DEPARTMENT OF POST GRADUATE STUDIES IN KAYACHIKITSA

Ayurveda Mahavidyalaya, Hubli

TITLE OF DISSERTATION:

"To Evaluate the efficacy of Nasya with Mahamasha taila and Nasaapana with Dashamooli balamasha kwatha in the management of Avabahuka wsr to Frozen shoulder."

Guide: Dr. PRASHANTH A S. **Candidate: Dr.Praveenkumar.H.Bagali**

M.D. (Ayu), Ph.D **PhD. Scholar**

PATIENT CONSENT FORM

I _____ exercising my free power of choice, hereby give you my complete consent to be included as a subject in the Clinical trial on **"To Evaluate the efficacy of Nasya with Mahamasha taila and Nasaapana with Dashamoolibalamasha kwatha in the management of Avabahuka wsr to Frozen shoulder."**I have been informed to my satisfaction by the attending doctor, the purpose of the clinical trial and the nature of drug treatment, therapeutic procedures, follow-up and probable complications. I am also ready to undergo necessary laboratory investigations to monitor and safeguard my body functions.

I am also aware of my right to opt out of the trial at any time during the course of the trial without having to give the reasons for doing so.

Signature of Guide
Guide: Dr. PRASHANTH A S.
M.D. (Ayu), Ph.D

Signature of the PhD Scholar **Signature of the Patient/Guardian**
(Dr.Praveenkumar.H.Bagali)

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PhD. Scholar

O.P.D. No		**I.P.D. No**	
Sl. No		**Bed. No**	

1. Name of the patient :

2. Father's/Husband's Name :

3. Age : Years……Months

4. Sex : Male / Female

5. Religion : Hindu | Muslim | Christian | Others

6. Occupation : Sedentary | Active | Labour | Others

7. Educational status : Illit | Primary | H.S | Degree | P.G.

8. Marital status : Married | Unmarried | Widow | Divorced

9. Economical Status : Poor | Middle class | Higher class

10. Habitat : Urban | Rural

11. Address :

…….

…….

Phone No. …….

"To Evaluate the efficacy of Nasya with Mahamasha taila and Nasaapana with Dashamoolibalamasha kwatha in the management of Avabahuka wsr to Frozen shoulder."

12. Date of Schedule Initiation: | | | |

13. Date of Schedule | | | | **Completion:**

A) <u>PRADHANA VEDANA</u> : DURATION. AFFECTED SHOULDER

RIGHT/LEFT/BOTH

1. Bahu praspanditahara

2. Shoola

3. Sandhi Graha

B) <u>ANUBANDHA VEDANA AND KALA(ASSOCIATED COMPLAINTS):</u>

Amsa Sosha

Swelling

Tenderness

C) <u>PRADHANA VEDANA VRUTTANTHA:(HISTORY OF PRESENT ILLNESS)</u>:

D) <u>POORVA VYADHI VRUTTANTHA(HISTORY OF PAST ILLNESS):</u>

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E) POORVA CHIKITSA VRUTTANTHA: (TREATMENTAL HISTORY):

Modern medicine; yes/no
(if yes) nsaids/steroids/local injection/any other

Ayurvedic medicine; yes/no
(if yes) Shodhana/shaman/others

Relief with previous treatment complete/temporary/no.

F) KULA VRUTTANTHA (FAMILY HISTORY):

G) VAIYAKTIKA ATURA VRUTTANTHA(PERSONAL HISTORY):

1) Ahara:

Rasa - M/ A/ L/ K/ T/ KS/ SARVA

Type- Samashana /Adhyashana /Vishamashana /Anashana

Agni:	**Sama**		**Manda**		**Vishama**		**Teekshna**	

Koshta:	**Mridu**		**Madhyama**		**Kroora**		

2)Vihara;

Nidra:	**Prakruta**		**Adhika**		**Alpa**		**Nidranasha**	

Vyasana:	**Smoking**		**Tobacco**		**Alcohol**		**Others**		**None**	

3) Gynecological History:
a) Menarche:_____
b) Menopause:_____
c) Menstrual cycle:_____

4) Obstetrical History:
a) No. of Pregnancies:
b) Children: M_____/ F_____

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5) Occupational History:

Occupation:
Nature of work: Sedentary / mild/ moderate/ Laborious

6) vyayama;(reference to amsa sandhi)

Prakrita / adhika /avyayama.

Hand which is commonly used for work etc - Right/ left.

7) Mansika (Swabhava): Chinta/ Bhaya / Shoka / Krodha

H) <u>ATURA SAMANYA PARIKSHA (GENERAL EXAMINATION):</u>

1)Ashtasthana Pariksha

Nadi	
Mala	
Muta	
Jihwa	
Sabda	
Sparsha	
Druk	
Akruthi	

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2). Dashavidha Pariksha

Prakriti :	**Sharira**	**– V/P/K/VP/VK/PK/S - Predominance**
Sara	**Pravara / Madhyama / Avara**	
Samhanana	**Pravara / Madhyama / Avara**	
Pramana	**Pravara / Madhyama / Avara**	
Satmya	**Pravara / Madhyama / Avara**	
Satva	**Pravara / Madhyama / Avara**	
Ahara Shakti	**Abhyavaharanashakti**	**Pravara / Madhyama / Avara**
	Jaranashakti	**Pravara / Madhyama / Avara**
Vyayamashakti	**Pravara / Madhyama / Avara**	
Vaya	**Youvana (16 – 34) / Madhyama (34 - 70) / Vriddha (>70)**	

3). Vital Examination

B.P	**mmHg**	**R.rate**	**/ Min**	**Pulse**	**/Min**	**Temp**	**º F**

<u>SYSTEMIC EXAMINATION</u>

1- R.S.

2-C.V.S

3-C.N.S

4- Per Abdominal-

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SHOULDER JOINT EXAMINATION;

Affected shoulder	**Right**		**Left**		**Both**	
Deformities	**Present**		**Absent**			
Swelling	**Present**		**Absent**			
Warmth	**Present**		**Absent**			
Tenderness	**Present**		**Absent**			
Wasting	**Present**		**Absent**			
Stiffness	**Present**		**Absent**			
Numbness	**Present**		**Absent**			

SHOULDER JOINT MOVEMENTS MEASUREMENTS:

GONEOMETER READINGS:

	Normal degrees	**before treatment**	**after treatment**
Forward flexion	**180°**		
Hyper Extension	**50°**		
Abduction	**180°**		
Internal rotation	**90^0**		
External rotation	**90^0**		

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Pain:

Pain on rest	**Present/Absen**
Pain on movement	**Present/Absent**
Constant pain	**Present/Absent**
Pain changes in climate	**Present/Absent**

NIDANA PARIKSHA:

1. **Nidana**
   - **a. Aahara**
   - **b. Vihara**
   - **c. Manasa**
   - **d. Abhigataja/Nidanartha karatwa.**
2. **Poorvarupa:**
3. **Roopa:**
4. **Upashaya/Anupashaya:**
5. **Samprapthi :**

Samprapti - ghatakas.

1. **Dosha**
2. **Dooshya**
3. **Agni.**
4. **Ama.**
5. **Srotas.**
6. **Sroto dusthi prakara**
7. **Udbhava sthana**
8. **Sanchara sthana**

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9. Adhistana

10. Vyakta sthana

11. Roga marga

12. Roga avastha

INVESTIGATIONS

Blood	**TC**										
	DC	**P**		**L**		**E**		**M**		**B**	
	ESR										
	Hb%										
	RBS **RA test**										

SADHYAASADHYATA:

KRUCHRASADHYA / ASADHYA / YAPANA / SUKHASADHYA

PATHYA:

APATHYA:

	CHIEF COMPLAINTS	**BEFORE TREAT-MENT**	**AFTER TREAT-MENT**
1	**Bahu praspanditahara**		
2	**Shoola**		
3	**Sandhi Graha**		

"To Evaluate the efficacy of Nasya with Mahamasha taila and Nasaapana with Dashamoolibalamasha kwatha in the management of Avabahuka wsr to Frozen shoulder."

SIGNATURE OF THE GUIDE	SIGNATURE OF THE SCHOLAR
Dr. PRASHANTH A S. **M.D. (Ayu), Ph.D**	**DR. PRAVEENKUMAR.H.BAGALI**

"To Evaluate the efficacy of Nasya with Mahamasha taila and Nasaapana with Dashamoolibalamasha kwatha in the management of Avabahuka wsr to Frozen shoulder."

PATHYA - APATHYA

Pathya - Apathya plays vital role in almost all the diseases especially in Vata vyadhi. 70-80% of Vata vyadhi are because of improper diet and life style.

According to Lolumbaraja-

"Pathye Sathi Gadartasya Kim Oushadha Nishevanaihi |

Pathye Asathi Gadartasya Kim Oushadha Nishevanaihi ||"

This means if a patient follows Pathya there is no need of medication and if a patient doesn't follow Pathya then also there is no need of medication. That is why Madhava says Pathya is one of the main cores of treatment. Whenever a person intakes any Ahara it should confirm itself to the concept of Asthavidha Ahara Vishesha Ayatana.

Pathya – Apathya:

Specific Pathya and Apathya of Avabahuka are not mentioned.

But as being a Vatavyadhi, we should adopt the same of general Vatavyadhi.

The list of some Pathya-Apathya is as below.

Table No 01: Pathya Ahara:

1. Annavarga	Godhuma, Masha, Raktashali, Kulattha
2.Dugdhavarga	Gau-Aja Ghrita, etc.
3. Phalavarga	Draksha, Badara, Amra, Madhuk etc
4. Jalavarga	Ushna Jala, Shritashita Jala
5. Madyavarga	Sura, Madira, Surasava, Amlakanjika
6.Mamsavarga	Kukkuta, Mayura, Chataka, Tittir, Nakra, Matsya, Varah, Jalachara Mamsa.
7. Mutravarga	Go, Avika, Ashva, Hasti Mutra

8. Rasavarga	Madhura, Amla, Lavana
9. Shakavarga	Patola, Shigru, Rason, Jivanti
10.Snehavarga	Taila, Vasa, Majja, Ghrita

Pathya Vihara:

Atapa Sevana, Mridushayya, Ushnodaka Snana etc.

Pathya Aushadha :

Rasna, Sunthi, Bilva, Gokshura, Agnimantha, Rasona, Palandu etc.

Abhyanga, Mardana, Avagahana, Upanaha,Nasya, Basti, Agni karma etc[102].

Table No 02: Apathya Ahara:

Varga Dravya:

1.Annavarga	Yava, Kodrava, Shyamaka, Nirava, Chanaka, Kalaya etc
2.Dugdhavarga	Gadarbha Dugdha
3.Ikshuvarga	Madhu
4.Jalavarga	Nadi-samudra, Shita Jala, Dushita Jala etc
5.Madyavarga	Navamadya, Atimadyapana
6.Mamsavarga	Kapota, Paravat, Kulinga, Shuka, Shushka Mamsa etc.
7.Mutravarga	Ajamutram
8.Phalavarga	Jambu, Kramuka, Kasheruka, Lavali, Parpataki Phala etc.
9.Rasavarga	Katu, Tikta, Kasaya Rasa
10.Shakavarga	Kumuda, Kamalanala, Palakya, Udumbara etc.

Apathya Vihara:[103]

Chinta, Jagarana, Vega Sandharana, Shrama, Anashana, Vyavaya, Vyayama, Pravata, Chankramana, Kathina Shayya, Yana Gamana etc.

Apathya Aushadha: Vamana and Raktamokshana[104]

ANATOMY AND PHYSIOLOGY OF OF SHOULDER JOINT:[105]

Joints are the articulations or structural connecting arrangements between two or more bones. Based on Structure and its function it is classified mainly into three types:

1. **Fibrous Joints:** The articular surfaces of the bones forming the joints are connected by fibrous tissue.
2. **Cartilaginous Joints:** The articulating bones are intervened by cartilage and this cartilage unites the bones.
3. **Synovial Joints:** These joints have a wide range of movements.

Characteristic Features of Synovial Joints:

a) It is surrounded by an articular capsule which consists of outer fibrous capsule and inner synovial membrane. This synovial membrane forms a cavity filled with synovial fluid.

b) Synovial membrane lines whole of interior of joint except the cartilage covered ends of articulating bones. It secretes a viscid glary fluid termed Synovial fluid or' Synovia' which acts as lubricant and also provides nourishment to articular cartilage. It removes the particulate matter and transference to cells of deeper zone and also the absorption of cartilaginous debris formed as a result of wear and tear.

Shoulder Joint:

It is an articulation between humerus and scapula and also known as Gleno-Humeral joint. It is a Synovial type of Joint in which Ball and Socket of Polyaxial sub type. The articulation of humeral head with the glenoid cavity of Scapula forms the joint. The synovial membrane of the shoulder joint lines the inner surface of the fibrous capsule and protrudes through the opening in front of capsule to communicate with

subscapsular bursa and sometimes with infraspinatus bursa behind the capsule. It invests the tendon of long head of Biceps as tubular sheath which is reflected back to transverse ligament and also to floor of inter tubercular sulcus.

Accessory Ligaments:

- Coracohumeral ligament.
- Transverse humeral ligament.
- Glenohumeral ligaments.

Muscles surrounding the joint:

- Above – Tendon of Supraspinatus.
- Behind – Infraspinatus and Teres minor.
- In front – Subscapularis.

Relations of the Joint:

- In front: Subscapularis, Coracobrachialis, short head of Biceps and Deltoid.
- Behind: Infraspinatus, Teres minor and Deltoid.

Above: Coracoacromial arch, subacromial bursa, Supraspinatus and Deltoid.

Below: Long head of Triceps separated by Axillary nerve and posterior circumflex humeral vessels.

Within the Joint: Tendon of long head of Biceps.

Art**erial Supply of the Joint:**

- Anterior and posterior circumflex humeral artery.
- Suprascapular artery.
- Subscapular artery.

Nerve Supply of the Joint:

- Axillary nerve.
- Musculocutaneous nerve.

Stability of the Shoulder Joint:

Factors responsible for maintaining stability:

1) Tension of upper part of fibrous capsule, coracohumeral ligament and supra-spinatus muscles- prevent downward displacement of humerus.

2) Glenoidal labrum – It deepens the glenoid cavity and, thereby, prevents skidding.

3) Musculotendinous cuff (formed by four muscles Subscapularis, Supraspinatus, Infraspinatus and Teres minor).

4) Coracoacromial arch and long head of Biceps: prevent upward displacement of head of humerus.

5) Teres major and long head of Triceps: play some role in supporting the lower weakest part during movement of abduction.

Frozen shoulder:[106]

Medically referred to as **adhesive capsulitis**, is a disorder in which the shoulder capsule, the connective tissue surrounding the glenohumeral joint of the shoulder, becomes inflamed and stiff, greatly restricting motion and causing chronic pain. Movement of the shoulder is severely restricted. Pain is usually constant, worse at night, when the weather is colder, and along with the restricted movement can make even small tasks impossible.

Frozen shoulder is the result of inflammation, scarring, thickening, and shrinkage of the capsule that surrounds the normal shoulder joint. Any injury to the shoulder can lead to frozen shoulder, including tendinitis, bursitis, and rotator cuff injury.

In addition to difficulty with everyday tasks, people who suffer from adhesive capsulitis usually experience problems sleeping for extended periods due to pain that

is worse at night and restricted positions. The condition also can lead to depression, pain, and problems in the neck and back. The condition very rarely appears in people under 40 and is much more common in women than in men (70% of patients are women age 40–60).

Physicians have described the normal course of a frozen shoulder as having three stages-

1) Stage one: The "freezing" or painful stage, which may last from six weeks to nine months, and in which the patient has a slow onset of pain. As the pain worsens, the shoulder loses motion.

2) Stage two: The "frozen" or adhesive stage is marked by a slow improvement in pain but the stiffness remains. This stage generally lasts four months to nine months.

3) Stage three: The "thawing" or recovery, when shoulder motion slowly returns toward normal. This generally lasts five months to 26 months.

Signs:

With a frozen shoulder, one sign is that the joint becomes so tight and stiff that it is nearly impossible to carry out simple movements, such as raising the arm. The movement that is most severely inhibited is external rotation of the shoulder.

Diagnosis:

The diagnosis can be confirmed when an x-ray contrast dye is injected into the shoulder joint to demonstrate the characteristic shrunken shoulder capsule of a frozen shoulder. This x-ray test is called arthrography. The tissues of the shoulder can also be evaluated with an MRI scan.

Risk factors:

There are a number of risk factors for frozen shoulder, including diabetes, stroke, accidents, lung disease, connective tissue disorders, and heart disease. Long-

term immobility of the shoulder joint can put people at risk to develop a frozen shoulder.

Prevention:

To prevent the problem, a common recommendation is to keep the shoulder joint fully moving to prevent a frozen shoulder. Often a shoulder will hurt when it begins to freeze. Because pain discourages movement, further development of adhesions that restrict movement will occur unless the joint continues to move full range in all directions (adduction, abduction, flexion, rotation, and extension). Physical therapy helps with continued movement to discourage freezing and warm it.

Management:

The 'Drugs and therapeutic Bulletin' (Nov 2000) makes the statement that until now 'no treatment has been demonstrated to either reduce the duration or severity of frozen shoulder syndrome'. The most common treatments are listed below.

Treatment in the painful freezing phase:

During the initial painful freezing stages, treatment is directed at pain relief. It is traditional to give patients **non-steroidal anti-inflammatory drugs** if they can tolerate these. Where necessary these should be supplemented with other analgesics. There are, however, no randomized controlled trials that confirm the effectiveness of NSAID's in the specific condition of frozen shoulder.

Physiotherapy:

Physiotherapy is advised during the 'Frozen' phase and is mainly aimed at keeping the shoulder mobile through stretching and pushing the joint; it rarely seems to help speed up the recovery of the underlying condition.

Exercise therapy is indicated and recommended, especially in the 'Freezing and Frozen' phases, to keep the shoulder as mobile as possible. It does not provide a 'cure' but is an important component

Steroid Injection:

The next step often involves one or a series of steroid injections (up to six) Injections are usually given under radiological guidance, with either ultrasound or Computed Tomography (CT). Radiological guidance is utilized so that the needle is safely and accurately guided into the shoulder joint These are either injected into the space between the acromion and the humeral head (sub acromial bursa) or into the Shoulder joint itself. Cortisone is injected into the joint in order to suppress the inflammation that is characteristic of this condition. The shoulder capsule may also be stretched by also injecting normal saline, often to the point of rupturing the capsule in order to alleviate the pain and loss of motion due to its contraction. The addition of saline in conjunction with the cortisone injection is known as hydrodilatation, or distension arthrography

But there are unwanted side effects such as facial flushing and irregular menstrual bleeding; also, in diabetics, injections have a detrimental effect on insulin metabolism, de-stabilizing the blood sugar levels for 36-48 hours.

Other treatment modalities like Oral Steroids have been proposed as a treatment for frozen shoulder. But these improved only initially only and effect did not last beyond six weeks. The adverse side effects of oral steroids are well documented and they should not be regarded as routine treatment for this condition.

Suprascapular nerve block:

Suprascapular nerve block has been used in patients with severe pain associated with frozen shoulder syndrome. This injection technique is usually

performed 3 times over 3 weeks. It has given some relief for pain, but does nothing to address the stiffness in the shoulder.

Treatment during the adhesive phase:

Intra-articular steroid injections are not indicated in the adhesive phase as the inflammatory stage of the disease has passed. More aggressive stretching exercise will be tolerated and should be the focus of treatment, with the aim of regaining the range of motion. Low load, prolonged stretches produce plastic elongation of tissues as opposed to the high tensile resistance seen with high load, brief stretches.

Manipulation under anesthesia:

If these measures are unsuccessful, the doctor may recommend manipulation of the shoulder under general anesthesia to break up the adhesions.

Manipulation under anesthesia (MUA) again this is performed in the freezing phase (at least after 6 months) it is performed under general anesthetic and followed up by several months of physiotherapy. Complications arising from this include fractures and dislocations of the Humerus, rotator cuff tears, increased inflammation and scarring and nerve palsy (especially radial Nerve.)

For patients who are unable to tolerate the pain and disability associated with the condition, manipulation under anesthesia is the most reliable way to improve the range of movement in a frozen shoulder. It is indicated if the functional disability persists in spite of adequate non-operative treatment for six months. Manipulation under anesthesia generally results in notable improvement in shoulder function and range of motion within three months.

Joint distension/ hydrolysis:

Here keyhole surgery is used to inject saline solution into the shrunken capsule to’re-inflate' it. There is now some evidence that this approach is more effective than

standard physiotherapy. Many claims have been made about this technique. However the following should be noted: it involves anesthetic, it ruptures the joint capsule and it often requires more than 10 physical therapy sessions.

Surgical Release:

More recently, arthroscopic release of the capsule has been advocated to allow a more controlled release of the contracted capsule than manipulation under anesthesia. This is required if manipulation fails to release the capsule, which is a common problem in frozen shoulder in diabetes. Arthroscopic release and synovectomy in the painful freezing phase of the disease may be effective in controlling the progression of the disease, if synovitis is an essential factor in the development of frozen shoulder.

MATERIALS AND METHODS

The present study is a clinical trial to assess the efficacy of Nasya karma with Mahamasha taila in Group A, and Nasaapana with Dashamooli bala masha kwath in Group B.

Source of data

Patient source: Subjects suffering from Avabahuka selected from OPD and IPD of Ayurveda Mahavidyalaya and Hospital, Hubballi and special camps conducted in the hospital after fulfilling the inclusion and exclusion criteria were selected for the study.

Literary source : Literary review of Avabahuka and Modern aspects of Frozen shoulder were collected from Ayurveda and Modern texts and updated with recent medical journals and necessary information were collected from website sources.

- **Mahamasha taila.** It was purchased from (GMP) Good Manufacturing Practices certified pharmaceutical company Pavaman pharmaceuticals after properly identified and tested by Dravyaguna and Bhaishajyakalpana experts. (Batch number-139, Manufactured date: December-2014, Net Quantity-2lit) and used for the clinical study
- **Dashamoola balamasha kwath :** dashamoola and Balamulakwatha churna was purchased from Pavaman pharmaceuticals after properly identified and tested by Dravyaguna and Bhaishajyakalpana experts. (Batch number-CH 468 CH 304, Manufactured date: December-2014, Net Quantity-1kg) and used for the clinical study
- Daily 50 ml of fresh Ksashaya was used for the preparation of Dashamoola balamasha kwath Nasaapana.

- **Study design:** Clinical trial
- **Inclusion Criteria:**
- Subjects presenting with clinical features of Avabahuka [Frozen shoulder].
- Subjects irrespective of their gender between of 20 - 70 years.
- Subjects fit for Nasya and Nasaapana Karma.
- **Exclusion Criteria:**
- Auto immune disorders like Systemic lupus erythematosus , Rheumatoid arthritis etc.
- Post Traumatic injuries.
- Dislocation of Shoulder joint.
- Uncontrolled metabolic disorders like Diabetes mellitus.
- The systemic examination of the subjects was also done and findings were recorded as per the Proforma.
- **Investigations**:
- Hb %
- TC, DC, ESR
- RBS
- RA test.
- **Assessment criteria:**
- As the criteria for diagnosing the disease was based on the Lakshana, the same criteria to assess the efficacy of the treatment were adopted. By the careful observation of the subjects the improvement in each Lakshana were recorded, before and after the treatment.

- **a) Marked relief;** More than 75% relief in the complaints as well as significant improvement in Forward flexion of joint up to 180^0, Hyper Extension upto 50^0 ,Abduction Up to 180^0 , Internal rotation Up to 90^0 External rotation Up to 90^0 .
- **b) Moderate relief:** More than 50% relief in the complaints along with improvements in Forward flexion of joint up to 135^0, Hyper Extension upto 30^0 , Abduction Up to 135^0 , Internal rotation Up to 60^0 ,External rotation Up to 60^0 .
- **c) Mild relief:** More than 25% relief in the complaints along with improvement in Forward flexion of joint up to 90^0, Hyper Extension upto 10^0 ,Abduction Up to 90^0 , Internal rotation Up to 30^0 ,External rotation Up to 30^0 .
- **d) No relief:** Less than 25% relief in the complaints was regarded as No relief.
- **Gradings For Assessing Subjective And Objective Parameters:**
- **Criteria for the assessment of symptoms:**
- The improvement of subjects was assessed on the basis of relief in the signs and symptoms of disease. To analyze the efficacy of the drug, marks were given statistically to each symptom. According to severity of the symptoms, the grading was given as below;
- **Scores of specific symptoms:**
- **Subjective Parameters:**
- **A) Main symptoms:**
- **1) Bahu praspanditahara:**
- a) Can do work unaffectedly -0
- b) Can do strenuous work with difficulty - 1

- c) Can do daily routine work with great difficulty - 2
- d) Cannot do any work - 3
- **2) Shoola:**
- a) No pain - 0
- b) Mild pain can do strenuous work with difficulty - 1
- c) Moderate pain, can do normal work with support- 2
- d) Severe pain, unable to do work at all – 3
- **B) Associated symptoms:**
- **1) Amsa sosha:**
- a) No wasting - 0
- b) Mild wasting, can do work - 1
- c) Wasting present, work with difficulty - 2
- d) Wasting present, cannot move - 3
- **Objective Parameters:**
- **1) Localized Swelling:**
- a) No swelling – 0
- b) Slight - 1
- c) Moderate - 2
- d) Bulging beyond joint margins - 3
- **2) Palpation-tenderness:**
- a) No tenderness - 0
- b) Patient complains of pain - 1
- c) Patient complains of pain and winces - 2
- d) Patient complains of pain, winces and withdrew joint -3

- **3) Sandhi Graha: (Gonio meter readings)**
- **A) Forward flexion:**
- a) Up to 180^0 - 0
- b) Up to 135^0 - 1
- c) Up to 90^0 - 2
- d) Up to 45^0 - 3
- e) Cannot flex- 4
- **B) Hyper Extension:**
- a) Up to 50^0 - 0
- b) Up to 30^0 - 1
- c) Up to 10^0 - 2
- d) Cannot hyper Extense - 3
- **C) Abduction**:
- a) Up to 180^0 - 0
- b) Up to 135^0 - 1
- c) Up to 90^0 - 2
- d) Up to 45^0 - 3
- e) Cannot abduct- 4
- **D) Internal rotation:**
- a) Up to 90^0 - 0
- b) Up to 60^0 - 1
- c) Up to 30^0 - 2
- d) Cannot rotate - 3
- **E) External rotation:**

- a) Up to 90^0 - 0
- b) Up to 60^0 - 1
- c) Up to 30^0 - 2
- d) Cannot rotate- 3

The following materials are utilized for clinical trial:

1. Panchakola Churna[1]
2. Jambeera pinda sweda[2]
3. Mahamasha taila[3]
4. Dashamool bala masha kwath[4]
5. Goniometer[5]
6. Specially designed Nasaapana Yantra

1. Panchakola Churna:

Ingredients:

1. Pippali	-	1 part	4. Chitraka	-	1 part
2. Pippalimoola	-	1 part	5. Nagara	-	1 part
3. Chavya	-	1 part			

Panchakola Churna is used as Amapachana Dravya in this clinical study. All the ingredients of this Churna are Amahara due to their Teekshna, Ushna, Deepana and Pachana property.

