity to non-pharmacological interventions such as Marma Chikitsa. This demographic is more likely to explore complementary therapies, especially in academic urban centers.

The overwhelming representation of students may explain higher reporting of symptoms, possibly due to academic stress, sedentary lifestyle, irregular food habits, and increased screen time – all aggravating *Vata* and *Pitta* doshas, which are closely associated with pain perception in Ayurveda. Additionally, school and college absenteeism due to menstrual pain is a well-documented consequence, hence the higher participation of this group in clinical trials.

Most participants belonged to the upper middle class, indicating better access to institutional healthcare and wellness centers like Parul Ayurveda Hospital. This socioeconomic group may also show a higher inclination towards holistic therapies, preventive care, and quality-of-life improvements rather than symptomatic pharmacological suppression.

***Nidanatmak* (Etiological) Correlations in Demography:**

The *Nidana Sevana* data revealed high incidence of:

- ***Viruddhahara* (Incompatible foods)** – 72.27%
- ***Adhyashana* (Overeating)** – 14.85%
- ***Vishamashana* (Erratic eating habits)** – 9.90%

Most subjects had habit of fast food eating (*Virrudhashana*), waking till late night (*Ratrijagran*), and sleeping during day time (*Diwaswapna*). None of the subjects were following *Rajaswalacharya*. There was no change seen the menstrual pattern of the subjects, no changes in amount, smell, colour or duration of bleeding was observed during or after the treatment.

These dietary patterns contribute to *Ama* formation and *Dosha Dushti*, especially *Vata* and *Pitta*, leading to uterine spasmodic pain. Additionally, the majority reported non-compliance to *Rajaswala Paricharya*, a key Ayurvedic preventive protocol for menstrual disorders. This underlines the need for lifestyle correction in addition to therapy.

During the *Marma* Stimulation, the intensity always remained in maximum tolerable levels, causing strong paraesthesia. The *Marma Chikitsa* acts on the pain gate to reduce the pain. The *Marma* stimulation improves the blood circulation which helps in removing the waste products and thus reducing ischemia to tissues during contractions of uterus. The elasticity of the surrounding structures was thus increased which significantly improved the physiology and painful symptoms.

Since touch and other senses also share pain receptors, there is no separate system for detecting pain. According to pattern

theory, people only feel pain when certain patterns of neural activity occur, such as when certain types of brain activity reach unusually high levels. Only extremely intense stimulus causes these patterns. It suggests that peripheral sensory receptors respond to touch, temperature, and other non-damaging as well as damaging stimuli, resulting in non-painful or painful sensations. This is due to changes in the patterns (in time) of the impulses transmitted by the nervous system.

According to gate theory of pain the interplay among these connections determines when painful stimuli go to the brain.

a) When there is no input, the inhibitory neuron closes the gate to stop the projection neuron from communicating with the brain.