Dosage : 5-10gm / day in divided doses.

Anupana : Ushnodaka.

Kala : Anannakala

2.Jambeera pinda sweda:

Ingredients:

1. Jambeera (chopped pieces)-750 gm
2. Saindhava powder-30 gm
3. Haridra powder-60 gm
4. Cotton cloth (45cm X 45cm) - 4
5. Threads-as required
6. Rasnadi chooma -5 gm
7. Mahamasha taila for talam-10 ml
8. Tila taila for reheating the pottali

Preparation of pottali:

All the Ingredients are fried in appropriate quantity of oil and are divided into four equal parts and pottalis are made accordingly. Out of the four pottalis, the two pottalis should be heated by keeping on the hot pan containing tila taila. This pottali should be applied to the affected shoulder and amsa pradesha as per the general procedure for 30 min.

3. Mahamasha tailam.

1. Masha	12. Kapikachu	23. Ashwagandha
2. Bilva	13. Manjista	24. Vacha
3. Syonaka	14. Chavya	25. Shati
4. Gambari	15. Chitvaka	26. Eranda
5. Patala	16. Lavana traya	27. Mudgaparni
6. Agnimantha	17. Pippalimoola	28. Mashaparni
7. Shalaparni	18. Rasna	29. Jeevanti 2 parts
8. Prisnaparni	19. Maduka	30. Madhuka
9. Brahati	20. Devadaru	31. Rushabhaka
10. Kantakari	21. Amritha	32. Meda, mahameda
11. Gokshura	22. Kusta	33. kakoli, ksheerakakoli

Initially Masha ardha adhaka ie 128 tola, dashamoola ardha tula and aja mamsa 30 pala is mixed with 1 drona jala and kashaya is prepared by reducing it to

one fourth. then moorchita tila taila 1 prasha, dugdha 4 prastha, lavana traya 2 prastha should be added., all drugs from 17 to 35 should be taken in in a quantity of 1 tola each and make kalka out of that. When all the drugs are properly mixed kept on mandagni and prepare according to taila paka vidhi. It is used for Nasya in case of avabahuka.

4. Dashamoola balamasha kwath:

1. Bilwa
2. Agnimantha
3. Syonaka
4. Patala
5. Gambhari
6. Salaparni
7. Prushnaparni
8. Bruhati
9. Kantakari
10. Gokshura
11. Bala
12. Masha.
13. Taila 1 tola
14. Goghrita 1 tola

Method of preparation:

First of all, the above drugs are made into small pieces (Yava Kutta). Then Kashaya is prepared by boiling Yava Kutta power with 32 tola of water and reducing to one fourth of the total quantity of water. Then 1 tola taila and 1 tola ghrita is to be added. This kwath is used for Nasaapana after evening meal.

7. Goniometer:

A goniometer is an instrument that either measures angle or allows an object to be rotated to a precise angular position. The term goniometry is derived from two Greek words, gonia, meaning angle and metron, meaning measure.

A goniometer can also measure progress in return of range of motion during recovery.

Amongst the variety of Stainless Steel Goniometers, in this study 180° Goniometer was used to assess the range of movements of shoulder joint.

This 180° Goniometer has two 180° scales that read in opposite directions. It is 14" long. The Scales are marked in 10 increments. It has Non-locking friction arm.

Method adopted while assessing ROM via Goniometer:

(1) The fulcrum of the device was aligned with the joint to be measured.

(2) The stationary arm of the device was aligned with the limb being measured.

(3) Hold the arms of the Goniometer in place while the joint is moved through its range of motion.

(4) The degree between the endpoints represents the entire range-of-motion.

8. Specially designed Nasaapana yantra:

This yantra is designed with the concept of basti yantra which contains putaka[6] and netra. Here in the present study the bulb of the B.P apparatus and a needle holder which is cut and made open at the top is taken. When the kwath becomes ready to administer, 25 ml of kwath is added to the bulb with the help of of 5 ml syringe. Needle holder will be then fixed to the bulb. During the administration of nasaapana all aseptic precautions will be taken.

Table No 01: Showing the Properties of Maha Masha Taila:

Sl no	Sanskrit Name	Latin Name	Guna	Rasa	Veerya	Vipaka	Doshaghnata	Karmukta
1	**Masha**	Phaseotus mungo leguminosae	Guru Snigdha	Madhura	Ushna	Madhura	Vatahara Pitta kapha vardhaka	Vatavyadhi Sandhivata Nadi dourbaly
2	**Bilva**	Aegle	Laghu	Madhura	Ushna	Katu	Kaphavat	Shotahara,

		marmelos rutaceae	Rooksha	Tikta			ahara	Vedana sthapana, Deepana, Pachana
3	**Syonaka**	Oroxylum indicum bignonaceae	Laghu Rooksha	Madhura Tikta Kashaya	Ushna	Katu	Kaphavat ahara	Shothahara Vedanasthapana Deepana, Pachana
4	**Gambari**	Gmelina arbora verbenaceae	Guru	Tikta Kashaya Madhura	Ushna	Katu	Tridoshag na	Shoolavaha vatagna Shothahara
5	**Patala**	Stereospermum Suaveolens Bignonaceae	Laghu Rooksha	Tikta Kashaya	Ushna	Katu	Tridoshag na	Vatavyadhi Dourbalya Aruchi, Trishna, Shothahara
6	**Agnimantha**	Premna mucronata verbenaceae	Rooksha Laghu	Tikta Katu Kashaya Madhura	Ushna	Katu	Kaphavat ahara	Vedana and shoothahara, Vatavyadhi, agnimandhya
7	**Shalaparni**	Desmodium gangeticum Leguminosae	Guru Snigdha	Madhura Tikta	Ushna	Madhura	Tridoshah ara	Vatavyadhi, Angamarda, Nadi dourbalya, Shotha
8	**Prisnaparni**	Uraria picta Leguminosae	Laghu Rooksha Teekshna	Madhura Tikta	Ushna	Madhura	Tridoshah ara	Vatavyadhi, Dourbaly, Angamarda, Asthibagna
9	**Brahati**	Solanum indicum solanaceae	Laghu Rooksha Teekshna	Katu Tikta	Ushna	Madhura	Kaphavat ahara	Vedana, shotha , aruchi, agnimandya
10	**Kantak**	Solanum	Laghu	Tikta	Ushna	Katu	Kaphavat	Vedanasthapana

	ari	surattense solanaceae	Rooksha Tikshna	Katu			ahara	Shotha, Deepana, Pachana
11	**Gokshura**	Tribulus terrestris Zygophylaccae	Guru Snigdha	Madhura	Sheetha	Madhura	Vata Pittahara	Vatavyadhi Vedana pradana vikara, Nadidourbalya
12	**Kapikachu**	Mucuna pruritis Leguminosae	Guru Snigdha	Madhura Tikta	Ushna	Madhura	Tridoshagna	Vatavyadhi Nadi dourbaly Krisna
13	**Manjista**	Rubia cordifolia rubiaceae	Guru Rooksha	Tikta Kashaya Madhura	Ushna	Katu	Kapha pittahara	Deepana, Pachana, Shothahara, Dourbalya
14	**Chavya**	Pipperetrofactum	Laghu Rooksha	Katu	Ushna	Katu	Kaphavatahara Pittavardhaka	Shoolaprashamana, Deepana, Vatanulomana, Pachana
15	**Chitvaka**	Plumbago zeylanica Plumbaginaccae	Laghu Rooksha Tikshna	Katu	Ushna	Katu	Kapha vatahara	Vatavyadhi Nadidourbalya, Deepana, Pachana
16	**Pippali moola**	Piper longum Piperaceae	Laghu Snigdha Tikshna	Katu	Anushna sheeta	Madhura	Kaphavata hara	Vatavyadhi , Aruchi, Ajeerna, Shothahara, Vedanahara
17	**Rasna**	Pluchea lanceolata compositae	Guru	Tikta	Ushna	Katu	Kaphavata hara	Vedana shamaka Shothahara, sandhishoola
18	**Maduka**	Madhuca indica sapotaceae	Guru Snigdha	Madhura Kashaya	Sheeta	Madhura	Vatapittahara	Vatavyadhi Nadi dourbalya
19	**Devadaru**	Cedrus deodara pinaceae	Laghu Snigdha	Tikta	Ushna	Katu	Kaphavata hara	Shotha, vedana, pradhana rogas,

								Sandi vikaras
20	**Amritha**	Tinospora cordifolia Menispermaceae	Guru Snigdha	Tikta Kashaya	Ushna	Madhura	Tridoshahara	Vedana sthapana, Deepana Pachana
21	**Kusta**	Sausarealappa compositae	Laghu Ruksha Tiksna	Tikta Katu Madhura	Ushna	Katu	Kaphavatahara	Shoolaprashamana, Vedanasthapana, Deepana, Pachana
22	**Ashwagandha**	Withania somnifera solanaceae	Laghu Snigdha	Tikta Katu Madhura	Ushna	Madhura	Kaphavatahara	Vedanasthapana, Shoolaprashamana, Deepana, Shothahara
23	**Vacha**	Acorus calamus	Laghu Tikshna	Katu Tikta	Ushna	Katu	Kapha vata	Vedanasthapana, Shoolaprashamana, Deepana, grahi
24	**Shati**	Hedychium spicatium Zingiberaceae	Laghu Tikshna	Katu Tikta Kashaya	Ushna	Katu	Kaphavatahara	Vedanasthapana, Shoolaprashamana, Deepana, Grahi
25	**Eranda**	Ricinus communis Euphorbiaceae	Snigdha Tikshna Sooksh ma	Madhura Katu Kashaya	Ushna	Madhura	Kaphavatahara	Vedana sthapana Shothahara, Balya, Angamarda prashamana Vatavyadhi
26	**Mudgaparni**	Phasedus trilobus Leguminasae	Laghu Rooksha	Madhura Tikta	Sheeta	Madhura	Vatapittahara	Vatahara, Shothahara, Deepana,

								Pachana
27	**Mashaparni**	Phaseolus mungo	Laghu Snigdha	Madhura Tikta	Sheeta	Madhura	Vatapittahara	Snehana, Vatanulomana, Deepana, Shothahara
28	**Jeevanti**	Leptadenia reticulata Asclepiadaccea e	Laghu Snigdha	Madhura	Sheetha	Madhura	Vatapittahara	Snehana, Anuloma grahi, Balya, rasayana

Sl. No.	**Drug**	**Botanical name**	**Rasa**	**Guna**	**Veerya**	**Vipaka**	**Dosha Karma**
1.	Vilwa	Aegle marmelos	Kashaya, Tikta	Laghu, Ruksha	Ushna	Katu	Vata Samana
2.	Agnimantha	Premna mucroneta	Tikta, Madhura Katu,Kashaya,	Ruksha, Laghu	Ushna	Katu	Kapha Vata Samana
3.	Syonaka	Oroxylum indicum	Madhura, Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu	KaphaVata Samana
4.	Patala	Sterospermum Suoveolens	Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu	Tridosha Samana
5.	Gambhari	Gmelina arborea	Tikta,Kashaya, Madhura	Guru	Ushna	Katu	Tridosha Samana
6.	Salparni	Desmodium gangeticum	Madhura, Tikta	Guru, Snigdha	Ushna	Madhura	Tridosha Samana
7.	Prishnaparni	Uraria picta	Madhura, Tikta	Laghu, Snigdha	Ushna	Madhura	Tridosha Samana
8.	Bruhti	Solanum	Katu, Tikta	Laghu,	Ushna	Katu	Kapha

		indicum		Ruksha, Teekshna			Vata Samana
9.	Kantakari	Solonum surattense	Tikta, Katu	Laghu, Ruksha, Teekshna	Ushna	Katu	Kapha Vata Samana
10.	Gokshura	Tribulus terrestris	Madhura	Guru, Snigdha	Sheeta	Madhura	Vaata Pitta Samana
11.	Bala	Sida cardifolia	Sida cardifolia	Laghu Snigdha Pichila	Sheeta	Katu	Vata pittashamaka
12.	Masha	phaseotus mungo	Madhura	Guru, Snigdha	Ushna	Madhura	Vata shamana Pitta kapha vardhaka

Table No 02: Above table showing the Properties of Dashamoola bala masha kwath:

Interventions:

Group – A:

Amapachana: Panchakola Churna- Till Nirama Lakshana are seen.

Jambeera Pinda sweda.

Poorva karma: Mukhabhyanga and Nadi sweda.

Pradhana karma: Nasya with mahamasha taila.

Paschyat karma: kavala and gandoosha with usnodaka.

Group – B:

Amapachana: Panchakola Churna - Till Nirama Lakshana are seen.

Jambeera Pinda sweda.

Poorva karma: Mukhabhyanga and Nadi sweda.

Pradhana karma: Nasaapana with Dashamooli bala masha kwath.

Paschyat karma: kavala and gandoosha with usnodaka.

Method of treatment:

Group A:

Under this group 50 subjects are taken for the clinical trial and will be kept on following therapy.

Amapachana:

with Panchakola Churna.

Matra: 5 to 10 gms in divided doses.

Anupana: Ushnodaka.

Oushadha Kala: Anannakala.

This is given till the appearance of Sarvadehika Nirama Lakshana.

Jambeera Pinda Sweda:

It is done with the prepared pottalis**.**

Nasya karma:

Purvakarma: Mukhabhyanga and sweda to be perfomed till samyak laxanas are seen.

Pradhana karma: Nasya karma [Marsha nasya] with mahamasha taila.

Paschyat karma: Kavala and gandoosha.

Group B:

Under this group 50 subjects are taken for clinical trial and are kept on following therapy.

Amapachana:

with Panchakola Churna

Matra: 5 to 10 gms in divided doses.

Anupana: Ushnodaka.

Oushadha Kala: Anannakala.

This is given till the appearance of Sarvadehika Nirama Lakshana.

Jambeera Pinda Sweda:

It will be done with the prepared pottalis**.**

Nasaapana:

Purvakarma: Mukhabhyanga and sweda are perfomed till samyak laxanas were seen.

Pradhana karma: Nasaapana with Dashamooli bala masha kwath.

Paschyat karma: Kavala and gandoosha with usnodaka.

Procedure of Jambeera pinda Sweda:

Purvakarma:

The patient should be seated with legs extended over the droni and talam is applied with Mahamasha taila and choorna[7].

Pradhana karma:

Out of the four pottalis, two pottalis should be heated up to 40°C-45°C by keeping on the hot pan containing tila taila. This pottali should be applied to the affected bahu as per the general procedure for 30 min[8].

Paschyat karma:

After the procedure body should be wiped with clean towel and talam should be removed and rasnaadi choorna should be applied. The patient should be advised to take complete rest for 30 min.

NASYA KARMA

The administration of either medicine (drug) or medicated oil through the nose is known as Nasya Karma[9].

Navana, Nastakarma are the words used for Nasya karma. This is useful in Shiroshunyata. It gives strength to neck, shoulders, chest and increases vision[10]. Thus Nasya is useful in Avabahuka.

By studying our classics, it is observed that Nasya Karma is adviced to maintain the health in healthy persons and to alleviate the diseases. This chapter describes Nirukthi, Paribhasha, Classification, Dosage, Indications, and method of Nasya karma, Samyak laxana, Vyapat and its chikitsa.

Vyutpatti Nirukti and paribhasha:

The word Nasya Karma is composed of two words Nasya and Karma.

Nasya: ' Nas' is substituted for Nasa when it is followed by the suffix 'Yath'.

Nasika + Yath = Nasadeshancha

Nasikaayai hitam – Nasya

In Vachaspathyam the word, 'Nasya' has been defined as the one, which is administered through the nose.

Chakrapani explains that "Nastha Prachardanam iti Shirovirechanam." Considering the above definitions, Nasya can be defined as that which is administered through nose by using the medicines to alleviate Jatrurdhva Vikaras in particular.

Synonyms of Nasya:

Shirovirechana, Shirovireka, Murdhavireka, Navana, Nastha karma, nastham etc.

Karma:

The action done by Kartru according to his will is known as karma.

The treatment of diseases done with Nasya is called Nasya Karma where Karma is used in the meaning of chikitsa.

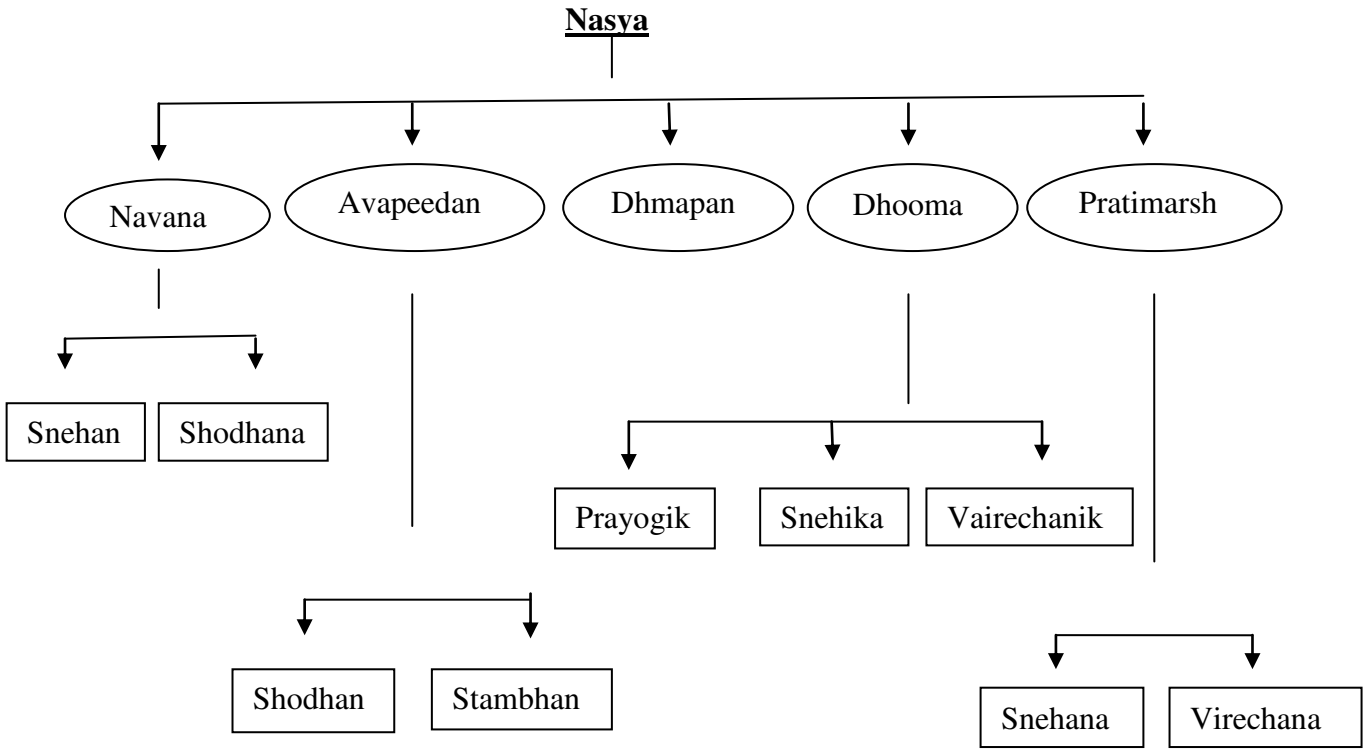
Classification of Nasya Karma[11]:

Depending on the forms of medicine used, the mode of action of drugs and the quantity of medicine used, Nasya is classified as follows.

Classification according to its matra:

1. Marsha
2. Pratimarsha

Nasya - according to Charaka[12]:



According to Vagbhata[13]:

Nasya is classified into

1.Virechana

2.Shaman

3.Bruhmana

Nasya Matra:

The unit of Nasya is the quantity of medicine that dribbles down when the first two digits of index finger are dipped in to the medicine and taken out which is called a "Bindu"[14].

	Maximum	Moderate	Minimum
For snehas (Bramhana)	10	8	6
For kwatha, Swarasa etc.	8	6	4
According to Sushruta:			
Snehanasya (Bramhana)	64 (32+32)	32 (16+16)	16 (8+8)
Shirovirechana Marshanasya Or Snehanasya	8 10 drops	6 8 drops	4 6 drops
Other forms of Medication like Kwatha, Swarasa	8	6	4

Pradhamana nasya, which will be in powder (churna) form, is administered with the help of a hollow tube of 6 Angulas in length having openings at both ends. The powder is filled in to it and blown in to the nostrils of the patient till the powder reaches his throat[15].

Kala for Nasya Vidhi[16]:

Vataja disorders- Afternoon

Pittaja disorders- Noon

Kaphaja disorders – Fore noon

Swastha, - cold seasons- Noon

Sharat rutu and Vasanta rutu- Fore noon

Greeshma rutu – Afternoon

Rainy season- bright sunlight

For persons undergoing Panchakarma, it should be done after basti. Nasya Karma is contraindicated during cloudy weather irrespective of season.

Navana nasya[17]:

Sneha dravyas are mainly used. It acts as Brumhana. It is of two type- snehana and shodana.

Avapeedana nasya[18]:

Nasya performed by squeezing a wet drug is avapeedana. This may be Shodhana or Sthambhana depending on the drug used.

Dhmapana[19]:

A form of nasya where in medicated powders are blown in to the nostrils through a hollow tube. This is virechana nasya.

Dhooma nasya[20]:

Medicated fumes are inhaled through nostrils and exhaled from the mouth. This may be vairechanika or snehika.

Pratimarsha nasya[21]:

When the nasya dravya is used with minimum quantity (2 bindus), it is called Pratimarsha. Usually sneha dravyas are used. This is different from marsha nasya where in the quantity used will be 6, 8, 12 bindus.

Navana nasya:

Navana type of nasya which is done with Taila acts as Brumhana nasya which is useful in case of Avabahuka. The same is explained in the forthcoming paragraphs.

Procedure of Nasya:

Nasya karma includes,

- Poorva Karma[22]
- Pradhana Karma[23]
- Paschat Karma[24]

Poorva Karma:

This encompasses the following points like Oushadhi sangraha, Nasya yantra, Atura vaya, Kala, Atura siddhata etc. Patient is instructed not to suppress the natural urges and go through the normal routines. Before taking Nasya Karma he should not have any food. Then, patient is taken to a comfortable room, which is without dust, extreme breeze and sunlight. Bahyasnehana in the form of mrudu Abhyanga is done to shiras first and then over gala, kapala, lalata and karna. After snehana, mild swedana is done to the part of the body above the shoulders. Care of the eyes should be taken with closing the patient's eyes with a band of cloth.

Pradhana Karma:

Once poorva karma is over, the patient is made to lie down on the table in the supine position with legs slightly raised. Eyes should be covered with a cloth. The head of the patient is then highly raised and medicine is poured in each nostril one after the other. The other nostril should be closed while administering the medicine. The medicine should be slowly instilled in an uninterrupted manner called "Avicchinna dhara".

The patient is advised to inhale the medicine slowly and forcefully. The same procedure is repeated in either of the nostrils. Care should be taken not to shake the head during the procedure. After the administration of the medicine, patient is advised not to swallow the medicine but should spit it out. The spitting can be done till the smell and taste of the medicine disappears from the throat. Then, the patient is allowed to relax in same posture for 100 matra kala (30-32sec) without going to sleep.

Paschat Karma:

Pradhana karma is followed by gandoosha and kavala graha. The patient is advised to follow certain rules and regimen.

Samyak yoga laxanas[25]:

The symptoms like Shirolaghava, Sukhaswapna, Prabhodhana, Vikaropa shamana, indriya prasannata, manah prasannata and srotovishuddi indicate samyak nasya laxanas.

Ayoga laxanas[26]:

The medicine administered in insufficient quantity produces kandu, gouravata, vikara anupashamana and indriya rukshata which are heena yoga laxana.

Atiyoga laxanas[27]:

Kaphasrava from nose, shirogouravata, indriyavibhrama are atiyoga laxana. When ayoga laxanas are observed, samyak nasya karma should be done. In atiyoga, ruksha chikitsa should be done.

Nasya vyapat chikitsa[28]

Nasya vyapats are of 2 types.

1. Doshotkleshaja

2. Doshakshayaja

The following complications arise when nasya is done in anarhas, jalapeeta, ajeerna, bhaktabhukta and in durdina. Kaphaja vikara will manifest and these should be treated with kaphahara chikitsa. Rukshajanya vikaras that manifest in Krisha, virikta, vyayama klanta, garbhini and trishnartha are treated with snehana and Brumhana chikitsa.

Nasya karma done in Shokabhitapta, Madhyapeeta and Jwara rogi, lead to timira roga. This should be treated with rooksha, sheetala lepa, anjana and putapaka[29]. During the course of nasya karma, if the patient becomes unconscious, then sheetal jala parisheka is done over lalata and kapola.

Nasaapana Vidhi:

Nasaapana includes,

- Poorva Karma
- Pradhana Karma
- Paschat Karma

Poorva Karma:

This includes the following points like, Preparation of dasamooli bala masha kwath Sterilization of Specially designed nasaapana yantra, Atura vaya, Kala, Atura siddhata etc. Before taking Nasaapana patient is strictly advised to take food. Then, patient is taken to a comfortable room, which is without dust, extreme breeze and sunlight. Bahyasnehana in the form of mrudu Abhyanga is done to shiras first and then over gala, kapola, lalata and karna. After snehana, mild swedana is done to the part of the body above the shoulders. Care of the eyes should be taken with closing the patient's eyes with a band of cloth.

Pradhana Karma:

Once the poorva karma is over, the patient is made to sit comfortably on a chair. The head of the patient is then highly raised and with the help of left thumb patient's nose is raised simultaneously with the right hand the medicine is poured into the nostril at a stretch with the constant pressure over the bulb. The same procedure should be repeated for other nostril also. During the procedure subjects should be asked to swallow the contents as much as possible. In the present study 50 ml Dosage is approximately fixed for nasaapana i.e. 25 ml each nostril. the same procedure is followed for continuous 7 days.

Paschat Karma:

Gandoosha and kavala graham are followed. The subjects are advised to take sukhoshna jala and laghu ahara.

Subjects are strictly advised to avoid sheeta jala snana and sheeta jala pana during the whole course.