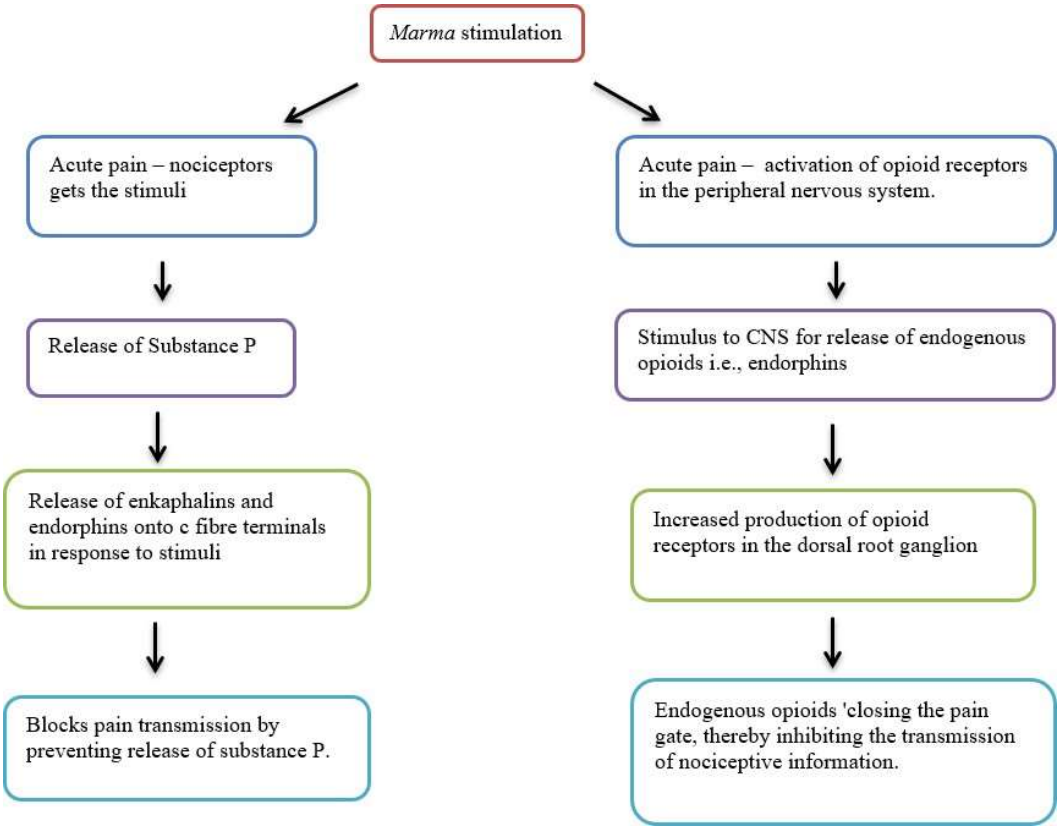
b) When there is more large-fibre stimulation—or solely large-fibre stimulation—normal somatosensory input occurs.

c) When the inhibitory neuron and the projection neuron are both excited, the gate is closed, preventing the projection neuron from communicating with the brain.

d) Nociception (pain reception) takes place when there is just or more stimulation of the tiny fibres. As a result, the projection neuron deactivates the inhibitory neuron and opens the gate, sending messages to the brain alerting it to pain.

When we stimulate Marma, we stimulate normal somatosensory input to the projector neurons. This closes the gate and reduces the perception of pain.

Probable mode of action



Pain modulation is bidirectional. Pain modulating circuits not only produce analgesia, but also are capable of increasing pain. Both pain inhibition and pain facilitating neurons in the medulla project to and control spinal pain transmission.

5. CONCLUSION

In females with primary dysmenorrhea Marma Chikitsa was able to promote nearly complete analgesia, and the analgesia persisted for at least one additional menstrual cycle even after the treatment was stopped. Patients also got relief in the pre-menstrual symptoms like nausea, vomiting, lethargy and tenesmus. Use of analgesic drugs were significantly reduced post treatment

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I would like to thank Dr. Gaurav Phull (Dy. MS Ch. Brahm Prakash Ayurved Charak Sansthan, Delhi) for his expertise in *marma chikitsa* and guidance throughout the study, and Dr. Arun Kumar for help with data analysis and proper direction to complete study.

Author Contribution

Dr. Varsha designed and implemented treatment, collected data and wrote research paper.

Dr. Tarun Arya did patient enrolment, conducted data analysis and wrote research paper.

Dr. Priyanka Sharma, Dr. Ananya Verma and Dr. Ashok Pal have contributed in Literature review and writing manuscript.

Ethics Approval

Research ethics approval was obtained from the Ethical Institutional Committee. Approval from the Head of the department of organization obtained prior to data collection.

Informed consent

Participation information sheet was provided before study. The written consent was obtained from each participant.

Conflict of interest

Authors have no relevant financial or non-financial interests to disclose.

Few pictures of treatment Procedure

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