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Sl. No.	Sanskrit Name	Latin Name	Guna	Rasa	Veerya	Vipaka	Doshaghnata	Karmukta
1	**Masha**	Phaseotus mungo leguminosae	Guru Snigdha	Madhura	Ushna	Madhura	Vatahara Pitta kapha vardhaka	Vatavyadhi Sandhivata Nadi dourbaly
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3	**Syonaka**	Oroxylum indicum bignonaceae	Laghu Rooksha	Madhura Tikta Kashaya	Ushna	Katu	Kaphavatahara	Shothahara Vedanasthapana Deepana, Pachana
4	**Gambari**	Gmelina arbora verbenaceae	Guru	Tikta Kashaya Madhura	Ushna	Katu	Tridoshagna	Shoolavaha vatagna Shothahara
5	**Patala**	Stereospermum Suaveolens Bignonaceae	Laghu Rooksha	Tikta Kashaya	Ushna	Katu	Tridoshagna	Vatavyadhi Dourbalya Aruchi, Trishna, Shothahara
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7	**Shalaparni**	Desmodium gangeticum Leguminosae	Guru Snigdha	Madhura Tikta	Ushna	Madhura	Tridoshahara	Vatavyadhi, Angamarda, Nadi dourbalya, Shotha
8	**Prisnaparni**	Uraria picta Leguminosae	Laghu Rooksha Teekshna	Madhura Tikta	Ushna	Madhura	Tridoshahara	Vatavyadhi, Dourbaly, Angamarda, Asthibagna
9	**Brahati**	Solanum indicum solanaceae	Laghu Rooksha Teekshna	Katu Tikta	Ushna	Madhura	Kaphavatahara	Vedana, shotha , aruchi, agnimandya
10	**Kantakari**	Solanum surattense solanaceae	Laghu Rooksha Tikshna	Tikta Katu	Ushna	Katu	Kaphavatahara	Vedanasthapana Shotha, Deepana, Pachana

11	**Gokshura**	Tribulus terrestris Zygophylaccae	Guru Snigdha	Madhura	Sheetha	Madhura	Vata Pittahara	Vatavyadhi Vedana pradana vikara, Nadidourbalya
12	**Kapikachu**	Mucuna pruritis Leguminosae	Guru Snigdha	Madhura Tikta	Ushna	Madhura	Tridoshagna	Vatavyadhi Nadi dourbaly Krisna
13	**Manjista**	Rubia cordifolia rubiaceae	Guru Rooksha	Tikta Kashaya Madhura	Ushna	Katu	Kapha pittahara	Deepana, Pachana, Shothahara, Dourbalya
14	**Chavya**	Pipperetrofactum	Laghu Rooksha	Katu	Ushna	Katu	Kaphavatahara Pittavardhaka	Shoolaprashamana, Deepana, Vatanulomana, Pachana
15	**Chitvaka**	Plumbago zeylanica Plumbaginaccae	Laghu Rooksha Tikshna	Katu	Ushna	Katu	Kapha vatahara	Vatavyadhi Nadidourbalya, Deepana, Pachana
16	**Pippalimoola**	Piper longum Piperaceae	Laghu Snigdha Tikshna	Katu	Anushna sheeta	Madhura	Kaphavata hara	Vatavyadhi , Aruchi, Ajeerna, Shothahara, Vedanahara
17	**Rasna**	Pluchea lanceolata compositae	Guru	Tikta	Ushna	Katu	Kaphavata hara	Vedana shamaka Shothahara, sandhishoola
18	**Maduka**	Madhuca indica sapotaceae	Guru Snigdha	Madhura Kashaya	Sheeta	Madhura	Vatapitta hara	Vatavyadhi Nadi dourbalya
19	**Devadaru**	Cedrus deodara pinaceae	Laghu Snigdha	Tikta	Ushna	Katu	Kaphavata hara	Shotha, vedana, pradhana rogas, Sandi vikaras
20	**Amritha**	Tinospora cordifolia Menispermaceae	Guru Snigdha	Tikta Kashaya	Ushna	Madhura	Tridoshahara	Vedana sthapana, Deepana Pachana
21	**Kusta**	Sausarealappa compositae	Laghu Ruksha Tiksna	Tikta Katu Madhura	Ushna	Katu	Kaphavatahara	Shoolaprashamana, Vedanasthapana, Deepana, Pachana
22	**Ashwagandha**	Withania somnifera solanaceae	Laghu Snigdha	Tikta Katu Madhura	Ushna	Madhura	Kaphavatahara	Vedanasthapana, Shoolaprashamana, Deepana, Shothahara
23	**Vacha**	Acorus calamus	Laghu Tikshna	Katu Tikta	Ushna	Katu	Kapha vata	Vedanasthapana, Shoolaprashamana, Deepana, grahi

24	**Shati**	Hedychium spicatium Zingiberaceae	Laghu Tikshna	Katu Tikta Kashaya	Ushna	Katu	Kaphavatahara	Vedanasthapana, Shoolaprashamana, Deepana, Grahi
25	**Eranda**	Ricinus communis Euphorbiaceae	Snigdha Tikshna Sookshma	Madhura Katu Kashaya	Ushna	Madhura	Kaphavatahara	Vedana sthapana Shothahara, Balya, Angamarda prashamana Vatavyadhi
26	**Mudgaparni**	Phasedus trilobus Leguminasae	Laghu Rooksha	Madhura Tikta	Sheeta	Madhura	Vatapittahara	Vatahara, Shothahara, Deepana, Pachana
27	**Mashaparni**	Phaseolus mungo	Laghu Snigdha	Madhura Tikta	Sheeta	Madhura	Vatapittahara	Snehana, Vatanulomana, Deepana, Shothahara
28	**Jeevanti**	Leptadenia reticulata Asclepiadacceae	Laghu Snigdha	Madhura	Sheetha	Madhura	Vatapittahara	Snehana, Anuloma grahi, Balya, rasayana
29	**Madhuka**	Glycyrhiza glabra Leguminosae	Guru Snigdha	Madhura	Sheetha	Madhura	Vatapittahara	Vatanulomana, Nadidourbalya

Table No 05: Ingredients of Dashmoola Bala masha Kwath

Sl. No.	Drug	Botanical name	Rasa	Guna	Veerya	Vipaka	Dosha Karma
1.	Vilwa	Aegle marmelos	Kashaya, Tikta	Laghu, Ruksha	Ushna	Katu	Vata Samana
2.	Agnimantha	Premna mucroneta	Tikta, Madhura Katu,Kashaya,	Ruksha, Laghu	Ushna	Katu	Kapha Vata Samana
3.	Syonaka	Oroxylum indicum	Madhura, Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu	Kapha Vata Samana
4.	Patala	Sterospermum Suoveolens	Tikta, Kashaya	Laghu, Ruksha	Ushna	Katu	Tridosha Samana
5.	Gambhari	Gmelina arborea	Tikta,Kashaya, Madhura	Guru	Ushna	Katu	Tridosha Samana
6.	Salparni	Desmodium gangeticum	Madhura, Tikta	Guru, Snigdha	Ushna	Madhura	Tridosha Samana
7.	Prishnaparni	Uraria picta	Madhura, Tikta	Laghu, Snigdha	Ushna	Madhura	Tridosha Samana
8.	Bruhti	Solanum indicum	Katu, Tikta	Laghu, Ruksha, Teekshna	Ushna	Katu	Kapha Vata Samana
9.	Kantakari	Solonum surattense	Tikta, Katu	Laghu, Ruksha, Teekshna	Ushna	Katu	Kapha Vata Samana
10.	Gokshura	Tribulus terrestris	Madhura	Guru, Snigdha	Sheeta	Madhura	Vaata Pitta Samana
11.	Bala	Sida cardifolia	Sida cardifolia	Laghu Snigdha Pichila	Sheeta	Katu	Vata pittashamaka
12.	Masha	phaseotus mungo	Madhura	Guru, Snigdha	Ushna	Madhura	Vata shamana Pitta kapha vardhaka

OBSERVATIONS

In this clinical study "To Evaluate the efficacy of Nasya with Mahamashataila and Nasaapana with Dashamoolibalamasha kwatha in the management of Avabahuka wsr to Frozen shoulder." 100 subjects were registered. Out of them 50 subjects were treated under group A and 50 subjects under group B. Irrespective of the Groups under which the subjects were treated, the observations according to the age, sex, occupation etc. are given as follows.

Table No 07: Showing Age wise distribution of Avabahuka Subjects in both Groups:

Age	Group-A	%	Group-B	%	Total	%
21-30	05	10	07	14	12	12
31-40	14	28	10	20	24	24
41-50	14	28	19	38	33	33
51-60	13	26	10	20	23	23
60-70	04	8	04	8	8	8
Total	50	100	50	100	100	100

A maximum number of study subjects *i.e.* 33 (33.00%) subjects were of 41-50years Age, 24 subjects (24.00%) were between 31-40 years, 23 subjects (23.00%) were between 51-60 years, 12 subjects (12%) were between 21-30 years. And 08 subject (08%) were between 61-71 years

Table No 08: Showing Sex wise distribution of Avabahuka Subjects in both Groups:

Sex	Group A	Group B	Total	Percentage
Male	30	31	61	80.00
Female	20	19	39	20.00
Total	50	50	100	100.00

A Maximum number of study subjects *i.e.* 61 males (61.00%) and 39 females (39%) were registered.

Table No 09: Showing religion wise distribution of Avabahuka Subjects in both Groups:

Religion	Group A	Group B	Total	percentage
Hindu	43	36	79	79
Muslim	07	14	21	21
Total	50	50	100	100

A maximum number of study subjects *i.e.* 79 subjects (79%) were Hindus and 21 subjects were muslims in the present study.

Table No 10: Showing Education wise distribution of Avabahuka Subjects in both Groups:

Education	**Group A**	**Group B**	**Total**	percentage
	No.	**No.**	**No.**	
Post graduation	02	01	03	03
Graduation	11	14	25	25
PUC	02	00	02	02
High school	08	08	16	16

Primary	13	09	22	22
Illiterate	14	18	32	32
Total Number of Subjects	50	50	100	100

A Maximum number of study subjects *i.e.* 32 subjects (32.00%) were Uneducated. 25 subjects (25.00%) were Graduates, 22 subjects (22%) were Primary and 16 subjects were educated up to higher secondary.

Table No 11: Showing Marital status wise distribution of Avabahuka Subjects in both Groups:

Marital Status	Group A	Group B	Total	percentage
Married	42	42	84	84
Unmarried	06	06	12	12
Widow	02	02	04	04
Total	50	50	100	100

A Maximum number of study subjects *i.e.* 84 (84%) were married, and 16 subjects (16%) were unmarried.

Table No 12: Showing Habitat wise distribution of Avabahuka Subjects in both Groups:

Habitat	**Group A**	**Group B**	**Total**	percentage
	No.	**No.**		
Rural	20	20	40	40
Urban	30	30	60	60
Total Number of Subjects	50	50	100	100

A Maximum number of study subjects were residing at urban *i.e.* 60 (60%) and 40 subjects (40%) were habitat of rural.

Table No 13: Showing Economic status wise distribution of Avabahuka Subjects in both Groups:

Economic Status	Group A	Group B	Total	Percentage
Poor class	24	21	43	43
Middle class	12	22	34	34
Higher class	14	07	21	21
Total Number of Subjects	50	50	100	100

A Maximum number of study subjects *i.e.* 43 subjects (43%) were of poor class, 34 subjects (34%) were of middle class and 21 subjects (21.00%) belonged to Rich class status.

Table No 14: Showing Occupation wise distribution of Avabahuka Subjects in both Groups:

Occupation	**Group A**	**Group B**	**Total**	percentage
	No.	**No.**	**No.**	
House wife	10	15	25	25
Student	04	04	08	08
Agriculture	07	03	10	10
Weaver	10	09	19	19
Carpenter	07	07	14	14
Business	03	03	06	06
Labour	07	03	10	10
Employe	00	03	03	03
conductor	02	02	04	04
Total Number of Subjects	50	50	100	100

A Maximum number of study subjects *i.e.* 25 subjects (25%) belonged to house wives, 19 Subjects (19%) belonged to weaver, 14 subjects (14%) were carpenters.

Table No 15: Showing Dietary habits wise distribution of Avabahuka Subjects in both Groups:

Dietary Habit	Group A	Group B	Total	percentage
Vegetarian	27	16	43	43
Mixed	23	34	57	57
Total	50	50	100	100

A Maximum number of study subjects *i.e.*57 subjects (57%) were taking mixed diet.and 43 subjects (43%) were on vegetarian diet

Table No 16: Showing Chronicity of Disease wise distribution of Avabahuka Subjects in both Groups:

Chronicity of Disease	**Group A**	**Group B**	Total	percentage
	No.	**No.**	No.	
Upto 1 year	06	07	13	13
1to2 years	10	22	32	32
2to3years	14	06	20	20
3to4 years	06	06	12	12
4to5 years	06	07	13	13
5years - up to 10years	08	02	10	10
Total Number of Subjects	50	50	100	100

A Maximum number of study subjects *i.e.*32 subjects (32%) were of 1-2year, 20 subjects were of 2-3 years chronic,13 subjects were of 4-5 years chronic, 13 subjects were of 4-5 years chronic 12 subjects were of 3-4 years chronic and 10 subjects were of more than 5-10 years of chronicity.

Table No 17: Showing Side affected wise distribution of Avabahuka Subjects in both Groups

Side affected	**Group A**	**Group B**	**Total**	percentage
	No.	**No.**	**No.**	
Right side	29	30	59	59
Left side	21	20	41	41
Total Number of Subjects	50	50	100	100

A Maximum number of study subjects i.e.59 subjects (59%) were right side affected and 41 subjects were left side affected.

Table No 18: Showing Prakriti wise distribution of Avabahuka Subjects in both Groups

Prakriti	**Group A**	**Group B**	**Total**	percentage
	No.	**No.**	**No.**	
Vata-Pitta	12	12	24	24
Vata-Kapha	32	34	66	66
Kapha- Pitta	00	00	00	00
Pitta- Kapha	06	04	10	10
Total Number of Subjects	50	50	100	100

A Maximum number of study subjects i.e.66 subjects (66%) were of vata kapha prakriti, 24 of vata pitta, and 10 subjects were of pitta kapha prakriti .

Table No 19: Showing Availability wise distribution of Avabahuka Subjects in both Groups

Availability	**Group A**	**Group B**	**Total**	percentage
	No.	**No.**	**No.**	
Fresh	23	16	39	39
Treated	27	34	61	61
Total Number of Subjects	50	50	100	100

A Maximum number of study subjects i.e.61 subjects (61%) were treated elsewhere and 39 study subjects (39%) were freshly diagnosed.

Table No 20: Showing Sarataha wise distribution of Avabahuka Subjects in both Groups

Sarataha	**Group A**	**Group B**	**Total**	Percentage
	No.	**No.**	**No.**	
Pravara	31	20	51	51
Madhyama	12	13	25	25
Avara	07	17	24	24
Total Number of Subjects	50	50	100	100

A maximum study subjects ie 51 subjects (51%) were pravara saratah, 25 study subjects (25%) were madhyama sarataha and 24 study subjects(24%) were of avara sarataha.

Table No 21: Showing Samhanana wise distribution of Avabahuka Subjects in both Groups

Samhanana	**Group A**	**Group B**	**Total**	Percentage
	No.	**No.**	**No.**	
Susamhita	24	19	43	43
Madhyamsamhita	17	18	35	35
Heenasamhita	09	13	22	22
Total Number of Subjects	50	50	100	100

A maximum number of study subjects ie 43 subjects (43%) were susamhita, 35 study subjects (35%) were madhyamasamhita, and 22 subjects ie (22%) were heenasamhita.

Table No 22: Showing Satwa wise distribution of Avabahuka Subjects in both Groups

Satwa	**Group A**	**Group B**	**Total**	percentage
	No.	**No.**	**No.**	
Pravarasatwa	15	11	26	26
Madhyamsatwa	20	25	45	45
Avarasatwa	15	14	29	29
Total Number of Subjects	50	50	100	100

A maximum number of study subjects ie 45 subjects (45%) were of Pravarasatwa, 29 study subjects (29%) were of madhyamasatva, and 26 subjects ie (26%) were of heenasatva.

Table No 23: Showing Satmya wise distribution of Avabahuka Subjects in both Groups

Satmya	**Group A**	**Group B**	**Total**	Percentage
	No.	**No.**		
Pravarasatmya	23	24	47	47
Madhyamsatmya	16	17	33	33
Avarasatmya	11	09	20	20
Total Number of Subjects	50	50	100	100

A maximum number of study subjects ie 47 subjects (47%) were of Pravarasatmya, 33 study subjects (33%) were of madhyamasatmya, and 20 subjects ie (20%) were of heenasatmya.

Table No 24: Showing Abhyavarana Shakti wise distribution of Avabahuka Subjects in both Groups

Abhyavarana Shakti	**Group A**	**Group B**	**Total**	Percentage
	No.	**No.**	**No.**	
Pravara	17	12	29	29
Madhyama	30	33	63	63
Avara	03	05	08	08
Total Number of Subjects	50	50	100	100

Table No 25: Showing Jaranashakti wise distribution of Avabahuka Subjects in both Groups

Jaranashakti	**Group A**	**Group B**	**Total**	Percentage
	No.	**No.**	**No.**	
Pravara	17	10	27	27
Madhyama	32	33	65	65
Avara	01	07	08	08
Total Number of Subjects	50	50	100	100

A maximum number of study subjects ie 65 subjects ie (65%) were of madhyama jaranashakti, 27 study subjects (27%) were of pravara jaranashakti, and 08 subjects ie (08%) were of avara jaranashakti.

Table No 26: Showing Vayataha wise distribution of Avabahuka Subjects in both Groups

Vayataha	**Group A**	**Group B**	**Total**	Percentage
	No.	**No.**	**No.**	
Balya	03	04	07	07
Tarunyata	45	44	89	89
Vruddha	02	02	04	04
Total Number of Subjects	50	50	100	100

A maximum number of study subjects ie 89 subjects (89%) were of Madhyama vayatah, 07 study subjects (07%) were bala vayataha , and 04 subjects ie (04%) were vruddha.

Table No 27: Showing Vyayamashakti wise distribution of Avabahuka Subjects in both Groups

Vyayamashakti	**Group A**	**Group B**	**Total**	Percentage
	No.	**No.**	**No.**	
Pravara	26	16	42	42
Madhyama	20	27	47	47
Avara	04	07	11	11
Total Number of Subjects	50	50	100	100

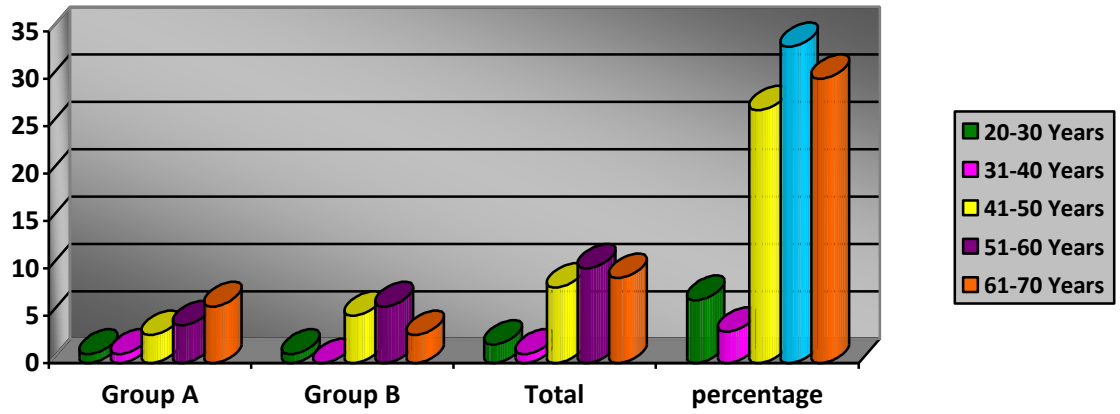
A maximum number of study subjects ie 47 subjects (47%) were of Madhyama vyayamashakti, 42 study subjects (42%) were of pravara vyayamshakti, and 11 subjects ie (11%) were of avara vyayamashakti.

Table No 28: Showing Pramana wise distribution of Avabahuka Subjects in both Groups

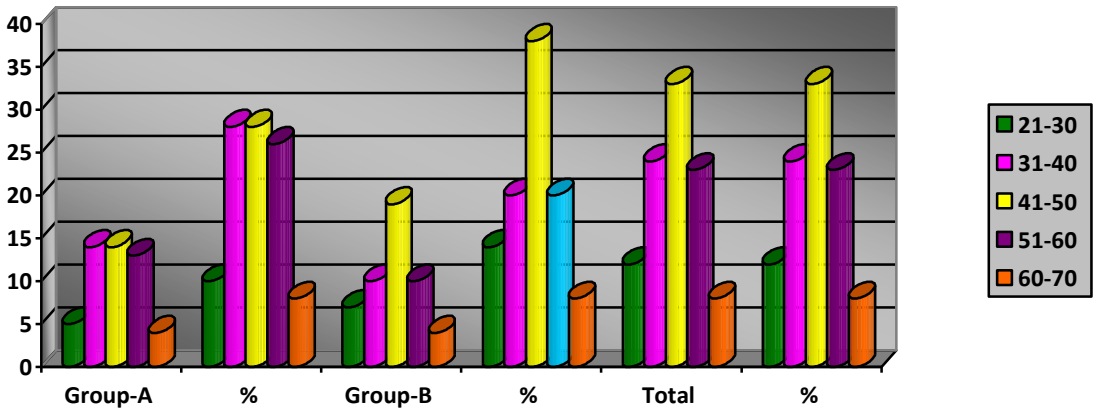
Pramana	**Group A**	**Group B**	**Total**	Percentage
	No.	**No.**	**No.**	
Supramanita	42	35	77	77
Adhikpramanita	05	01	06	06
Heenapramanita	03	14	17	17
Total Number of Subjects	50	50	100	100

A maximum number of study subjects ie 77 subjects (77%) were supramanita, 17 study subjects (17%) were of heenapramanita, and 06 subjects ie (06%) were of adhikapramanita.

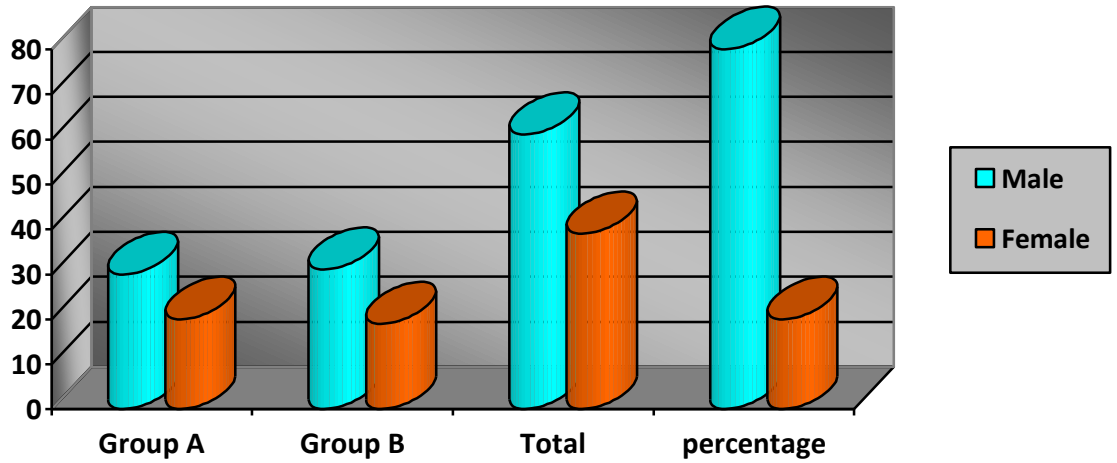
Graph 01: Showing Age wise distribution of Avabahuka Patients in both Groups:



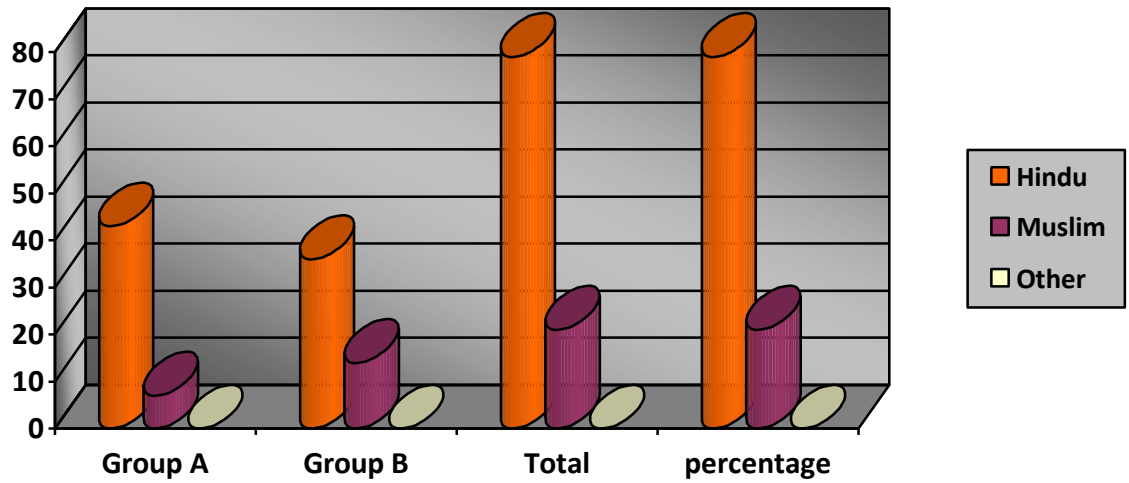
Graph 02: Showing Age wise distribution of Patients of Avabahuka in both



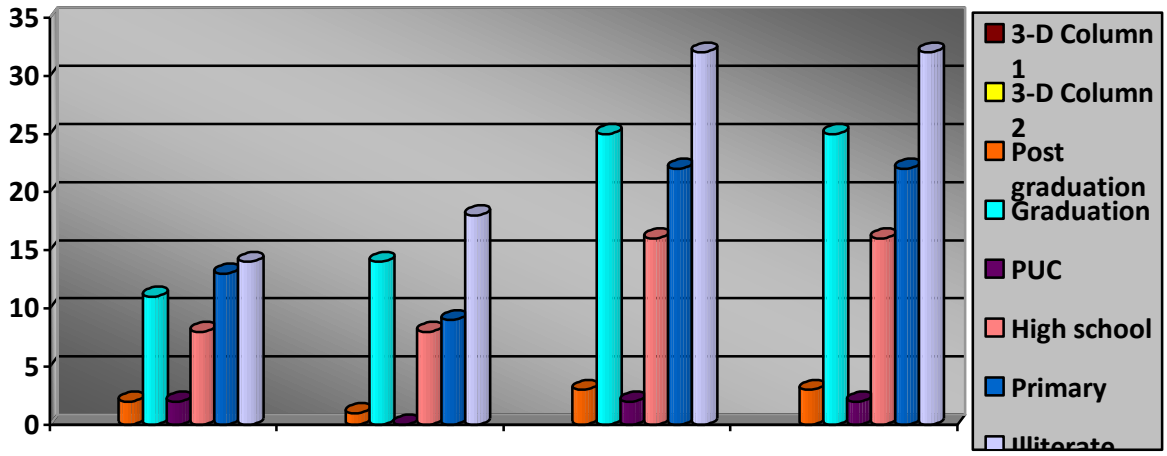
Graph 03: Showing Sex wise distribution of Patients of Avabahuka in both Groups:



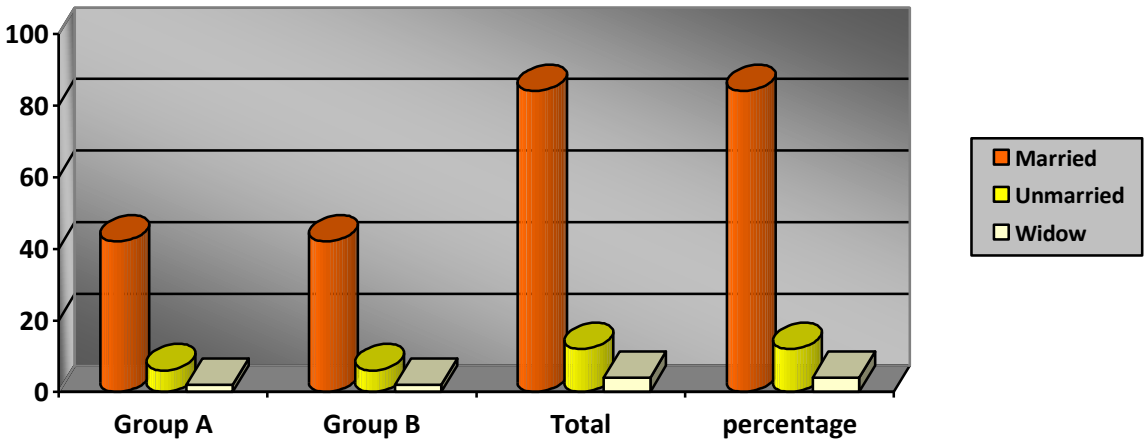
Graph 04: Showing the religion wise distribution of Avabahuka Patients in both Groups:



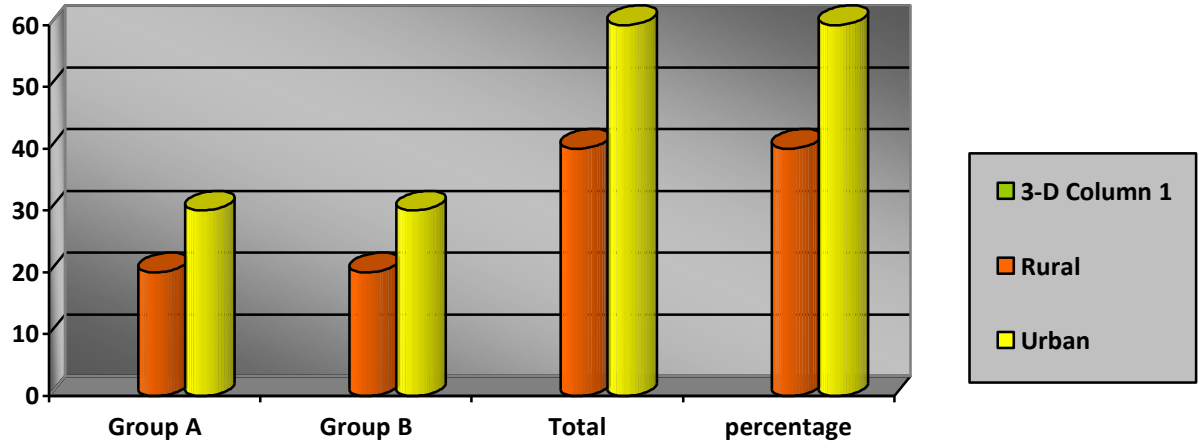
Graph 05: Showing Education wise distribution of Avabahuka Patients in both Groups:



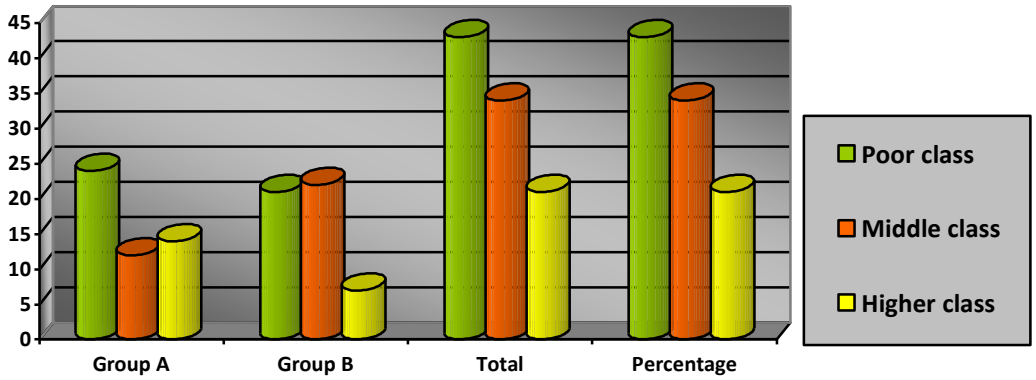
Graph 06: Showing Marital status wise distribution of Avabahuka Patients in both Groups:



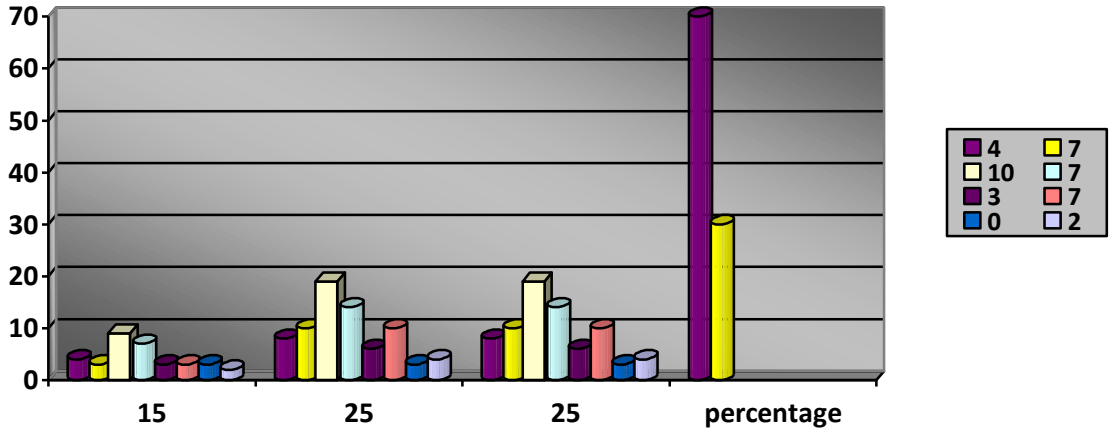
Graph 07: Showing the Habitat wise distribution of Avabahuka patients in both Groups:



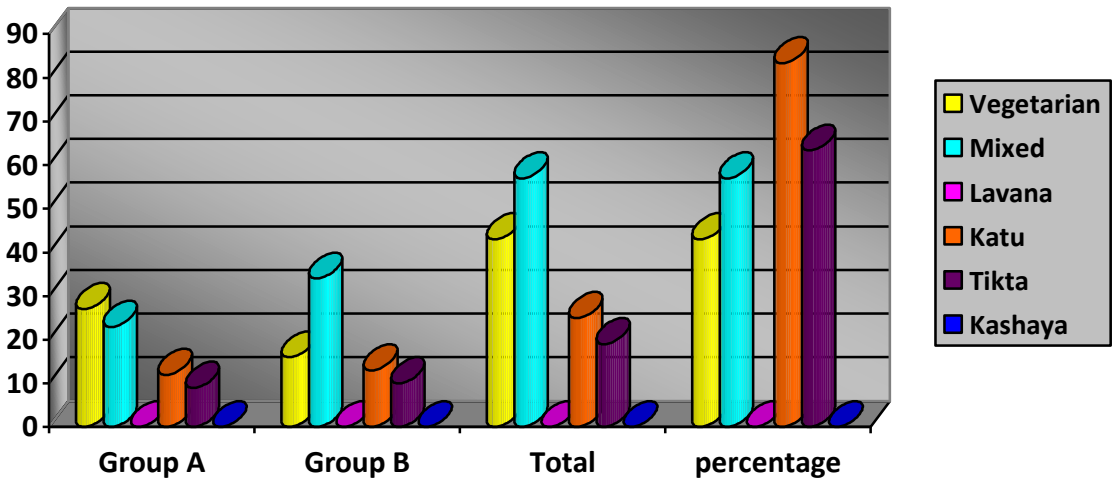
Graph 08: Showing the Economic status wise distribution of Avabahuka patients in both Groups:



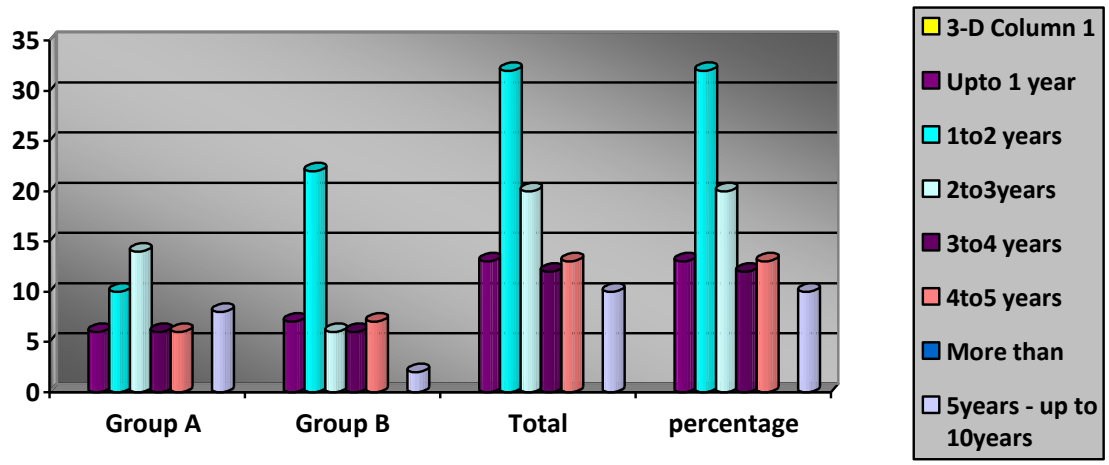
Graph 09: Showing the Occupation wise distribution of Avabahuka Patients in both Groups:



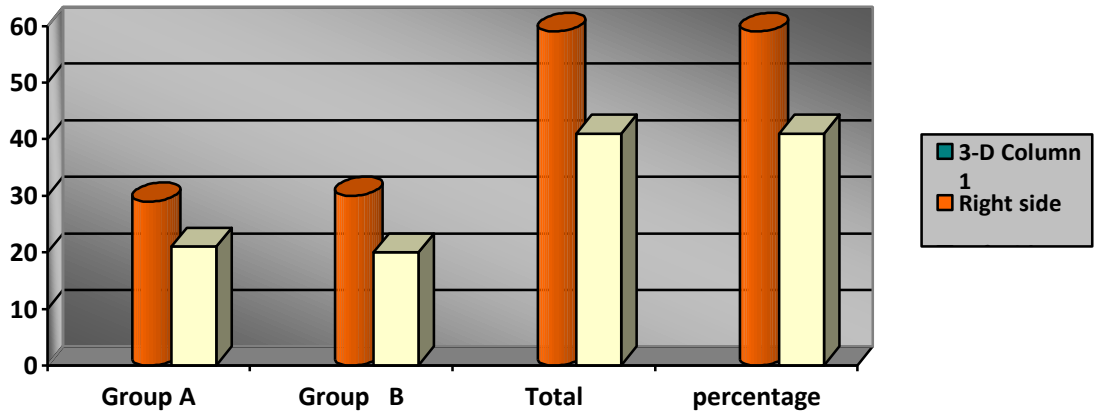
Graph 10: Showing the food habits wise wise distribution of Avabahuka Patients in both Groups:



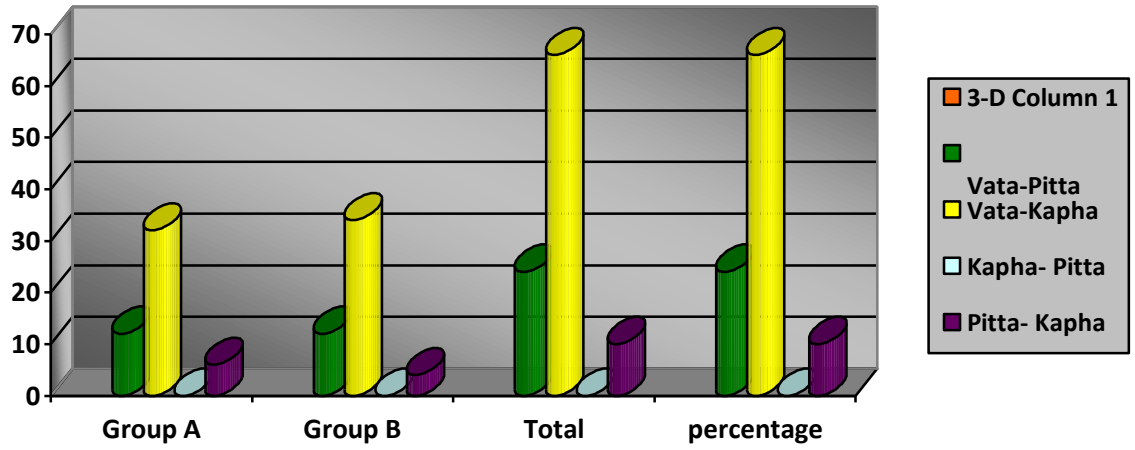
Graph 11: Showing the Chronicity of Disease wise distribution of Avabahuka Patients in both Groups:



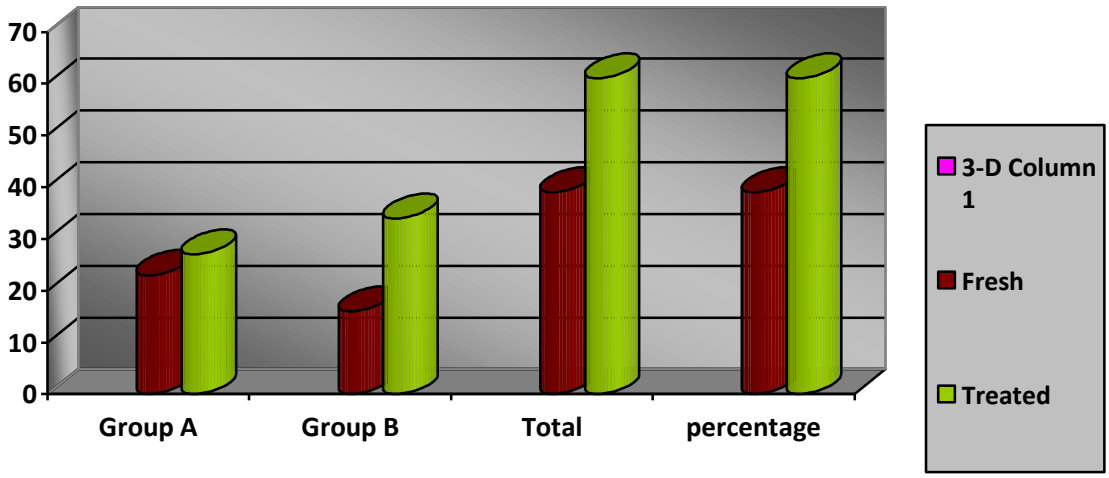
Graph 12: Showing Side affected wise distribution of Avabahuka Patients in both Groups:



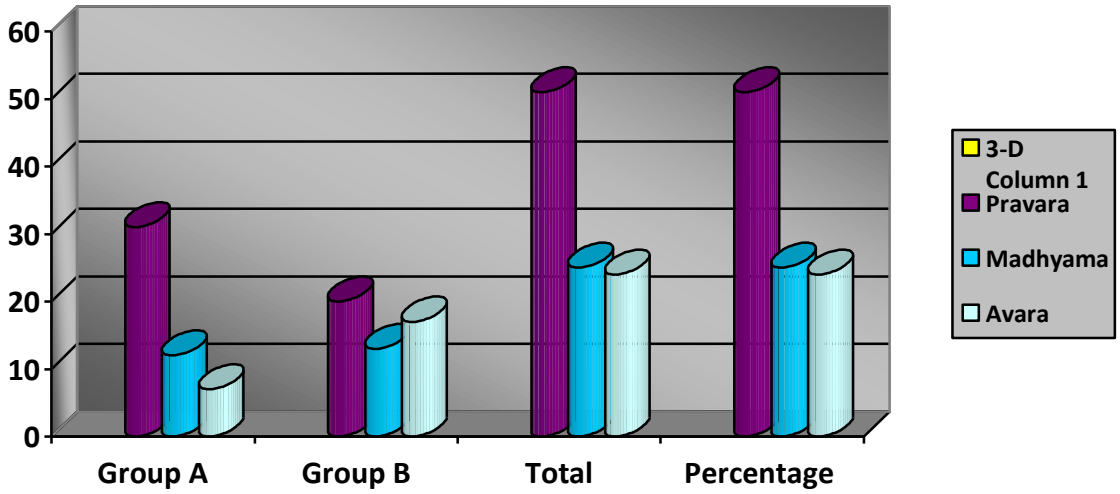
Graph 13: Showing the Prakriti wise distribution of Avabahuka Patients in both Groups:



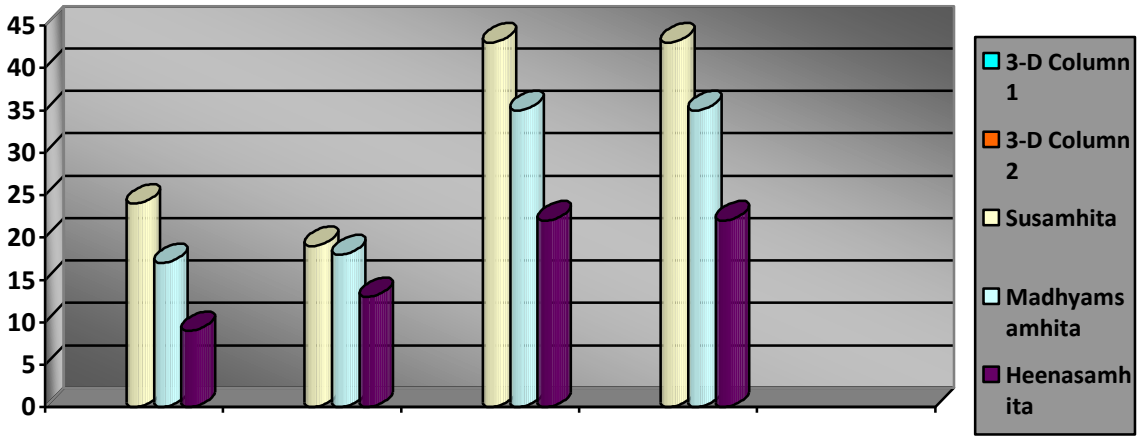
Graph 14: Showing the Availability wise distribution of Avabahuka Patients in both Groups:



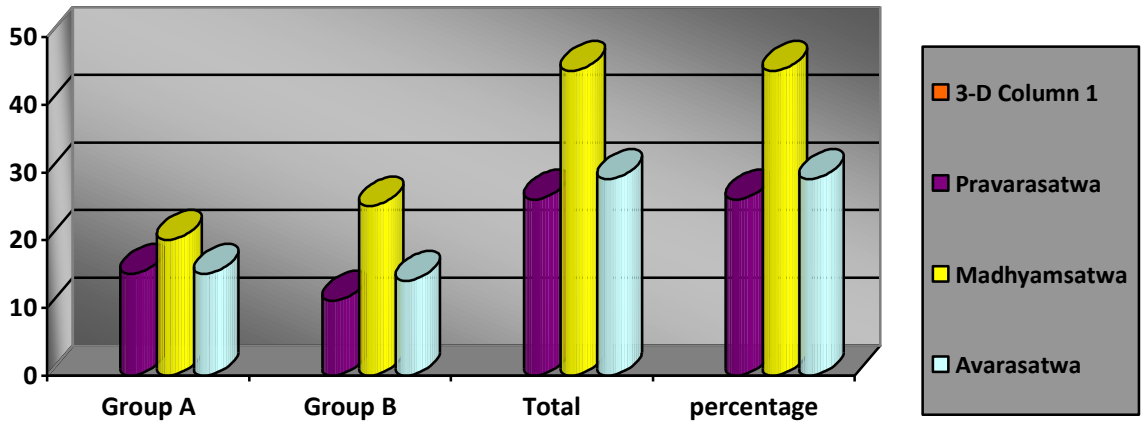
Graph 15: Showing the Sarataha wise distribution of Avabahuka Patients in both Groups:



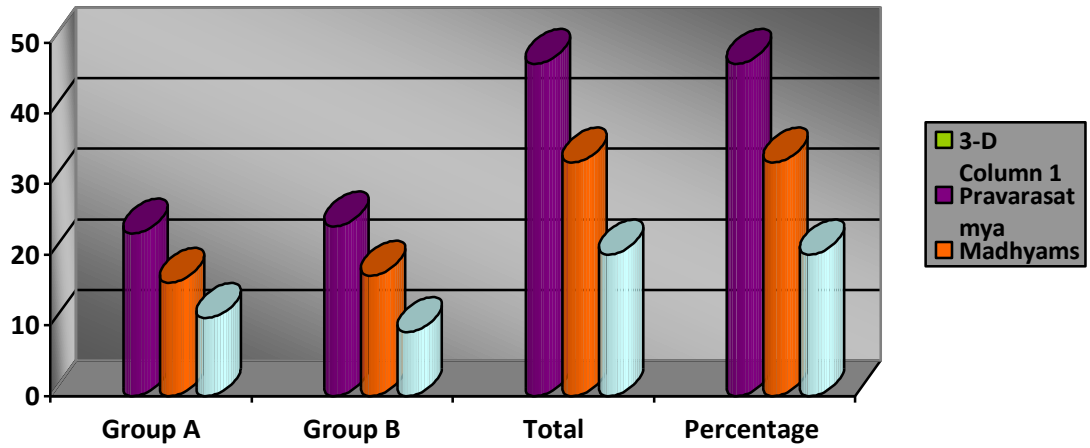
Graph 16: Showing the Samhanana wise distribution of Avabahuka Patients in both Groups:



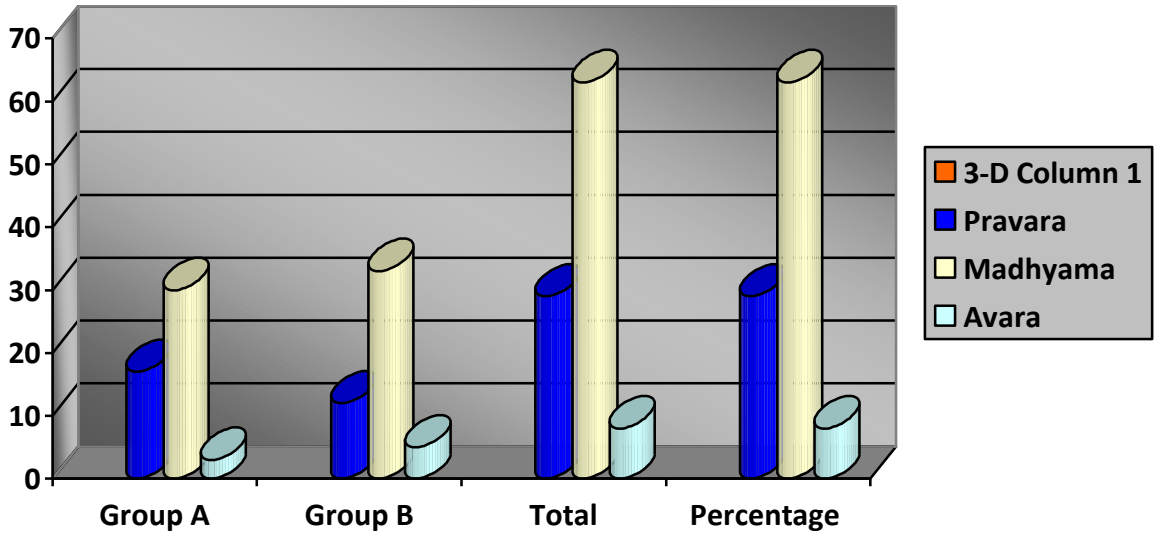
Graph 17: Showing the Satwa wise distribution of Avabahuka Patients in both Groups:



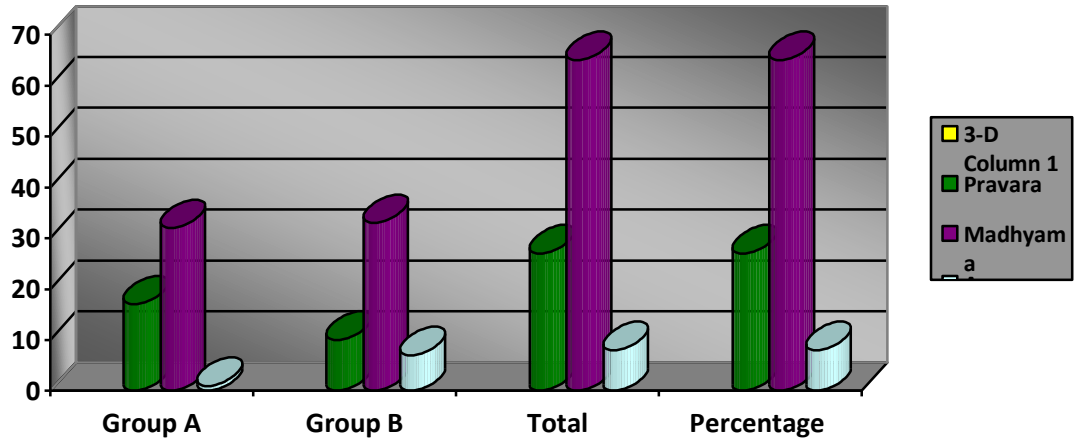
Graph 18: Showing the Satmya wise distribution of Avabahuka Patients in both Groups:



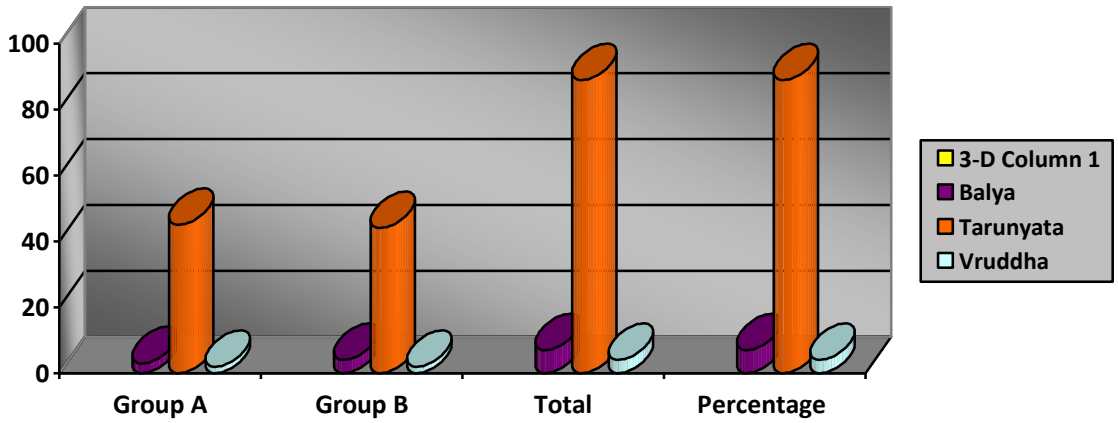
Graph 19: Showing the Abhyavarana wise distribution of Avabahuka Patients in both Groups:



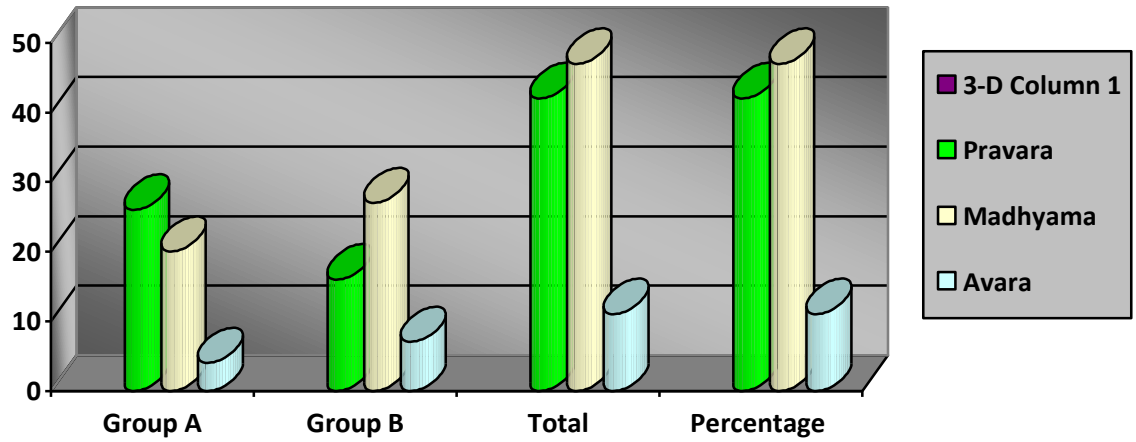
Graph 20: Showing the Jaranashakti wise distribution of Avabahuka Patients in both Groups:



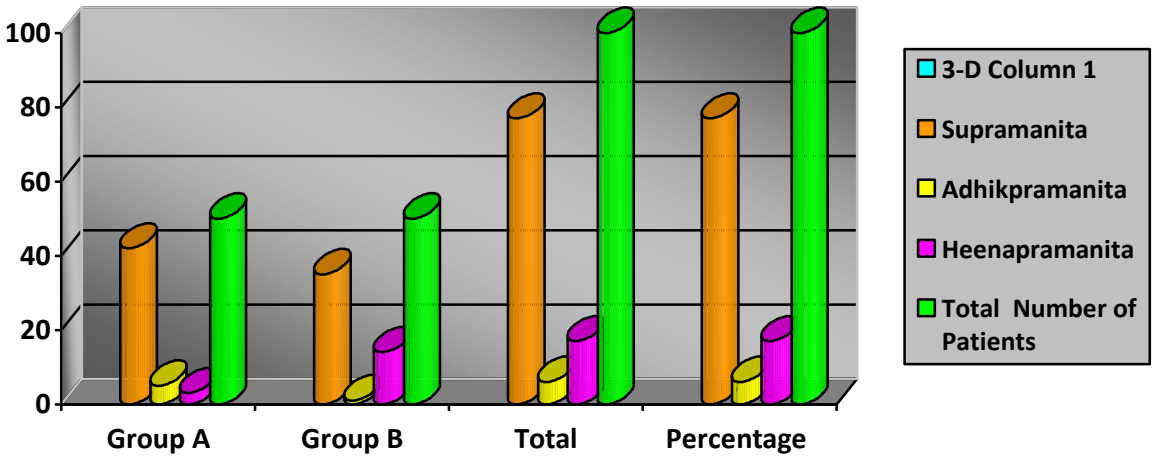
Graph 21: Showing the Vayataha wise distribution of Avabahuka Patients in both Groups:



Graph 22: Showing Vyayamashakti wise distribution of Avabahuka Patients in both Groups:



Graph 23: Showing Pramana wise distribution of Avabahuka Patients in both Groups:



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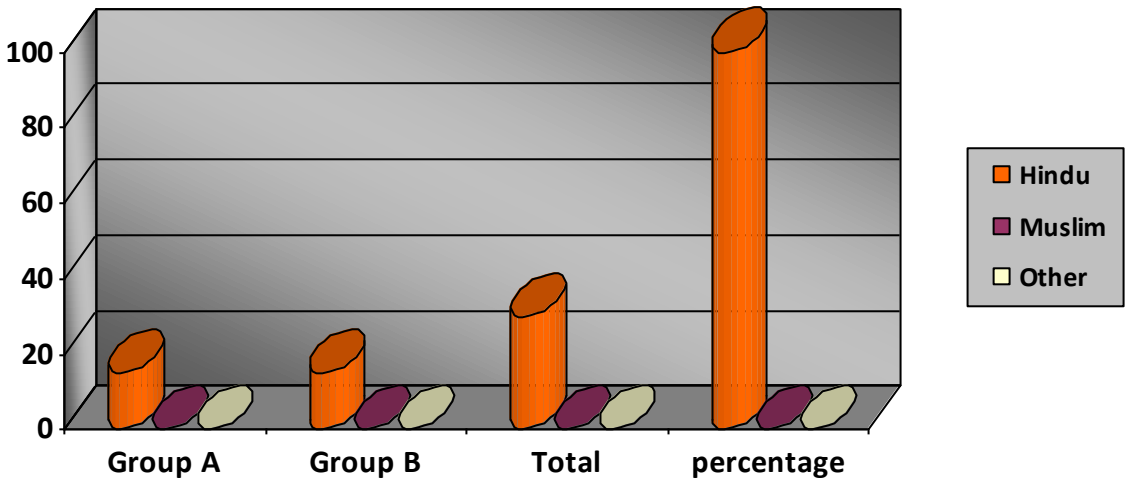
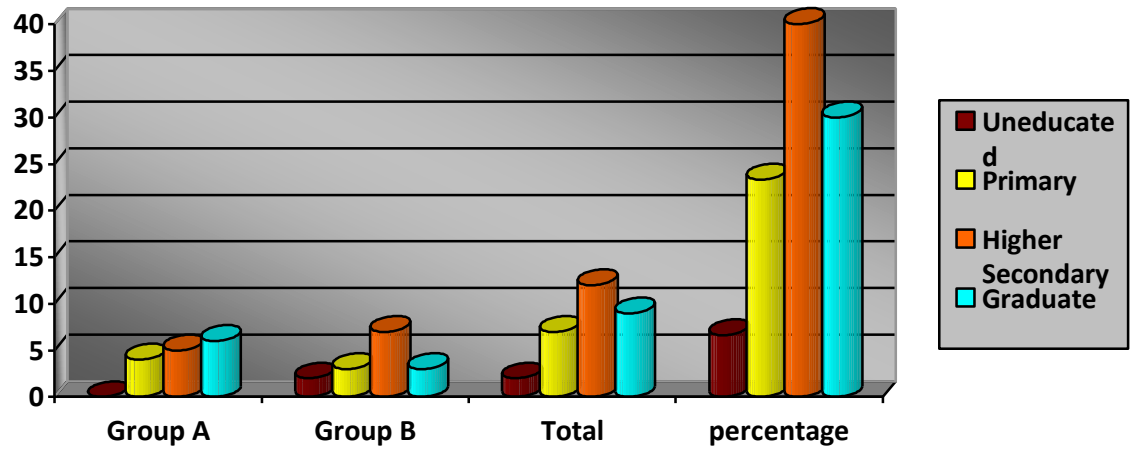
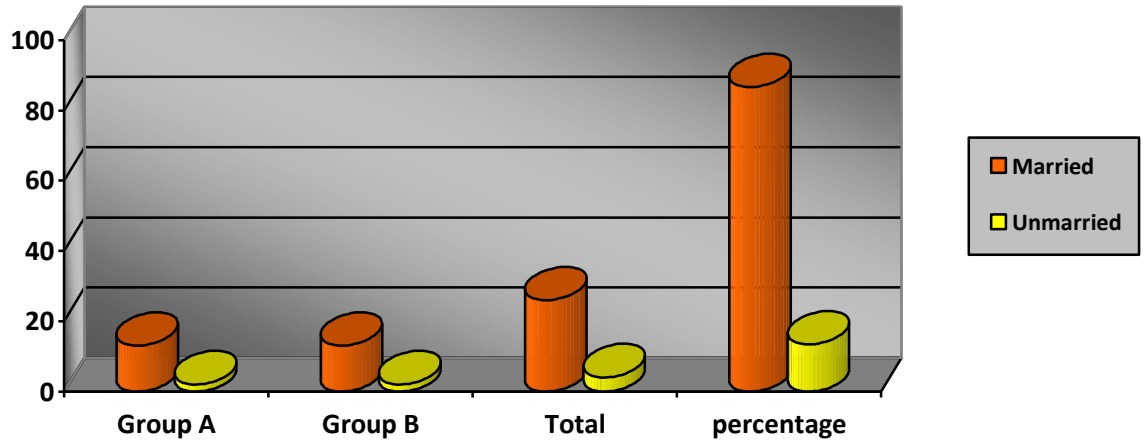
Graph 24: Showing the religion wise distribution of Avabahuka Patients in both Groups:



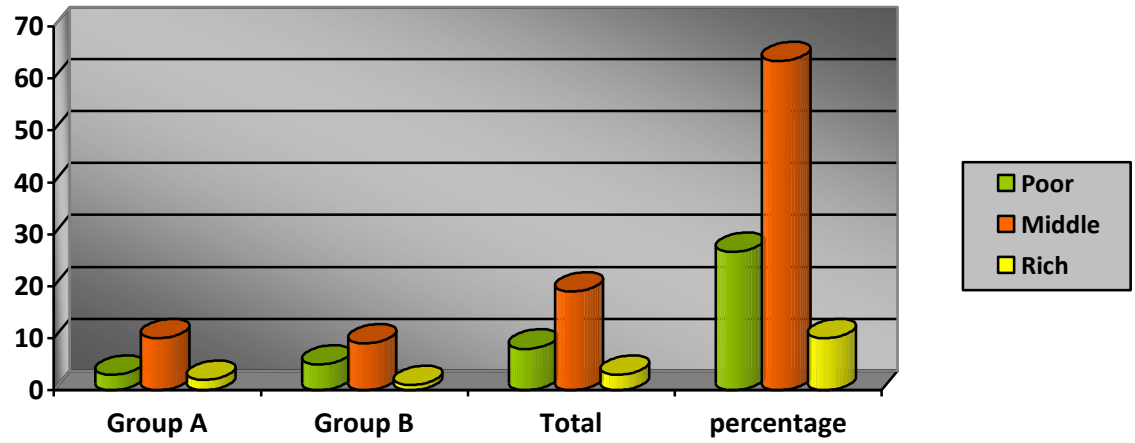
Graph 25: Showing Education wise distribution of Avabahuka Patients in both Groups:



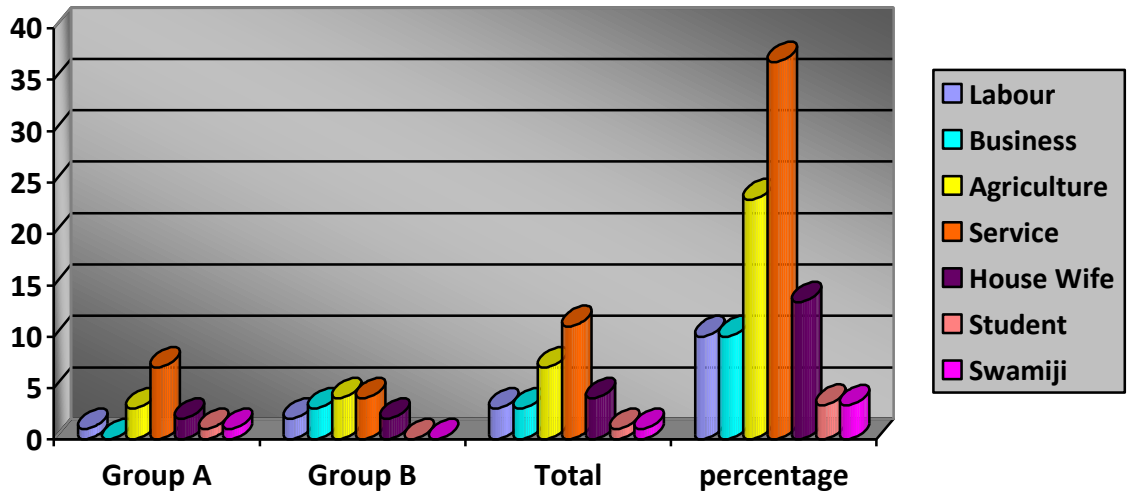
Graph 26: Showing Marital status wise distribution of Avabahuka Patients in both Groups:



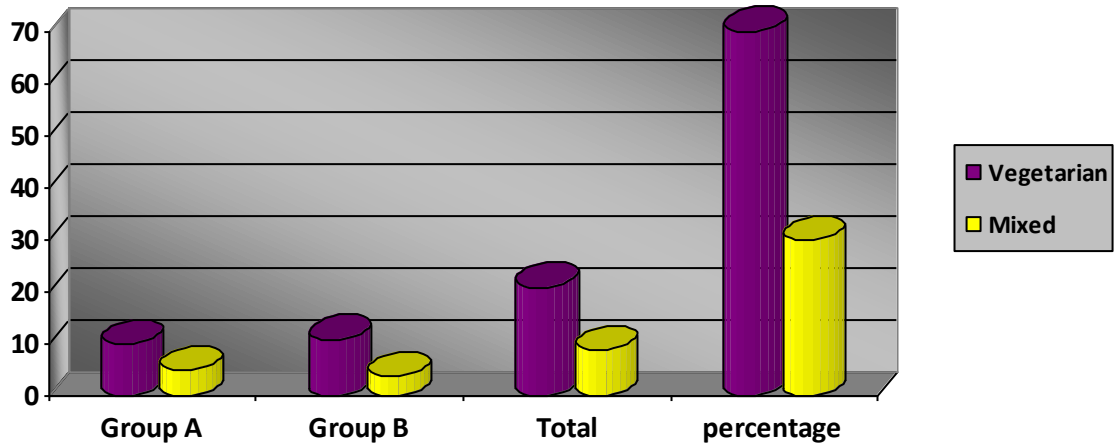
Graph 27: Showing the Socio-Economic status wise distribution of Avabahuka patients in both Groups:



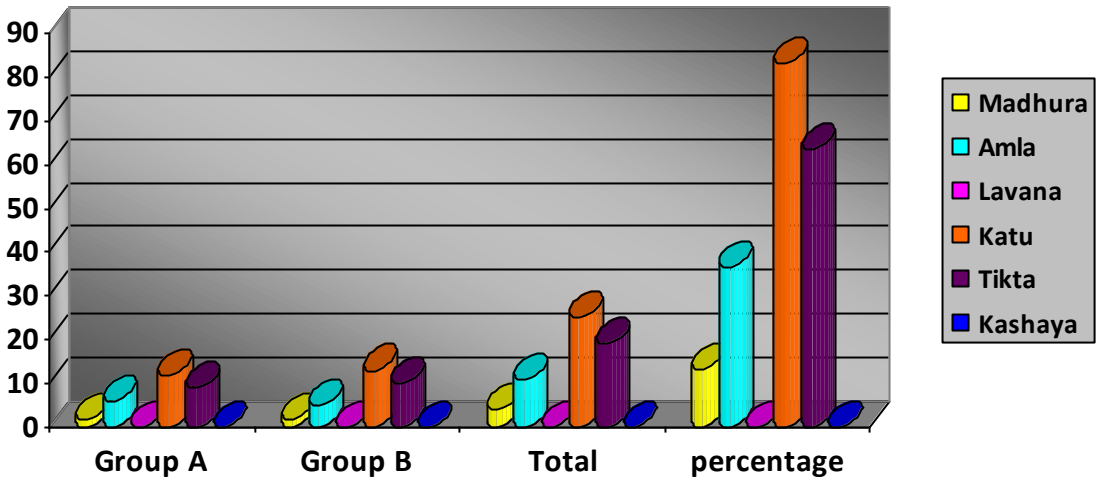
Graph 28: Showing the Occupation wise distribution of Avabahuka Patients in both Groups:



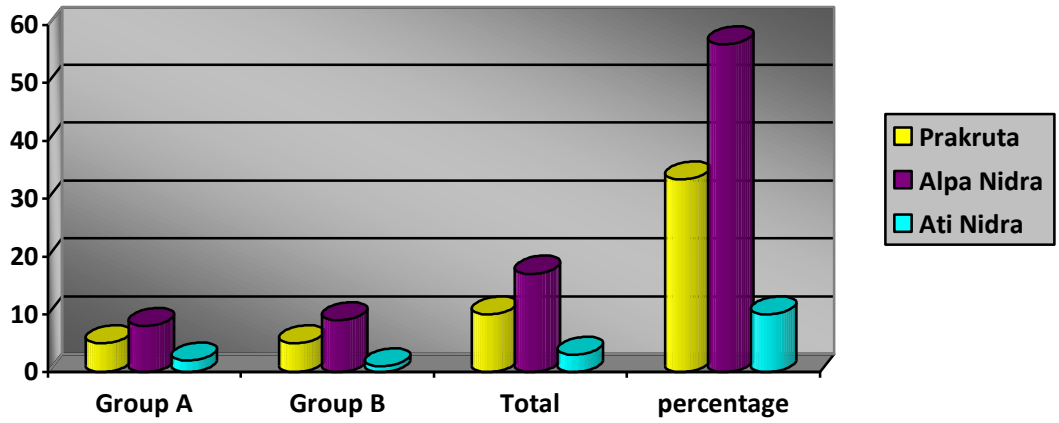
Graph 29: Showing the Dietary Habit wise distribution of Avabahuka Patients in both Groups:



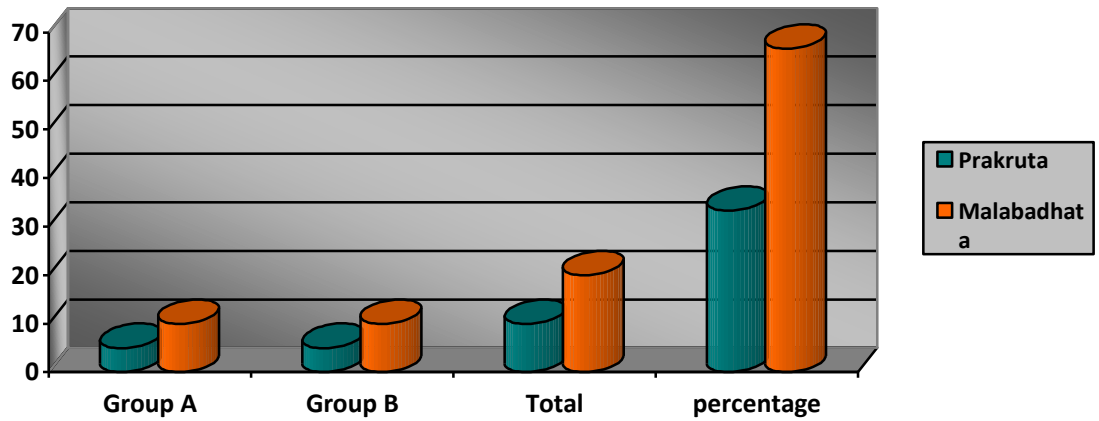
Graph 30: Showing the Intake of Rasa wise distribution of Avabahuka Patients in both Groups:



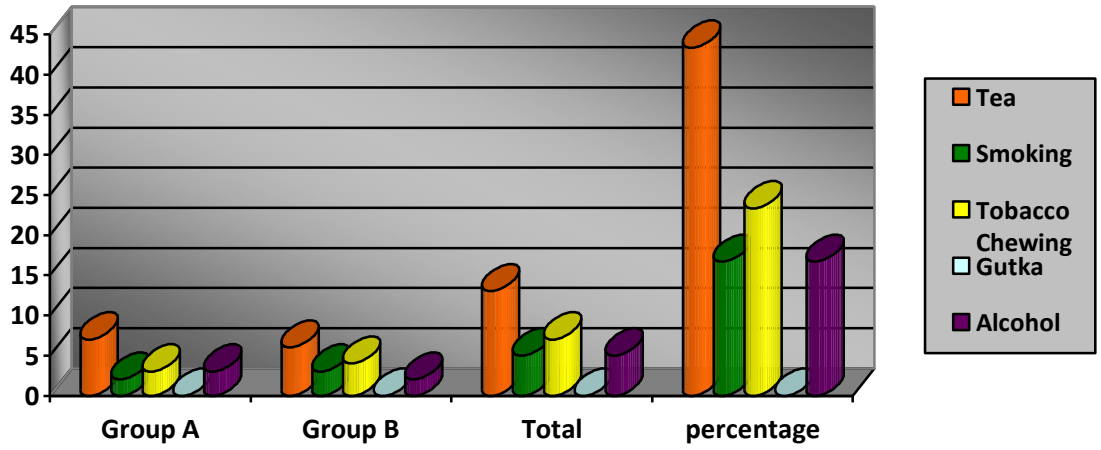
Graph 31: Showing the Nidra wise distribution of Avabahuka Patients in both Groups:



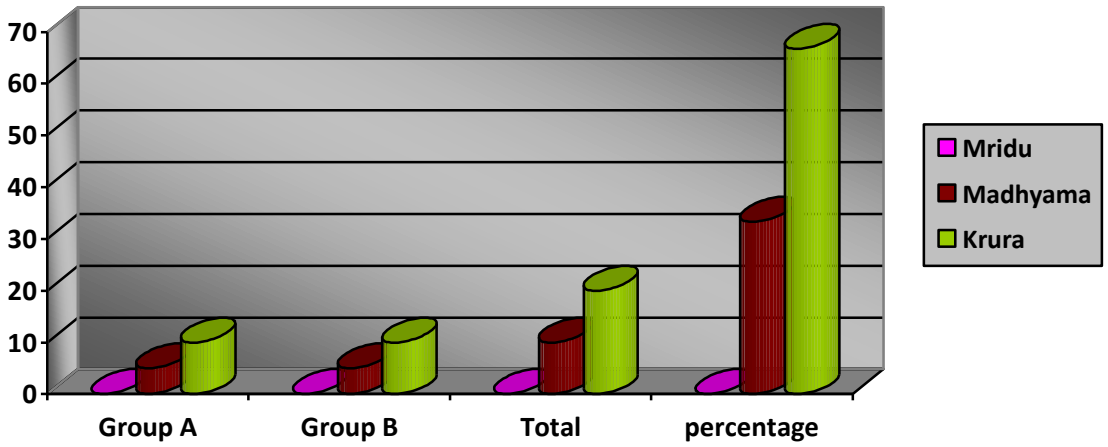
Graph 32: Showing the Mala Pravrtti wise distribution of Avabahuka Patients in both Groups:



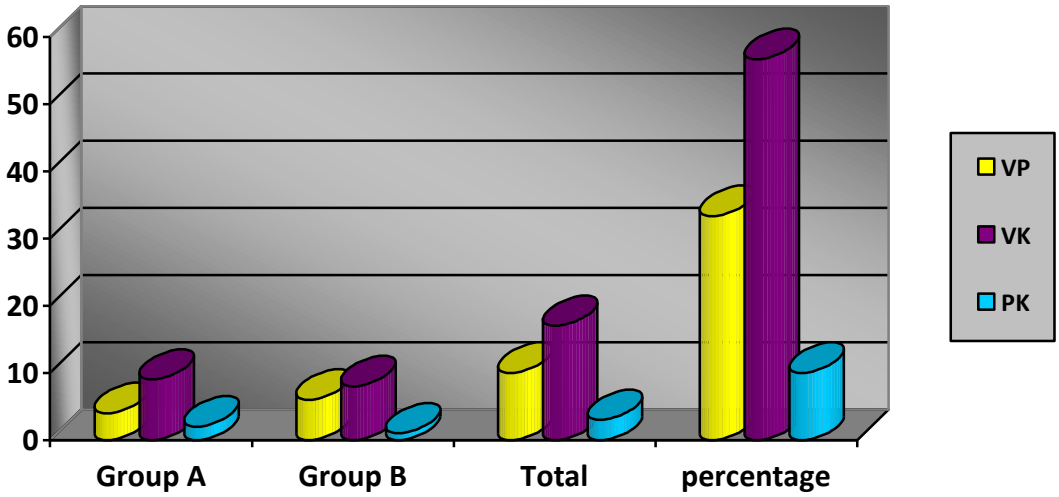
Graph 33: Showing the Vyasana wise distribution of Avabahuka Patients in both Groups:



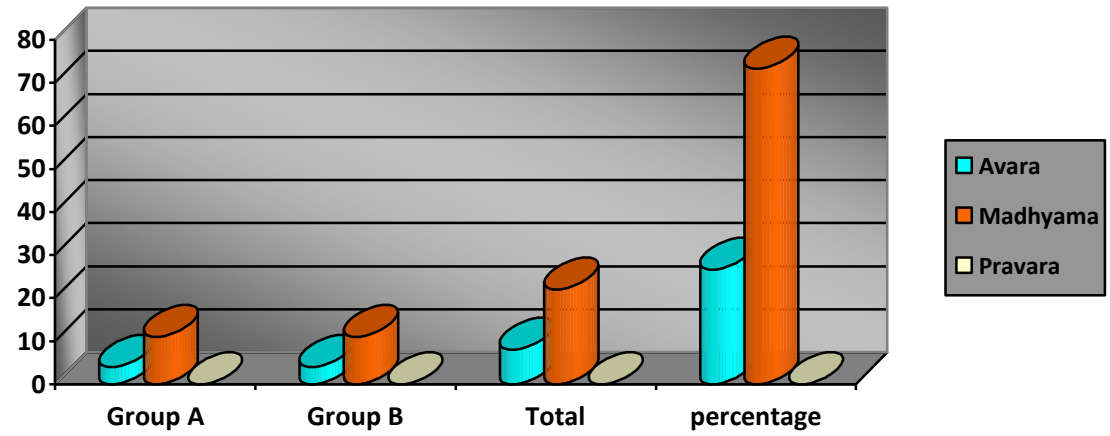
Graph 34: Showing the Koshta wise distribution of Avabahuka Patients in both Groups:



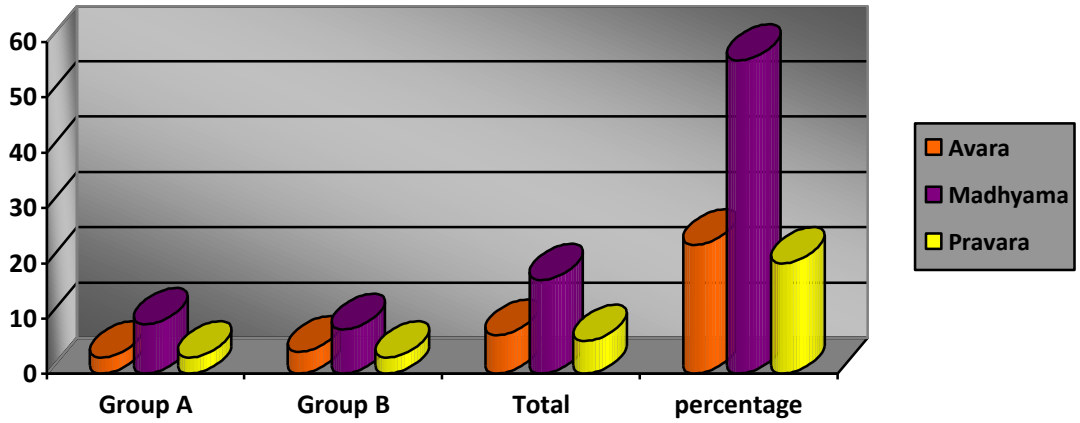
Graph 35: Showing the Prakruti wise distribution of Avabahuka Patients in both Groups:



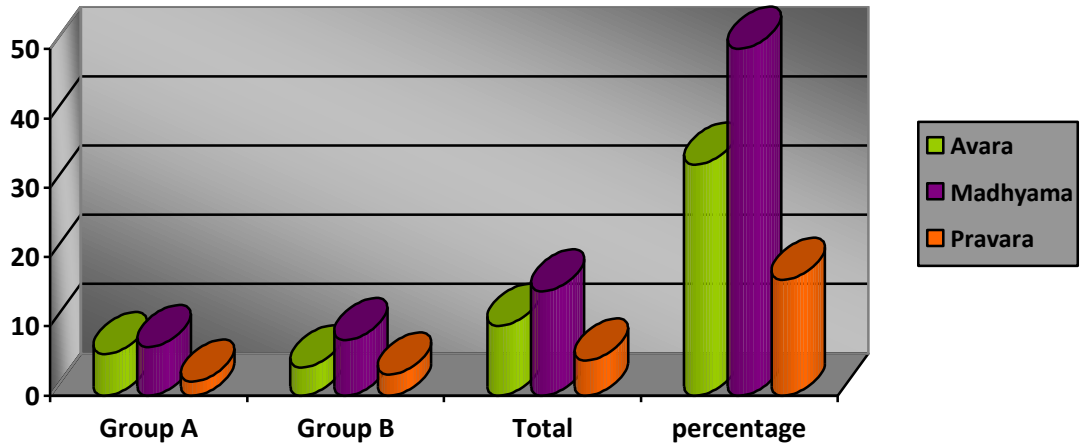
Graph 36: Showing the Sara wise distribution of Avabahuka Patients in both Groups:



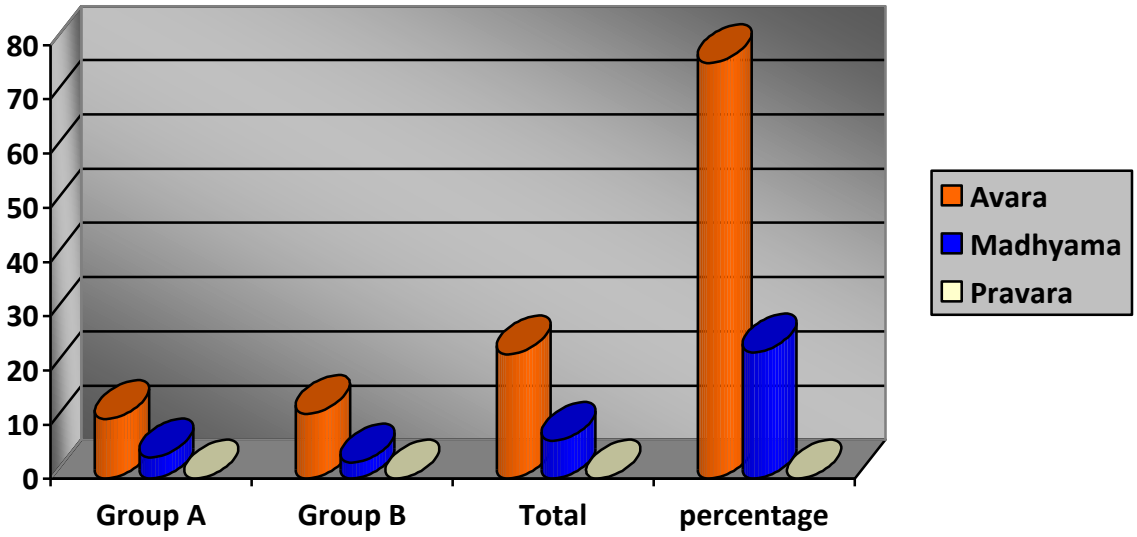
Graph 37: Showing the Samhanana wise distribution of Avabahuka Patients in both Groups:



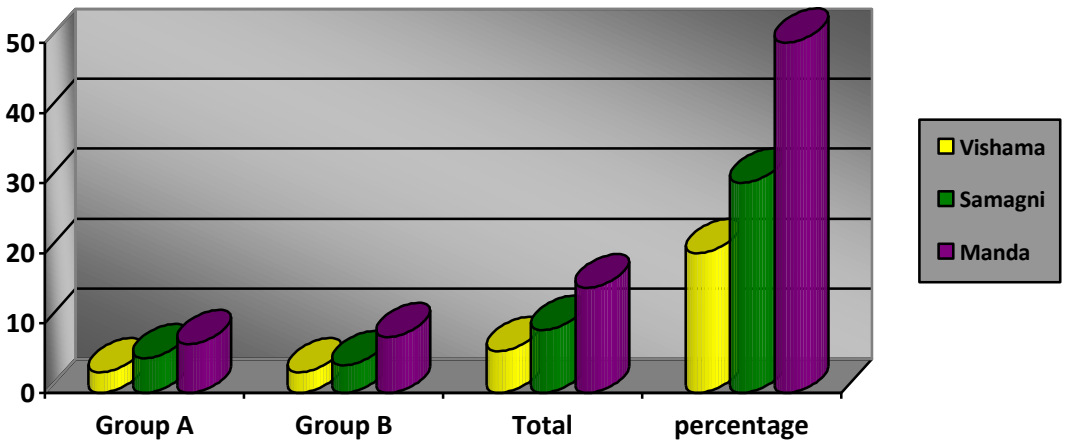
Graph 38: Showing the Satva wise distribution of Avabahuka Patients in both Groups:



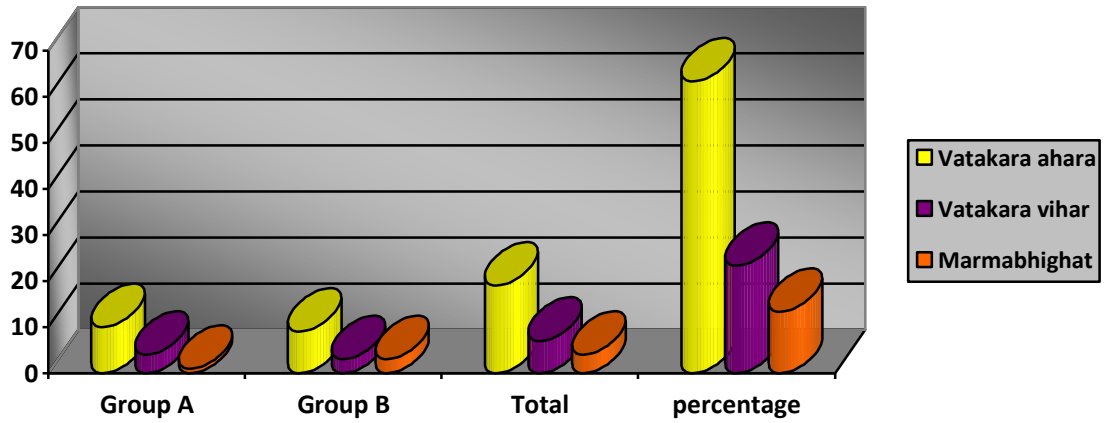
Graph 39: Showing the Vyayama Shakti wise distribution of Avabahuka Patients in both Groups:



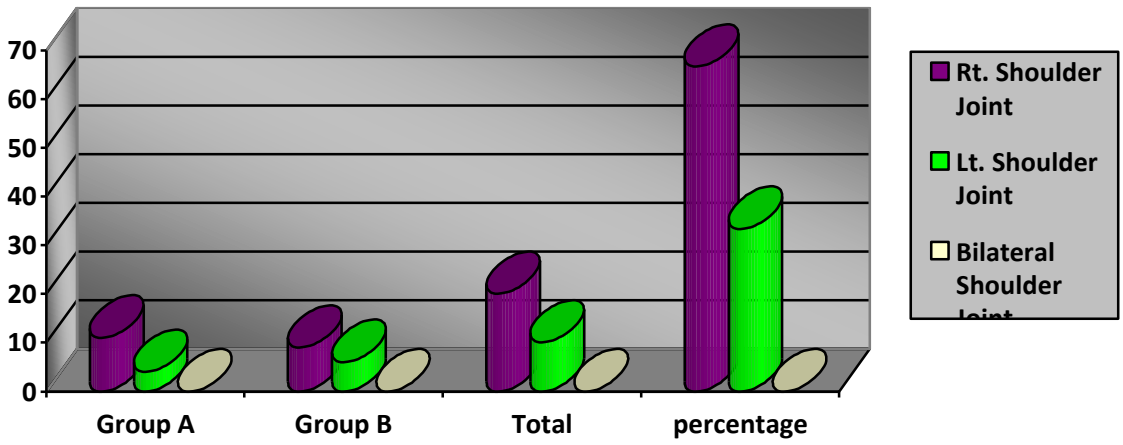
Graph 40: Showing the Agni wise distribution of Avabahuka Patients in both Groups:



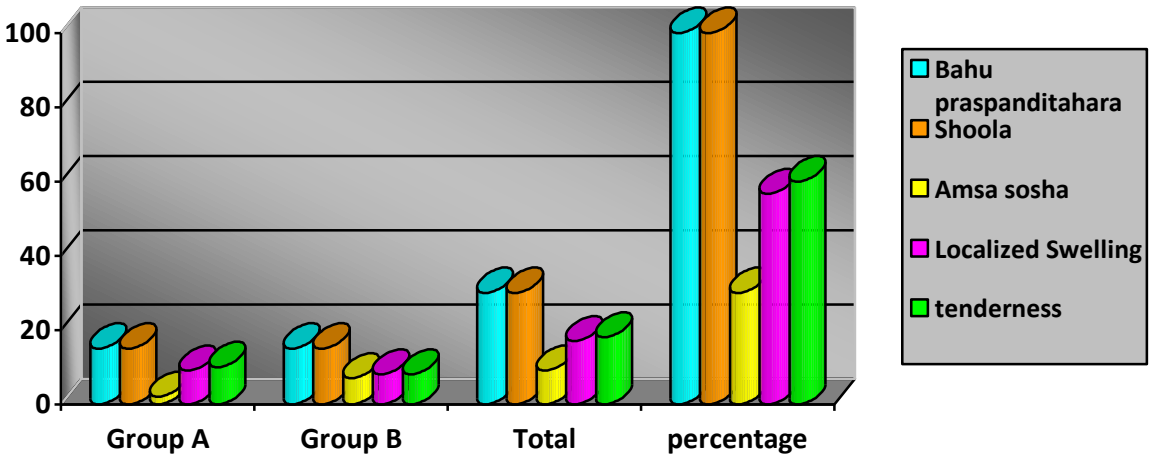
Graph 41: Showing the Nidana wise distribution of Avabahuka Patients in both Groups:



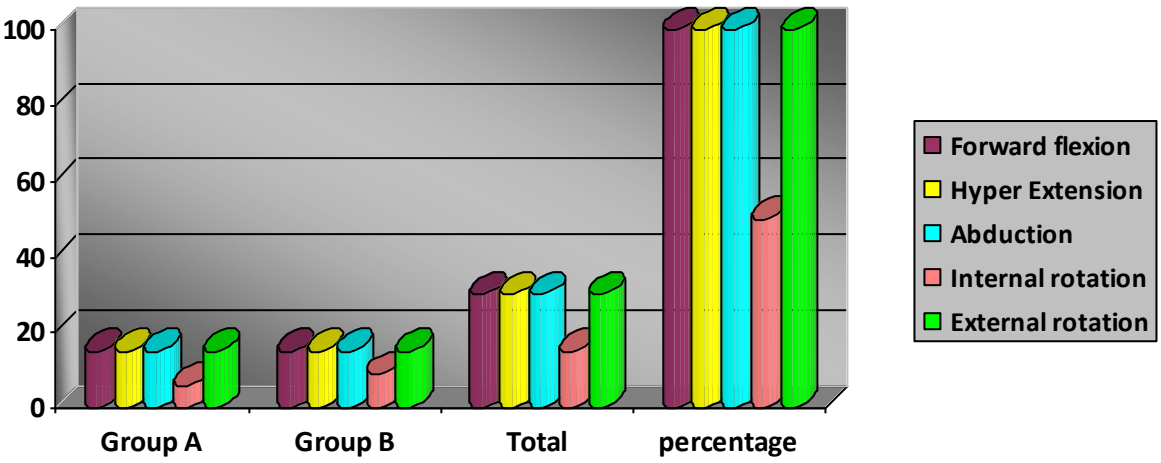
Graph 42: Showing the involvement of the shoulder joint wise distribution of Avabahuka Patients in both Groups:



Graph 43: Showing symptoms (lakshana) wise distribution of Avabahuka Patients in both Groups:



Graph 44: Showing restricted ROM of Shoulder joint (Gonio meter readings) wise distribution of Avabahuka Patients in both Groups:



RESULTS

Effect of therapy on different Subjective parameters such as Bahupraspandithara , Shoola, and Amsasosha, as well as objective parameters such as Swelling, Tenderness, Restriction of Shoulder joint Movements(using Gonio meter) like Forward flexion, Hyper Extension, Abduction, Internal rotation and External rotation were examined and recorded before and after treatment and subjected to statistical analysis as follows.

Table: Effect of Treatment within the Group A(Bahupraspandithar)

Assessment Observations Recorded on	Descriptives			Paired t test		
	N	Mean	±SD	t	P	Remarks
Bahupraspandithar						
BT	50	2.24	0.591			
AT	50	1.78	0. 648	t=5.305	<0.0001	HS
HS - Highly significant						

Effect Of Therapies On Bahupraspanditahara In Group A: The Mean Before Treatment Was 2.24 Which Reduced To 1.78 After The Treatment. The Total Effect of Therapy Was Statistically Significant (P<0.0001) Result With‘t’ Value Of 5.305.

Table: Effect of Treatment within the Group A(SHOOLA)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean	±SD	t	P	Remarks
SHOOLA						
BT	50	2.04	0.699	t=8.143	<0.0001	HS
AT	50	0.99	1.035			
HS - Highly significant						

Effect Of Therapies On Shoola In Group A: The Mean Before Treatment Was 2.04 Which Reduced To 0.99 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With 't' Value Of 8.143.

Table: Effect of Treatment within the Group A(Amsasosha)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean	±SD	t	P	Remarks
Amsasosha						
BT	50	0.36	0.921	t=2.824	0.007	HS
AT	50	0.22	.582			
HS - Highly significant						

Effect Of Therapies On Amsasosha In Group A: The Mean Before Treatment Was 0.36 Which Reduced To 0.22 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.001) Result With't' Value Of 2.824.

Table: Effect of Treatment within the Group A(Swelling)

Assessment Observations Recorded on	Descriptives			Paired t test		
	N	Mean	±SD	t	P	Remarks
Swelling						
BT	50	1.06	0.913	t=7.977	<0.0001	HS
AT	50	0.08	0.274			
HS - Highly significant						

Effect Of Therapies on Swelling In Group A: The Mean Before Treatment Was 1.06 Which Reduced To 0.08 After The Treatment. The Total Effect of Therapy Was Statistically Significant (P<0.0001) Result With‘t’ Value of 7.977.

Table: Effect of Treatment within the Group A(Tenderness)

Assessment Observations Recorded on	Descriptives			Paired t test		
	N	Mean	±SD	t	P	Remarks
Tenderness						
BT	50	0.90	0.707	t=9.482	<0.0001	HS
AT	50	0.12	0.328			
HS - Highly significant						

Effect Of Therapies On Tenderness In Group A: The Mean Before Treatment Was 0.90 Which Reduced To 0.12 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With‘t’ Value Of 9.482.

Table: Effect of Treatment within the Group A (For Flexion)

Assessment Observations Recorded on	Descriptives			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Sh jnt Movements restricted (Gonio meter readings)						
For Flexion						
BT	50	3.06	0.740	t=11.096	<0.0001	HS
AT	50	2.24	0. 657			
HS - Highly significant						

Effect Of Therapies On Forward Flexion In Group A: The Mean Before Treatment Was 3.06 Which Reduced To 2.24 After The Treatment. The Total Effect of Therapy Was Statistically Significant (P<0.0001) Result With‘t’ Value of 11.096.

Table: Effect of Treatment within the Group A (Hyper Extn)

Assessment Observations Recorded on	Descriptives			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Sh jnt Movements restricted (Gonio meter readings)						
Hyper Extn						
BT	50	2.66	0.479	t=5.621	<0.0001	HS
AT	50	2.10	0.614			
HS - Highly significant						

Effect Of Therapies On Hyper Extension In Group A: The Mean Before Treatment Was 2.66 Which Reduced To2.10after The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With‘t’ Value Of 5.621.

Table: Effect of Treatment within the Group A (Abduction)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Sh jnt Movements restricted (Gonio meter readings)						
Abduction						
BT	50	2.62	0.725	t=5.061	<0.0001	HS
AT	50	2.04	0.533			
HS - Highly significant						

Effect Of Therapies On Abduction In Group A: The Mean Before Treatment Was 2.62 Which Reduced To 2.04 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With 't' Value Of 5.061.

Table: Effect of Treatment within the Group A (Int rotation)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Sh jnt Movements restricted (Gonio meter readings)						
Int rotation						
BT	50	0.72	0.927	t=5.250	<0.0001	HS
AT	50	0.12	0.328			
HS - Highly significant						

Effect Of Therapies On Internal Rotation In Group A: The Mean Before Treatment Was 0.72 Which Reduced To 0.12 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With 'T' Value Of 5.250.

Table: Effect of Treatment within the Group A (Ext rotation)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Sh jnt Movements restricted (Gonio meter readings)						
Ext rotation						
BT	50	1.86	0.535			
AT	50	1.36	0.693	t=5.000	<0.0001	HS
HS - Highly significant						

Effect Of Therapies On External Rotation In Group A: The Mean Before Treatment Was 1.86 Which Reduced To 1.36 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001)with‘t’ Value Of 5.000.

Table: Effect of Treatment within the Group B(Bahupraspandithar)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Bahupraspandithar						
BT	50	2.74	0.443			
AT	50	0.52	0.505		<0.0001	HS
AT	50	0.06	0.240	t=24.222		
HS - Highly significant						

Effect Of Therapies On Bahupraspanditahara In Group B: The Mean Before Treatment Was 2.74 Which Reduced To 0.52 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With‘t’ Value Of 24.222.

Table: Effect of Treatment within the Group B(Shoola)

Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Shoola						
BT	50	2.44	0.501	t=28.027	<0.0001	HS
AT	50	0.14	0.351			
HS - Highly significant						

Effect Of Therapies On Shoola In Group B: The Mean Before Treatment Was 2.44 Which Reduced To 0.14 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With‘t’ Value Of 28.027.

Table: Effect of Treatment within the Group B(Amsasosha)

Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Amsasosha						
BT	50	1.00	1.069	t=6.271	0.007	HS
AT	50	0.36	0.485			
HS - Highly significant						

Effect Of Therapies On Amsasosha In Group B: The Mean Before Treatment Was 1.00 Which Reduced To 0.36 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.007) Result With‘t’ Value Of 6.271.

Table: Effect of Treatment within the Group B(Swelling)

Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Swelling						
BT	50	0.70	0.763	t=5.624	<0.0001	HS
AT	50	0.08	0.274			
HS - Highly significant						

Effect Of Therapies On Swelling In Group B: The Mean Before Treatment Was 0.70 Which Reduced To 0.08 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With‘t’ Value Of 5.624.

Table: Effect of Treatment within the Group B(Tenderness)

Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Tenderness						
BT	50	0.68	0.768	t=6.293	<0.0001	HS
AT	50	0.06	0.240			
HS - Highly significant						

Effect Of Therapies On Tenderness In Group B: The Mean Before Treatment Was 0.68 Which Reduced To 0.06 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With ‘t’ Value Of 6.293.

Table: Effect of Treatment within the Group B (For Flexion)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Sh jnt Movements restricted (Gonio meter readings)						
For Flexion						
BT	50	3.06	0.550	t=26.690	<0.0001	HS
AT	50	0.28	0.454			
HS - **Highly significant**						

Effect Of Therapies On Forward Flexion In Group B: The Mean Before Treatment Was 3.06 Which Reduced To 0.28 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With 't' Value Of 26.690.

Table: Effect of Treatment within the Group B (Hyper Extn)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Sh jnt Movements restricted (Gonio meter readings)						
Hyper Extn						
BT	50	2.50	0.505	t=15.582	<0.0001	HS
AT	50	0.44	0.644			
HS - **Highly significant**						

Effect Of Therapies On Hyper Extension In Group B: The Mean Before Treatment Was 2.50 Which Reduced To 0.44 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With 't' Value Of 15.582.

Table: Effect of Treatment within the Group B (Abduction)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Sh jnt Movements restricted (Gonio meter readings)						
Abduction						
BT	50	2.82	0.629	t=19.914	<0.0001	HS
AT	50	0.40	0.495			
HS - **Highly significant**						

Effect Of Therapies On Abduction In Group B: The Mean Before Treatment Was 2.82 Which Reduced To 0.40 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With 't' Value Of 19.914.

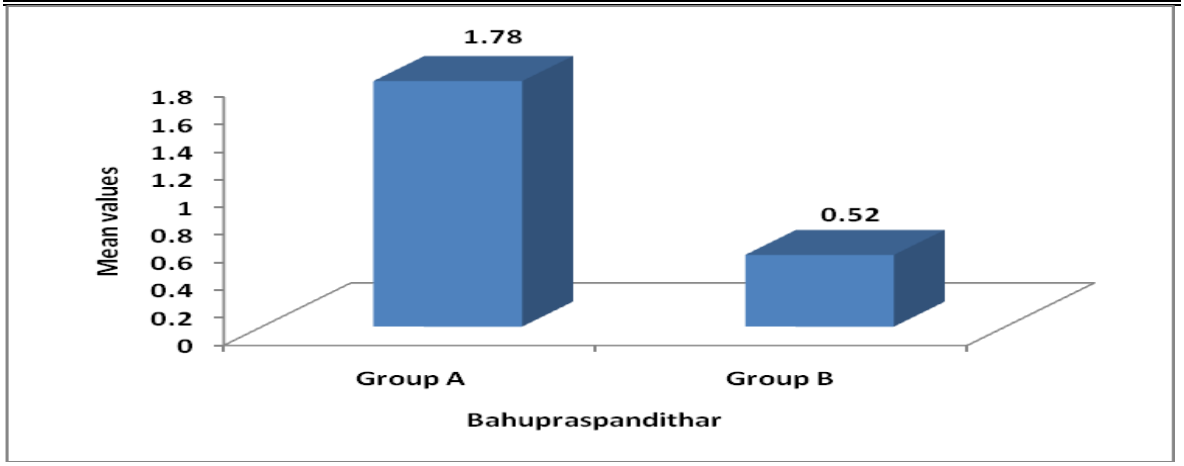
Table: Effect of Treatment within the Group B (Int rotation)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Sh jnt Movements restricted (Gonio meter readings)						
Int rotation						
BT	50	0.92	0.829	t=7.766	<0.0001	HS
AT	50	0.12	0.328			
HS - **Highly significant**						

Effect Of Therapies On Internal Rotation In Group B: The Mean Before Treatment Was 0.92 Which Reduced To 0.12 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With 't' Value Of 7.766.

Table: Effect of Treatment within the Group B (Ext rotation)						
Assessment Observations Recorded on	**Descriptives**			Paired t test		
	N	Mean(Median)	±SD	t	P	Remarks
Sh jnt Movements restricted (Gonio meter readings)						
Ext rotation						
BT	50	2.26	0.443	t=21.345	<0.0001	HS
AT	50	0.20	0.404			
HS - **Highly significant**						

Effect Of Therapies On External Rotation In Group B: The Mean Before Treatment Was 2.26 Which Reduced To 0.20 After The Treatment. The Total Effect Of Therapy Was Statistically Significant (P<0.0001) Result With‘t’ Value Of 21.345.

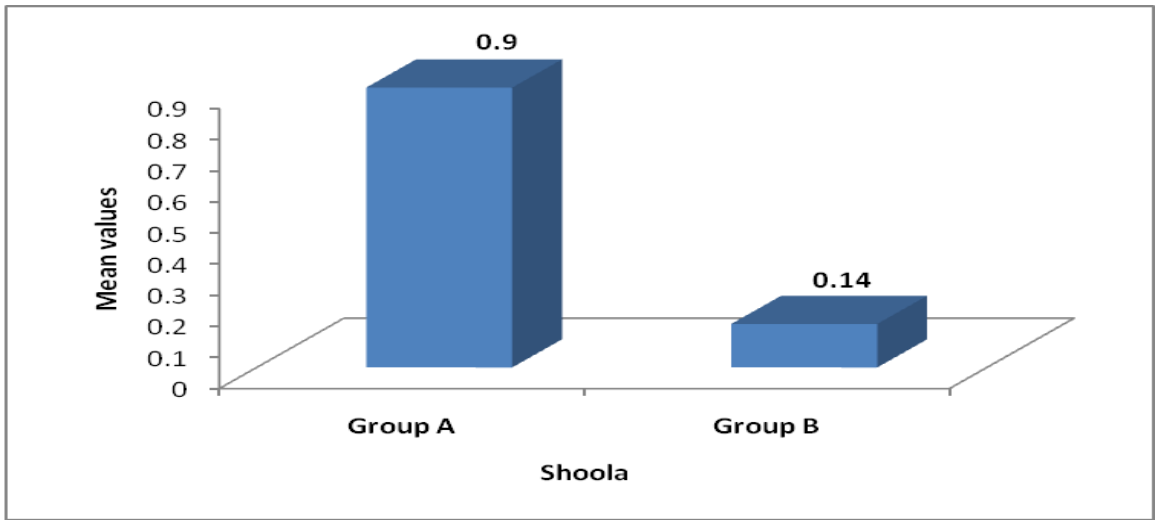
Table: Comparisons Between Groups A and B (Bahupraspandithar)							
Assessment Observations Recorded on	**Descriptive statistics**				**Test Statistics**		
	Group	**N**	**Mean**	**± S.D.**	**Unpaired t test**	**P value**	**Remarks**
Bahupraspandithar							
After treatment	Group A	50	1.78	0.648	t=10.847	P=0.001	HS
	Group B	50	0.52	0.505			
HS: Highly significant							



The Mean Of Bahupraspandithar In Group A Was 1.78, SD Is 0.648 . In Group B, The Mean Of Bahupraspandithar Was 0.52, SD Is 0.505 . The Comparative Efficacy Of Group A With Group B Showed Statistically Highly Significant (P<0.001) Result With T' Value Of 10.847.

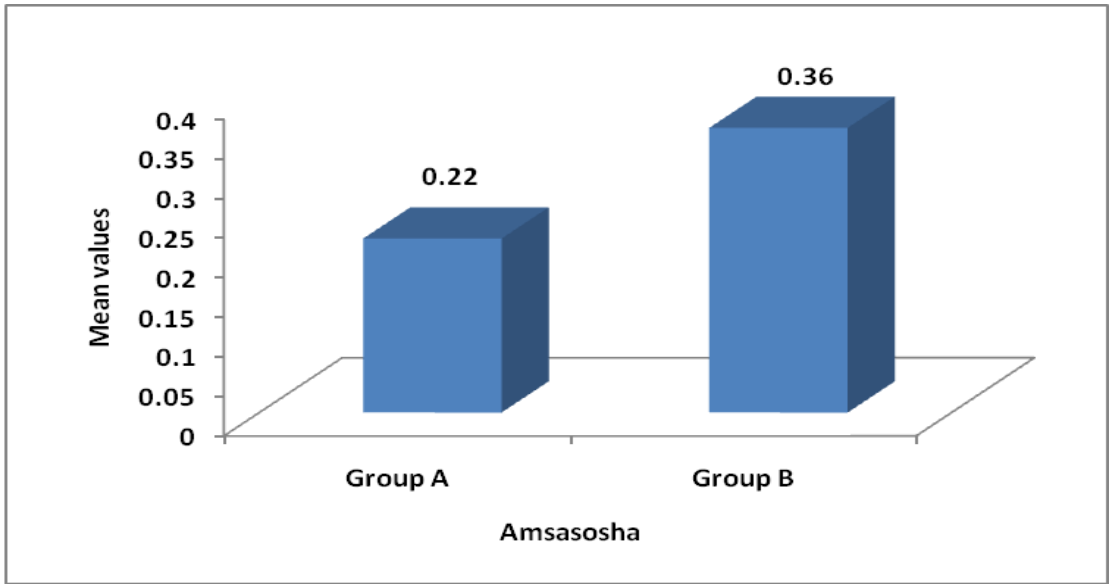
Table: Comparisons Between Groups A and B (Shoola)

Assessment Observations Recorded on	Descriptive statistics				Test Statistics		
	Group	N	Mean	± S.D.	Unpaired t test	P value	Remarks
Shoola							
After treatment	Group A	50	0.90	1.035	t=4.918	P=0.001	HS
	Group B	50	0.14	0.351			
NS: No significant HS: Highly significant							



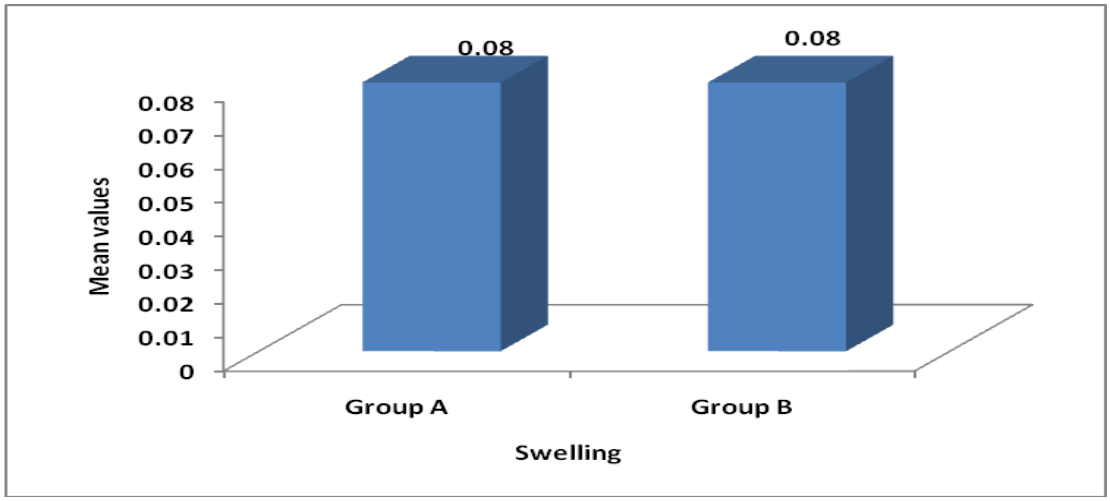
The Mean Of Shoola In Group A Was 0.90, SD Is 1.035 . In Group B, The Mean Of Shoola Was 0.14, SD Is 0.351 . The Comparative Efficacy Of Group A With Group B Showed Statistically Highly Significant (P<0.001) Result With T' Value Of 4.918.

Table: Comparisons Between Groups A and B (Amsasosha)							
Assessment Observations Recorded on	**Descriptive statistics**				**Test Statistics**		
	Group	**N**	**Mean**	**± S.D.**	**Unpaired t test**	**P value**	**Remarks**
	Group B	50	0.14	0.351			
Amsasosha							
After treatment	Group A	50	0.22	0.582	t=1.307	P=0.194	NS
	Group B	50	0.36	0.485			
NS: No significant							



The Mean Of Amsasosha In Group A Was 0.22, SD Is 0.582. In Group B, The Mean Of Amsasosha Was 0.36, SD Is 0.485 . The Comparative Efficacy Of Group A With Group B Showed Statistically non Significant (P<0.194) Result With T' Value Of 1.307.

Table: Comparisons Between Groups A and B (Swelling)							
Assessment Observations Recorded on	**Descriptive statistics**				**Test Statistics**		
	Group	**N**	**Mean**	**± S.D.**	**Unpaired t test**	**P value**	**Remarks**
Swelling							
After treatment	Group A	50	0.08	0.274	t=.000	P=1.00	NS
	Group B	50	0.08	0.274			
NS: No significant							

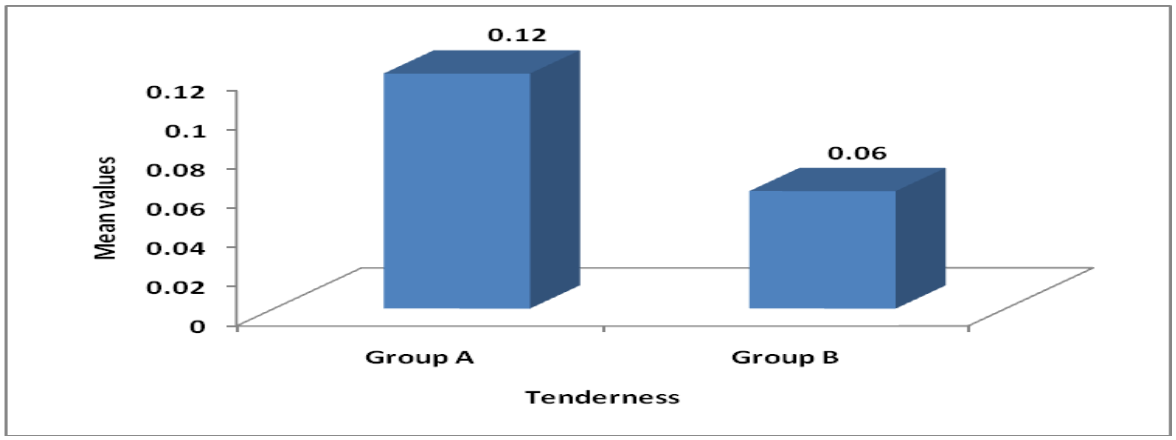


The Mean Of Swelling In Group A Was 0.08, SD Is 0.274 . In Group B, The Mean Of Swelling Was 0.08. SD Is 0.274 . The Comparative Efficacy Of Group A With Group B Showed Statistically Non Significant (P=1.00) Result With 'T'value Of 0.00.

Table: Comparisons Between Groups A and B (Tenderness)							
Assessment Observations Recorded on	**Descriptive statistics**				**Test Statistics**		
	Group	**N**	**Mean**	**± S.D.**	**Unpaired t test**	**P value**	**Remarks**
	Group B	50	0.08	0.274			
Tenderness							
After	Group	50	0.12	0.328	t=1.043	P=3.00	NS

treatment	A					0	
	Group B	50	0.06	0.240			
NS: No significant							

The Mean Of Tenderness In Group A Was 0.12, SD Is 0.328 . In Group B, The Mean Of Tenderness Was 0.06, SD Is 0.240 . The Comparative Efficacy Of Group A With Group B Showed Statistically Non Significant (P 3.000) Result With T' Value Of 1.043.



Assessment Observations Recorded on	Descriptive statistics				Test Statistics		
	Group	N	Mean	± S.D.	Unpaired t test	P value	Remarks
For flexion							
After treatment	Group A	50	2.24	0.657	t=17.368	P=0.001	HS
	Group B	50	0.28	0.454			
Hyper Extn							
After treatment	Group A	50	2.10	0.614	t=13.188	P=0.001	HS
	Group B	50	0.44	0.644			
Abduction							
After treatment	Group A	50	2.04	0.533	t=15.944	P=0.194	NS
	Group B	50	0.40	0.495			
Int rotation							
After treatment	Group A	50	0.12	0.328	t=0.000	P=1.00	NS
	Group B	50	0.12	0.328			
Ext rotatn							
After treatment	Group A	50	1.36	0.693	t=10.227	P=0.001	HS
	Group B	50	0.20	0.404			
NS:No nsignificant HS-Highly Significant							

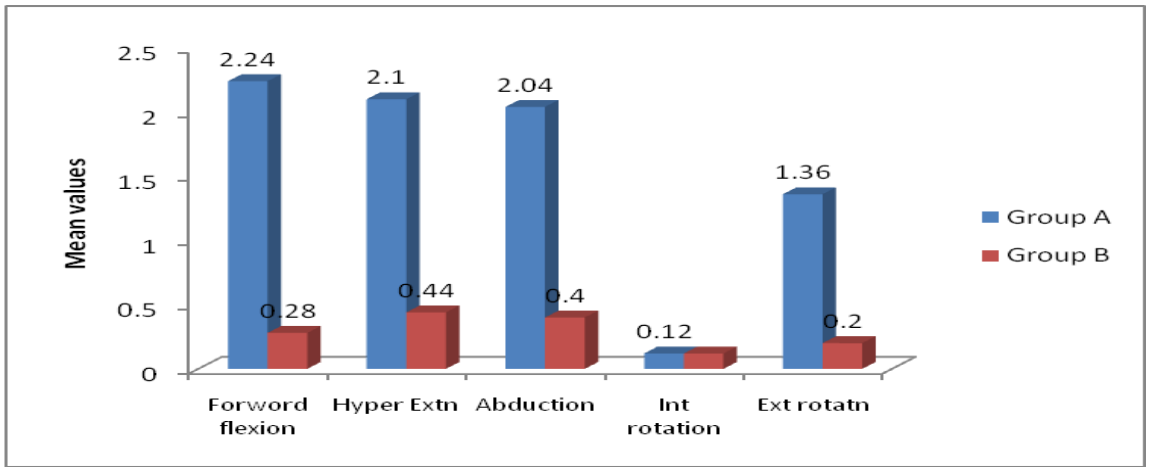
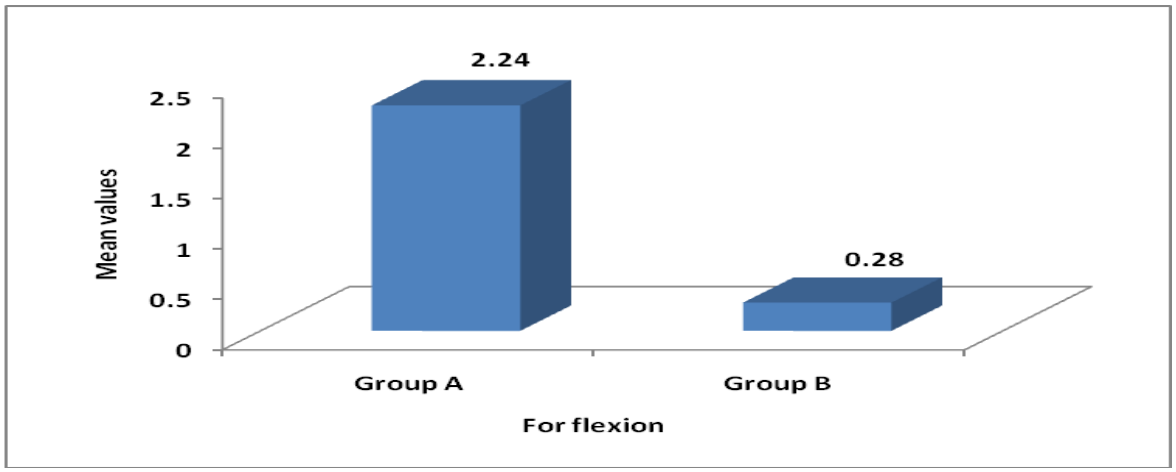


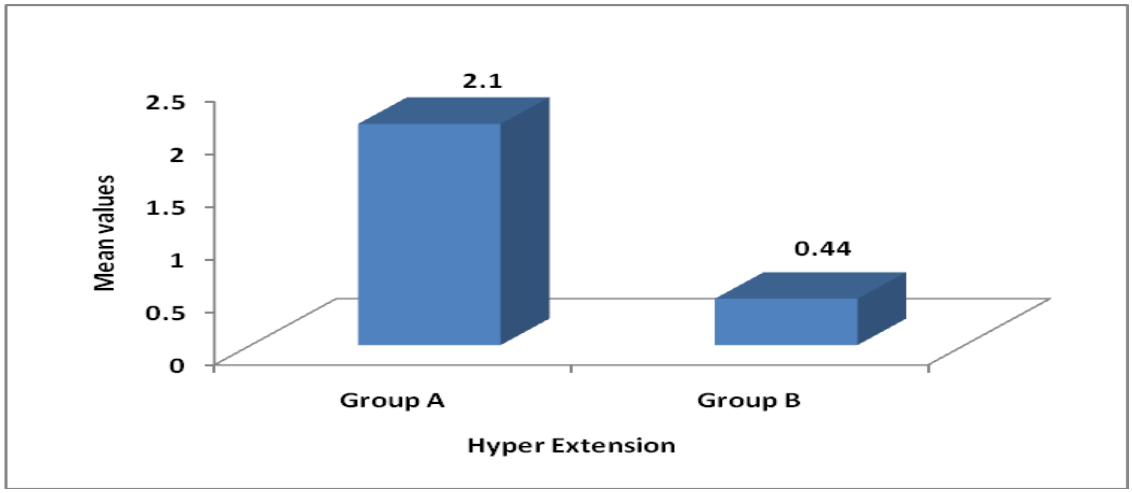
Table: Comparisons Between Groups A and B (For flexion)							
Assessment Observations Recorded on	**Descriptive statistics**				**Test Statistics**		
	Group	**N**	**Mean**	**± S.D.**	**Unpaired t test**	**P value**	**Remarks**
For flexion							
After treatment	Group A	50	2.24	0.657	t=17.368	P=0.001	HS
	Group B	50	0.28	0.454			
HS-Highly Significant							



The Mean Of Forward Flexion In Group A Was 2.24, SD Is 0.657. In Group B, The Mean Of Forward Flexion Was 0.28, SD Is 0.454 . The Comparative Efficacy Of Group A With Group B Showed Statistically Highly Significant (P<0.001) Result With T' Value Of 17.368.

Table: Comparisons Between Groups A and B (Hyper Extn)							
Assessment Observations Recorded on	**Descriptive statistics**				**Test Statistics**		
	Group	**N**	**Mean**	**± S.D.**	**Unpaired t test**	**P value**	**Remarks**
Hyper Extension							
After	Group A	50	2.10	0.614	t=13.188	P=0.00	HS

treatment	Group B	50	0.44	0.644		1	
HS-Highly Significant							



The Mean of Hyper Extension

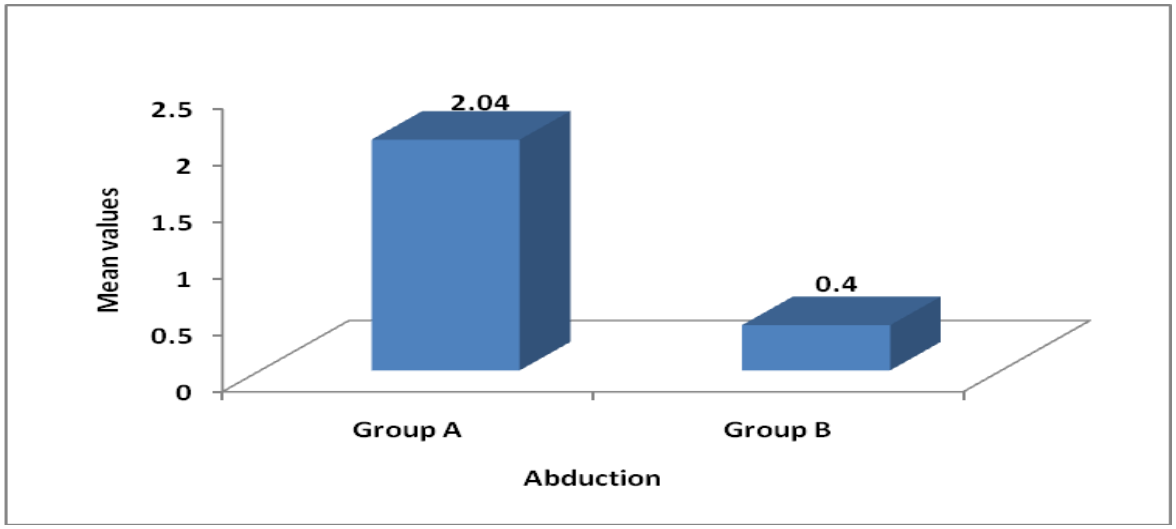
In Group A Was 2.10 SD Is 0.614.

In Group B, The Mean of Hyper Extension Was 0.44, SD Is 0.644 .

The Comparative Efficacy of Group A With Group B Showed Statistically Highly Significant (P<0.001) Result With T' Value Of 13.188.

Table: Comparisons Between Groups A and B (Abduction)

Assessment Observations Recorded on	Descriptive statistics				Test Statistics		
	Group	N	Mean	± S.D.	Unpaired t test	P value	Remarks
Abduction							
After treatment	Group A	50	2.04	0.533	t=15.944	P=0.194	NS
	Group B	50	0.40	0.495			
NS:No nsignificant HS-Highly Significant							

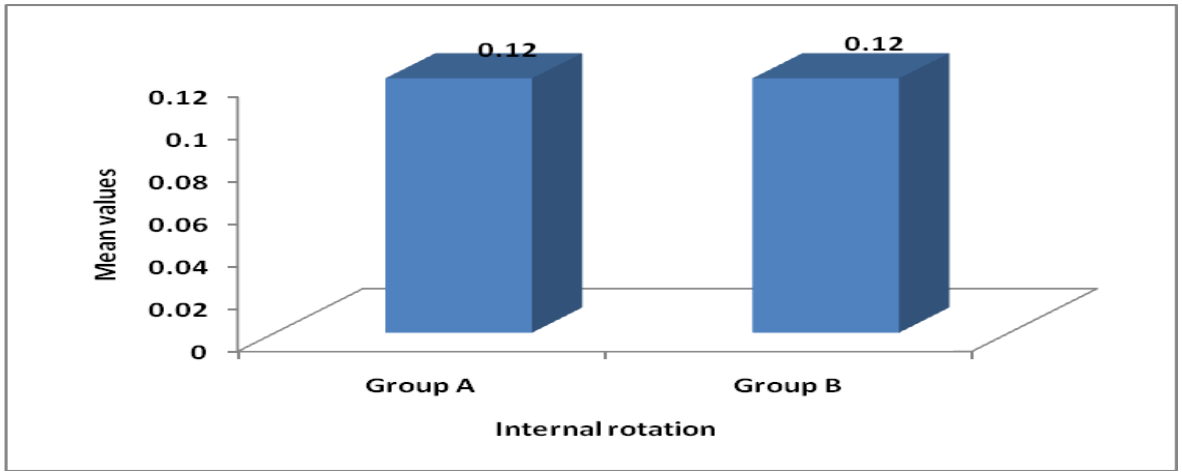


The Mean Of Abduction In Group A Was 2.04 SD Is 0.533.

In Group B, The Mean Of Abduction Was 0.40, SD Is 0.495 . The Comparative Efficacy Of Group A With Group B Showed Statistically Non Significant (P<0.194) Result With T' Value Of 15.944.

Table: Comparisons Between Groups A and B (Int rotation)

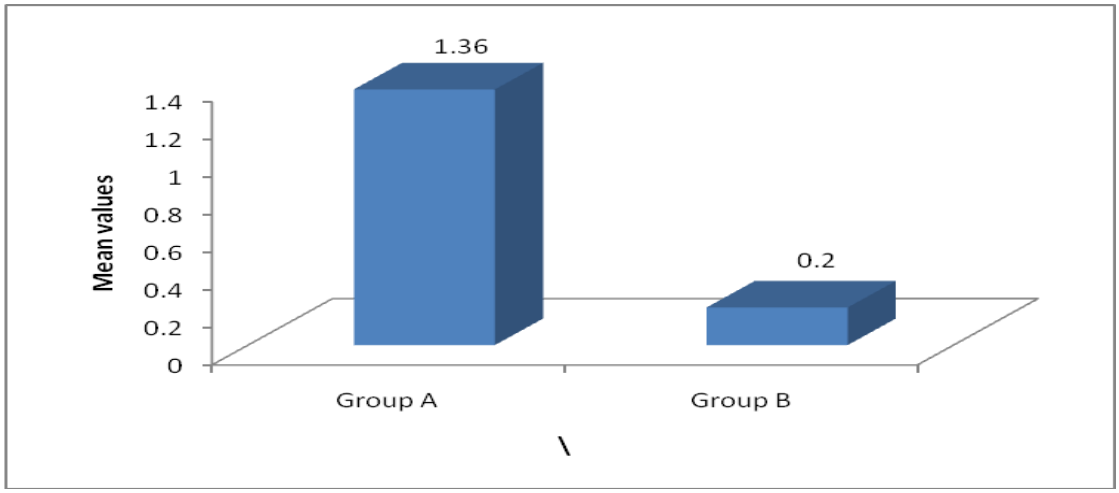
Assessment Observations Recorded on	Descriptive statistics				Test Statistics		
	Group	N	Mean	± S.D.	Unpaired t test	P value	Remarks
Internal rotation							
After treatment	Group A	50	0.12	0.328	t=0.000	P=1.00	NS
	Group B	50	0.12	0.328			
NS:No nsignificant							



The Mean Of Internal Rotation In Group A Was 0.12 SD Is 0.328. In Group B, The Mean Of Internal Rotation Was 0.12, SD Is 0.328 . The Comparative Efficacy Of Group A With Group B Showed Statistically Non Significant (P=1.00) Result With T' Value Of 0.000.

Table: Comparisons Between Groups A and B (Ext rotatn)

Assessment Observations Recorded on	Descriptive statistics				Test Statistics		
	Group	N	Mean	± S.D.	Unpaired t test	P value	Remarks
External rotation							
After treatment	Group A	50	1.36	0.693	t=10.227	P=0.001	HS
	Group B	50	0.20	0.404			
NS:No nsignificant							



The Mean Of External Rotation In Group A Was 1.36 SD Is 0.693. In Group B, The Mean Of External Rotation Was 0.20, SD Is 0.404. The Comparative Efficacy Of Group A With Group B Showed Statistically Highly Significant (P=0.001) Result With T' Value Of 10.227.

DISCUSSION

For any living organism the worst tragedy is said to be the Life without movements. That can be one of the main reasons for Ayurvedic literatures considering Vataja Vikaras more important compared to disorders caused by other dosha. Avabahuka is one among those vatavyadhi, which results in karmakshaya of bahu.

In a developing country like India where agriculturists and laboures form a major population, the incidence of Avabahuka is more.

Discussion on literary review:

In the classics it is explained under the heading of nanatmaja vata vyadhi and is characterized by shula and stabdhata of the shoulder joint.

Ample of references about the vata are available in the literatures of vedic period, but the citations relating to avabahuka are negative. Detailed description from nidana to chikitsa at full length is found in the literatures of samhita kala and onwards. Amongst brihatrayees charaka samhita does not coin the term avabahuka, but cited regarding bahusheershagata vata[121] which resembles the features as well as the treatment of avabahuka. He explains this condition while narrating gata vata, which might be the reason he has not used the separate word avabahuka.

Eventhough the disease is mentioned under the heading of vataja nanatmaja vikara the involvement of the other two dosha can not be denied, because the sandhis are formed with asthi, sira, snayu, kandara etc, and as the involvement of sira is already mentioned moreover sira is the upadhatu of rakta dahtu. And as pitta and rakta are said to be ashraya ashrayi bhavas the involvement of pitta is clear.

As per sushruta samhita there is soshana of amsabandhana and the intactness of amsabandhana is due to sleshaka kapha and sira snayus. Hence kapha dosa is also said to be involved[122].

Apart from vyanavata, pranavata is also involved in the manifestation of the disease, as the functioning of both jnanendriya and karmendriya is done by pranavata and bahu is one of the karmendriya.

As far as dusya are considered apart from rasa rakta the involnement of asthi and majja is also elicited as these are ashraya sthana of vata. And meda dhatu is also considered because snayu are the upadhatu of meda.

The specific Nidana of Avabahuka has not been separately mentioned. However the nidanas of Vatavyadhi in general may be considered as the nidana. While narrating the Nidana of vata vyadhi en number of nidana have been elaborated. Amongst them the nidanas like mithyahara. ativyayama, vishama chesta, dhatukshaya, and marmabhighata should also be considered in the manifestation of the disease Avabahuka. Specifically these nidanas, which are said are said to be the vyanjaka hetu for Avabahuka have been observed in the present study.

As per the symptomatology and pathogenesis Avabahuka can be correlated to Frozen shoulder as said in western medicine because of the presenting symptoms like shula (Initial pain during freezing stage) and stabdhata (Restricted Range of movements of the shoulder joint) etc. The etiology is also similar like ativyayama, (excessive usage), vishama chesta (irregular movements) and marnabhighata (Any injury to the shoulder including tendinitis, bursitis, and rotator cuff injury)

Even in western medicine it is evident that in the chronic uncontrolled cases of Diabetes Mellitus the incidence of frozen shoulder is more. But in ayurveda we do not find such references. But when we go through the descriptions of prameha,

The prameha rogis are classified into 2 categories as sthoola pramehi and krisha pramehi[123]. This is dependent upon the varied pathogenesis in both of the categories. However in both the cases there will be vitiation of kapha and vata. When we go through the samanya samprapti of prameha it has been said that kapha krichra sarvam, but while dealing the pathogenesis of madhumeha it has been given as vata pradhanatmaka. This manifestation of madhumeha occurs in untreated cases of prameha. This concept corroborates with pathogenesis of madhumeha[124] vata is predominant and this vata Dosha is solely responsible for avabahuka. One more point can also be noted here is in prameha dusya visesha is abaddha meda and abaddha mamsa[125], as because of dhatwagnimandyata these are the asamyak parinamita dhatus. Here it is clear that the pathogenesis is at the level of mamsa and meda dhatus, hence the upadhatu of meda like snayu and sandhi are also affected which aids in disease manifestation. These might be the reasons that prameha is not directly explained as the separate nidana for avabahuka, but can be understood as the contributing factor.

In the present study out of 100 subjects 20 subjects presented with the history of madhumeha of varying chronicity.

As per vagbhatacharya Bahupraspanditahara and Shoola are said to be the main symptoms To Diagnose Avabahuka. Bahupraspanditahara is the first feature which was present in all the patients and shoola is the second feature where the intensity of Shoola differed from patient to patient. But amsasosha is also one of the

symptoms according acharya sushruta samhita which was also used as diagnostic criteria and was found in 36 patients.

As per the western medicine the 'Drugs and therapeutic Bulletin of UK makes the statement that until now 'no treatment has been demonstrated to either reduce the duration or severity of frozen shoulder syndrome'.

In our classics the treatment is mainly classified into two types viz: santarpana and apatarpana. In Avabahuka either of the procedures are indicated based on the cause of the disease. Sushruta samhitacharya says that when all the other treatment modalities of vata vyadhi fail to reverse the pathogenesis then understand the condition as raktavrita vata and advise siravyadha. But it is contraindicated in dhatukshayajanya Avabahuka.

Gayadasa considered sandhi as a kapha sthana and advised rooksha chikitsa. This type of apatarpana treatment is helpful only in kapha samsargaja avabahuka. But as it is jatroordhwagata Vatavyadhi, Nasya and Nasaapan have been given due importance.

The combined effect of Bahirparimarjana and sodhana would provide complete remission of the disease.

Discussion on Materials and Methods:

In this study, Panchakola Churna was selected for Ama Pachana because it is Deepana and Pachana in nature. Jambeera pinda sweda was selected because of its properties like sophahara, rooksha &Teekshna. Mahamasha taila was used for Nasya Karma as it is Brumhana and Dashamool bala masha kwath was used for Nasaapana as it serves both sodhana and brihmana purposes.

Probable mode of action:

Ama pachana:

In this present study Panchakola Churna was taken, as it acts as Deepana Pachana and Vatanulomaka. The ingredients of Panchakola Churna possess Kapha Shamaka Guna due to their Katu Rasa and Ushna Veerya. These drugs which are deepaniya and pachaniya stimulate amashayagata shlesmadharakala, acts as yakrit and agnyashaya uttejaka thereby proper assimilation and metabolism of aoushadha dravya may take place.

Nasya:

Acharya Vagbhata's quotation "Naasa hi shirasodwaram[126] states that, nose is the easiest and closest opening for conveying the potency of medicines to the cranial cavity. The nasya dravya acts by reaching 'Sringataka marma' from where it spreads into various strotas (vessels and nerves) and brings out vitiated dosha from the head. Acharya Sushruta samhita consideres Shringhataka marma as a sira and sadyopranahara marma[127] and as a composite structure consisting of four siras in connection with four sense organs- viz, nose, ear, eye and tongue.

Acharya Charaka, while explaining indications of Nasya, advocates Nasya karma in griva, skanda and amsa roga and emphasizes that the nasya drug will act by absorption via Shringataka marma. once the absorption takes place the dosa situated in shiras are expelled out just similar to, like how the seenk (fibres) are removed from munja (a type of grass with fibres in it) without affecting either of the both ie 'munjadi shikamiva[128].

The entry of drugs in to the brain can be understood by the following 3 concepts:

The absorption is carried out in 3 media. They are;

1. by general blood circulation after absorption through mucous membrane.

2. The direct pooling in to venous sinuses of brain via inferior ophthalmic veins.

3. Absorption directly in to the cerebrospinal fluid.

Apart from the small veins entering cavernous sinuses of the brain, a pair of venous branch emerging from alaenasi will drain into facial vein. The opthalmic veins on the other hand also drain into cavernous sinuses of the meninges and in addition to this, neither the facial vein nor the ophthalmic veins have any valves. Therefore, there are more chances of blood draining from facial vein in to the cavernous sinus in the lowered head position.

The nasal cavity directly opens in to frontal, maxillary and sphenoidal air sinuses. Epithelial layer is also continuous throughout the length. The momentary retention of drug in nasopharynx and suction causes oozing of drug material in to air sinuses. These sites have rich blood vessels entering the brain and meninges through the existing foramens in the bones. Therefore, there are better chances of drug transportation in this path. The shringataka marma has been explained by recent authors as middle cephalic fossa of the skull consisting para nasal sinuses, meningial vessels and nerves. One can see in to the truth of narration made by Vagbhata here- the drug administered enters the para nasal sinuses. That is Shringhataka where the ophthalmic veins and the other veins spread out. The sphenoidal sinuses are in close relation with intra cranial structures. The mentioning of the shringataka in this context seems to be more reasonable.

As the procedure of nasya involves mukhabhyanga and sweda over many marmas existing on the face and head, these also help in allievation of marmaksobha and vatashamana. The action of nasya karma depends upon the dravya used in it.

Based on these, it is divided into shodhana, shamana and Brumhana. Here in this study Brihmana nasya was administed. It provides nourishment to shiroindriya and other organs thereby alleviates the vitiated vata. Hence, it is useful in vatajanya ailments.

The following paragraph explains why Ayurveda has mentioned siddha sneha in majority of nasya karma. Nose is a highly vascular structure and its mucous membrane provides good absorbing surface. Hence, siddha sneha on their administration spread along the nasal mucous membrane. An active principle along with sneha gets absorbed inside the olfactory and respiratory mucosa and from there it is carried to different places. Sneha provides nourishment to nasal structures and other shirogata organs also. The networks of nasal blood and lymph vessels have many communications with those of sub dural and sub arachnoid spaces. This fact is one of the important factors contributing to the extension of mentioned drugs from the nose in to cranial cavity.

Myelin sheath is the first covering of nerve fiber which is composed of lipid material. Blood- brain barrier is highly permeable for lipid substances, and substances which are fat-soluble. Therefore, these substances can pass easily through the blood-brain barrier and exert their action. The lipid contents of “Mahamasha taila” may pass through the blood-brain barrier easily due to its transport, some of the active principles may reach up to certain levels in the nervous system to exert their vataghna property. Mahamasha taila provides nourishment to nervous system and helps in removing the irritation. It may act as an anti-inflammatory agent also. On its nasal administration, it reaches the shirogata indriyas to cause vatashamana and Brumhana.

To conclude, Nasya karma with Mahamasha taila helps in Avabahuka by its vatashmana and Brumhana karma.

Jambeera pinda Sweda:

Jambeera pinda Sweda stimulates Bhrajaka Pitta and Vyana Vata. It also enhances circulation of blood,

Bhrajaka pitta, located in the twak, takes up & metabolises the drugs applied via Swedana.ie the drugs like haridra which is usna virya, Jambeera which is amla rasa, usna virya there by sthanika vata kaphah shamana can be achieved.

Moreover By application of heat there will be increased circulation as well as Vasodilatation.

Mechanism of Vasodilatation:

Increased Body temperature Stimulates thermo receptors by which the Nerve impulses are transmitted to the preoptic area of the brain which in turn stimulates the heat loosing center and Dilation of blood vessels in the skin takes place. And as because of Radiation and conduction Waste products are removed there by Srotomukhavishodhana is achieved.

Nasaapana:

The mode of action of nasaapana can be understood by following concepts:

1) Absorption via nasal mucosa
2) Absorption via gut

1) Absorption via nasal mucosa:

Many nerve endings which are arranged in the peripheral surface of mucous membrane ie olfactory, trigeminal etc will be stimulated by Nasaapana dravya and impulses are transmitted to the central nervous system. This results in better

circulation and nourishment of the organs. Many drugs absorbed through the rich blood supply of the nasal mucosa enter the systemic circulation more rapidly than when they are administered orally.

Lukewarm kashaya was preferred to administer in this study as because sheeta kashaya, which creates irritation in nasal membranes and also exaggerate the gag reflex during administration (a normal reflex action caused by contraction of pharynx muscles when the posterior pharynx is touched) so there are chances of contents getting refluxed and entry into the wrong passage also.

Most of the drugs described for Nasaapana therapy have got katu, ushna and theekshna properties. These drugs produce draveekaranam and chhedanam of vitiated dosha. The kashaya rasatmaka drugs like bilwa, agnimantha, syonaka, patala, bala etc produce astringent effect while madhura rasatmaka drugs like shalaparni prisnaparni gokshura masha produce cooling and nourishing effect.

Role of yamaka sneha in Nasaapana Dravya:

Acharya chakradatta specifies to add taila and ghrita to the kashaya[129]. The specific quantity of this yamaka sneha is not mentioned. In the present study 10 drops each of mahamashataila and goghrita was added to the prepared kashaya.

Even though administration of the concentrated dravya in the form of kashaya is mentioned for nasaapana but still yamaka sneha is said to be mixed in the preparation. The reason behind this may be, as Nose is a highly vascular structure and its mucous membrane provides good absorbing surface. Hence, this yamaka sneha which contains lipids in it surpasses the blood-brain barrier easily because it easily allows lipid materials to pass through, and this yamaka sneha helps in the entry of kashaya drugs and helps in exerting their action. It provides nourishment to nasal

structures and other shirogata organs also just like that of nasya. The active principles of dashamoola may reach up to certain levels in the nervous system to exert their vataghna property as well as The active principles of bala masha exert their Brumhana action.

If the mode of action is similar to that of nasya then a question arises that why larger quantity of medicine is administered via nose which is a real practical difficulty and a question of patient's acceptance.

This can be interpreted as follows,

It has been said earlier that pranavata is also said to be involved in the pathogenesis of the disease avabahuka. Ie in order to nourish this pranavata we need to administer the dravya via nose, as the nose is the doorway to consciousness. Prana or energy of life enters the body through breath taken in through the nose. Nasal administration of medication helps to correct the disorders of pranavata affecting the higher cerebral, sensory and motor functions. So the mentioning of pibennasyam by chakradatta appears to be more scientific in this concept.

2) Absorption via gut:

In order to produce an effect, a drug must reach its target site in adequate concentration. This involves several processes embraced by the general term pharmacokinetics. In general, these processes are: (1) administration of the drug, (2) absorption from the site of administration into the bloodstream, (3) distribution to other parts of the body, including the target site.

An important step in all these processes is the movement of drug molecules through cellular barriers (eg, intestinal wall)

Phagocytosis is one more process where the absorptive cells engulf the material and exerts its action. After the dravya is administered into the gut, absorption is accomplished with the help of enterocytes (cells lining the gastrointestinal tract). The end products are absorbed mainly in the intestines through the villi. Each villus is connected to the circulatory and lymphatic systems. The dravyas are absorbed with the help of energy supplied by an enzyme and the sodium ion cofactor. Water-soluble nutrient drugs like dashamoola pass directly into the circulatory system, while fat-soluble materials like taila and ghrita pass through the lymphatic system before being transported by the blood. dashamoola are actively absorbed by the absorptive cells of the villi, which then go to the liver via the portal vein for metabolism. Here we need to take into consideration of yakrit which is a raktavaha sroto mula, and siras being upadhatu of rakta, the dravya when reaches yakrit does the poshana of sira there by helps in samprapti vighatana. And one more thing to be taken into consideration is the whole absorption process which takes place in the intestinal villi may also be taken as pakwashaya which is the main sthana of vata, as the general rule of pharmacokinetics when the drug reaches its target site it has to exert its action hence dashamoola does vatashamana, and bala, masha exerting brihmana effect. By this dual mode of action nasaapana surely helps better in resolving the samprapti of avabahuka.

Superiority over Nasya:

However, the major limitation with nasya is the poor contact of the formulations with the nasal mucosa. Many attempts have been made in the recent past to increase the residence time of drug formulations in the nasal cavity, resulting in improved nasal drug absorption. Researchers became interested in the nasal route for the systemic delivery of medication due to high degree of vascularization and permeability of the nasal mucosa. Hence in nasaapana when the kashaya in the larger

dose is poured continuously definitely has the more residence time of aoushadha dravya as compared to that of nasya. Thus better nasal drug absorption may take place.

Discussion of observation:

Age:

During the clinical study on "To Evaluate the efficacy of Nasya with Mahamasha taila and Nasaapana with Dashamoolibalamasha kwatha in the management of Avabahuka wsr to Frozen shoulder."

A maximum number of study subjects *i.e.* 33 (33.33%) subjects were of 41-50 years Age, 24 subjects (24.00%) were between 31-40 years, 23 subjects (23%) were between 51-60 years, 12 subjects (12%) were between 21-30 years. And 08 subjecst (08%) were between 61-70 years

This shows the high incidence in Madhyamavastha. This age is golden period for individuals where they are more active and are likely to develop avabahuka.

Sex:

A Maximum number of study subjects *i.e.* 61 males (61.00%) and 39 females (39%) were registered.

The incidence of avabahuka in males is more may be because of their physical involvement in activities of daily life when compared to females.

Religion:

A maximum number of subjects *i.e.* 79 subjects (79%) were Hindus and 21 subjects (21%) were muslims in the present study.

No specific conclusion can be drawn from this observation, as this can be a result of demographical factors.

Education:

A Maximum number of study subjects *i.e.* 32 were (32%) was Uneducated 25 subjects (25%) were Graduates, 22 subjects (22%) were educated up to Primary, 16 subjects (16%) were educated up to higher secondary,03 subjects (3%) were post graduates and 02 (2%) subjects were educated up to PUC.

On going through the above data we can say that the disease avabahuka is more in less educated people as this group is more involved in physical activities than the educated group. But however this cannot be considered as a hard conclusion.

Marital status:

A Maximum number of study subjects *i.e.* 84 (84%) were married, and 12 subjects (12%) were unmarried and 4 subjects were widow..

It may be a socio cultural pattern in our society which makes the married people to become more prone for this disease.

Socio-economic status:

A Maximum number of study subjects *i.e.* 43 subjects (43%) were of poor class, 34 subjects (34%) were of middle class and 21 subjects (21%) belonged to Rich class.

In our society the Middle and poor class people are more subjected to work when compared to affluent class.

Occupation:

A Maximum number of study subjects *i.e.* 25 subjects (25%) were House Wives, 19 Subjects (19%) belonged to weaver group, 14 subjects (14%) were

carpenters , 10 subjects (10.00%) were agriculturist , 08 subject (08%) were students 06 subject (06%) were business people , 04 subject (04%) were conductors and 03 subjects (03%) were employees.

Professionals having job with continuous standing are prone for avabahuka. Housewives are more exposed to household works, which are common causative factors. Agriculturists and Labours who do more labourious works are having a higher tendency.

Dietary habits:

A Maximum number of study subjects *i.e.* 57 subjects (57%) were taking mixed diet and 43 subjects (43%) were on vegetarian diet.

non vegetarians were found to be more affected the reason is consumption of vatakara ahara .

Chronicity wise

A Maximum number of study subjects *i.e.* 32 subjects (32%) were having chronicity of 1-2 years, 20 subjects (20%) were having chronicity of 2-3 years, 13 subjects (13%) were having chronicity of 4-5 years, 13 subjects (13%) were having chronicity of 1 year, 12 subjects (12%) were having chronicity of 3-4 years.

Involvement of the shoulder joint wise:

A Maximum number of study subjects *i.e.* 59 subjects (59%) had the lakshanas of avabahuka in the right Shoulder joint, and 41 subjects (41%) had the lakshanas of avabahuka in the left Shoulder joint.

The epidemiological data given by the rehabilitation council states that about 75 to 80% of the people are right handed hence it is natural that this part of the body is more prone.

Prakruti:

A Maximum number of study subjects *i.e.* 66 subjects (66%) were of Vata-kapha Prakruti, 24 subjects (24%) were of Vata-Pitta Prakruti, 10 subjects (10.00%) had Pitta-Kapha Prakruti.

It can be said that vatakaphaja prakriti persons develop the disease more, because of the similar dosha involvement in the disease.

Availability wise:

A Maximum number of study subjects *i.e.* 61 subjects (61%) were treated elsewhere and 39 study subject (39%) were fresh.

It can be said that people approach modern hospitals as priority for their pain and when they don't find promising results they approach ayurveda.

Sara:

A Maximum number of study subjects *i.e.* 51 subjects (51%) were of pravara sarataha, 25 study subjects (25%) were of Madhyama sara and 24 study subjects (24%) were of Avara saratah.

Samhanana:

A Maximum number of study subjects *i.e.* 43 subjects (43%) were of Susamhita, 35 study subjects *i.e.* (35%) were madhyama samhita and 22 study subjects *i.e.* (22%) were heena samhita.

Satwa:

A Maximum number of study subjects *i.e.* 45 subjects (45%) had Madhyama Satva, 29 subjects (29%) had Avara Satva, and 26 subjects (26%) were of Pravara Satva.

This data shows that persons with weak will power easily get affected with simple fluctuation in day to day life. And this can be a cause of vata prakopa.

Satmya:

A Maximum number of study subjects *i.e.* 47 subjects (47%) had pravara Satmya, 33 subjects (33%) had Madhyama Satmya, and 20 subjects (20%) were of Avara Satmya.

Abhyavarana

A Maximum number of study subjects *i.e.* 63 subjects (63%) had Madhyama Shakti, 29 subjects (29%) had Pravara Shakti, and 08 subjects (08%) were of Avara Shakti.

Malapravrti:

A Maximum number of study subjects *i.e.* 20 subjects (66.67%) were having Badha Mala and 10 subjects (33.33%) were having Prakruta Mala Pravritti.

As we know that pakwashaya has a major role in the evacuatory process and this pakwashaya is said to be the moola sthana of vata, hence due to malabaddhata, vata prakopa takes place which inturn affects the functioning of the dusya mentioned.

Jarana:

A Maximum number of study subjects *i.e.* 65 subjects (65%) were having to madhyama jarana shakti, 27 subjects (27%) were having Pravara jarana shakti, 08 subjects (08%) were ahaving Avara jarana shakti.

Vayataha

A Maximum number of study subjects *i.e.* 89 subjects (89%) were taruna age, 07 study subjects *i.e.* (07%) were Bala**,** 04 study subjects *i.e.* (04%) were Vruddha.

Vyayama Shakti:

A Maximum number of study subjects *i.e.* 47 subjects (47%) were having Madhyama Vyayama shakti, 42 subjects (42%) were having Pravara Vyayama shakti. and 11 subjects (11%) were having Avara Vyayama shakti.

Adyatana kalina vyayama shakti was considered and this was Because of the fear of pain which leads to disuse and hampering the vyayama shakti.

Pramana:

A Maximum number of study subjects *i.e.* 77 subjects (77%) were Supramanita, 17 study subjects *i.e.* (17%) were Heenapramanita, 06 subjects (06%) were Adhikapramanita.

Discussion on results:

The Effect of Therapies on Individual Signs and Symptoms:

Bahu praspanditahara:

Effect of therapy was statistically significant in group A. and was highly significant in group B. this is mainly caused by vyanavata and it is also the Karma of pranavata. This shows that nasaapana has excellent effect on motor function of upper extremity. This is achieved due to dual mode of action of nasaapana and its neuro musculo stimulatory effect.

Shoola:

Effect of therapies was statistically highly significant in both the groups. It is one of the symptoms of snayu gata vata as well as marmakshoba. Jambeera pinda swedana in combination with both the therapies pacifies amsa marmakshoba and helps in sthanika vata kaphah shamana.

Amsa sosha:

Effect of therapy was statistically Non significant in group A and was highly significant in group B. this is because of the bala and masha of nasaapana dravya exerting brihmana effect. And Masha,ksheera a potent dhatu vardhana dravyas.

Swelling:

Effect of therapies was statistically highly significant in both the groups. It is because of the Potentiators exerting Sothahara property.

Tenderness:

Effect of therapies was statistically highly significant in both the groups. Jambeera pinda sweda in combination with both the therapies pacifies sthanika vata kapha.

Restriction of Forward flexion:

Effect of therapies was statistically highly significant in both the groups. The vasodilatory effect of jambeera pinda sweda which relieves siffness would be the main reason.

Restriction of Hyper Extension, Abduction, Internal rotation, and External rotation:

Effect of therapy was statistically significant in group A. and was highly significant in group B. This shows that nasaapana has excellent effect on motor function. This is achieved due to dual mode of action of nasaapana and its neuro musculo stimulatory effect, as well as absorption of nasaapana dravya via raktavaha srotas and its stimulatory effect over siras.

Comparison of Effect of Therapies:

Out of 100 subjects 50 subjects completed their treatment with Nasya Karma and 50 subjects with Nasaapana Karma.

The effect of therapies, in these two groups on the various parameters is as follows.

Bahu praspanditahara:

Nasya Karma showed 20.58% result and Nasaapana showed 80.48% result in Bahu praspanditahara. Significant result was seen in group A with‘t’ value 2.82 and highly significant result was seen in group B with‘t’ value 12.60. In this way the effect of Nasaapana is better than Nasya.

Shoola:

Nasya Karma showed 61.29% result and Nasaapana showed 94.59% result in Shoola. Highly Significant result was seen in both groups with‘t’ value 10.71 in group A and ‘t’ value 14.64 in group B. In this way the effect of Nasaapana is better than Nasya.

Amsa sosha:

Nasya Karma showed 40% result and Nasaapana showed 64.28% result in Amsa sosha. InSignificant result was seen in group A with‘t’ value 1.46 and highly significant result was seen in group B with‘t’ value 3.15. In this way the effect of Nasaapana is better than Nasya.

Swelling:

Nasya Karma showed 93.33% result and Nasaapana showed 90.90% result in Swelling**.** highly Significant result was seen in both groups with ‘t’ value 4.09 in

group A and 't' value 3.16 in group B. In this way the effect of Nasya Karma is better than Nasaapana.

Tenderness:

Nasya Karma showed 84.61% result and Nasaapana showed 90.90% result in Bahu Tenderness. Highly Significant result was seen in both groups with't' value 4.78 in group A and 't' value 3.56 in group B. In this way the effect of Nasaapana is better than Nasya.

Restriction of Forward flexion:

Nasya Karma showed 26.66% result and Nasaapana showed 91.30% result in Restriction of Forward flexion. Highly Significant result was seen in both groups with't' value 5.52 in group A and 't' value 14 in group B. In this way the effect of Nasaapana is better than Nasya.

Restriction of Hyper Extension:

Nasya Karma showed 20% result and Nasaapana showed 84.21% result in Restriction of Hyper Extension. Significant result was seen in group A with 't' value 2.77and highly significant result was seen in group B with't' value 9.02. In this way the effect of Nasaapana is better than Nasya.

Restriction of Abduction:

Nasya Karma showed 23.07% result and Nasaapana showed 85.71% result in Restriction of Abduction. Significant result was seen in group A with 't' value 2.80 and highly significant result was seen in group B with 't' value 10.21. In this way the effect of Nasaapana is better than Nasya.

Restriction Internal rotation:

Nasya Karma showed 81.81% result and Nasaapana showed 85.71% result in Restriction Internal rotation. Significant result was seen in group A with‘t’ value 2.80 and highly significant result was seen in group B with‘t’ value 4. In this way the effect of Nasaapana is better than Nasya.

Restriction of External rotation:

Nasya Karma showed 28.57% result and Nasaapana showed 91.17% result in Restriction of External rotation. Significant result was seen in group A with‘t’ value 2.77 and highly significant result was seen in group B with‘t’ value 11.37. In this way the effect of Nasaapana is better than Nasya.

CONCLUSION

In the present clinical trial depending upon the conceptual analysis and observations, following conclusions were drawn.

- The disease is named after the site of illness as well as clinical presentation.
- Avabahuka mostly affects the individuals with the age between 40 to 70 years.
- Morbidity of vyana vayu is the prime pathology of the avabahuka. This morbidity can happen either due to dhatukshaya or kapha avarana.
- Prakupita vata invariably involves the siras, snayus, kandaras, at the amsa pradesha.
- Amsa Shosha may manifest during the later course of the illness.
- Strenuous physical work and direct Marmabhigata are the predisposing factors in the manifestation of the disease.
- The combined effect of jambeera pinda sweda and nasya pacify the Vataprakopa due to its Snehana and brimhana qualities.
- The combined effect of jambeera pinda sweda and nasaapana helps in relieving the disease more drastically without reoccurance. Even in patients with long standing madhumeha.
- Nasya Karma was significant in relieving most of the symptoms whereas Nasaapana provided highly significant results in relieving all most all the symptoms of avabahuka.
- In present study as per the clinical data, Nasya and Nasaapana are definitely effective in the management of avabahuka, but 'Nasaapana was more effective than Nasya Karma.

- Thus, this dissertation work is presented with the trust that the observations and results may strengthen the scope of further research advancement in this aspect of Ayurvedic medicine, for the betterment of mankind.

SUMMARY

The present study **"To Evaluate the efficacy of Nasya with Mahamasha taila and Nasaapana with Dashamoolibalamasha kwatha in the management of Avabahuka wsr to Frozen shoulder."** highlights both the conceptual and practical aspects of Avabahuka [Frozen shoulder] in Ayurvedic and Modern perspective. This Dissertation work consists of 3 parts.

Part - 1

Consists of Introduction, Previous Works done, Objectives of the study, Review of Literature (Both Ayurvedic and Modern).

Part - 2

Consists of Methodology (Materials and Methods).

Part - 3

Consists of Observations and Results, Discussion**,** Conclusion**,** Summary, Bibliography and Annexure.

The present clinical study begins with introductory part about Avabahuka [Frozen shoulder] in Ayurvedic and modern medicine. A Brief idea about benefits of Ayurvedic management in Avabahuka is also told. Then describes about the previous works done in the recent past related to Avabahuka [Frozen shoulder] and objectives of the study are discussed.

The literary study begins with the historical review of Avabahuka from the Vedic period down to the Samhita kala till Adhunika Kala. Later Nirukti, Paribhasha of Avabahuka are explained. Pancha Lakshana Nidana are dealt in detail along with Samprapti Ghataka and Pathyapathaya. Detail explanations of Frozen shoulder, treatment etc are dealt in the modern review.

The methodology consists of two parts; Materials and Methods. The description about the drugs for the trial viz. Panchakola Churna, Jambeera pinda sweda, Nasya with Mahamasha taila. Nasaapana with dashamoola bala masha kwath.

The section of methods includes the study design, sample size, criteria of inclusion and exclusion, investigations, subjective, objective assessment criteria and their gradations and the statistical tests used to interpret the results.

The observations made were recorded in specially designed case papers and calculations were done. Thus obtained result was analyzed statistically with student `t` test. The observations and results made in the clinical study were discussed as follows.

Avabahuka [Frozen shoulder] is one of the commonest presentations faced in day to day practice. It is a major problem, affecting the amsa moola and exhibiting the symptoms in bahu. It is often said that 'the pain is often severe enough to disturb the sleep'.

Discussion deals with probable reasons of Avabahuka, review of literature, selection of drugs, mode of action of treatments, reasons behind obtained observations and results.

The total effect of the study and suggestions are dealt in the conclusion.

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INTRODUCTION

OBJECTIVES OF THE STUDY

PREVIOUS WORKS DONE

REVIEW OF LITERATURE

MATERIALS AND METHODS

OBSERVATIONS AND RESULTS


Frozen Shoulder (Adhesive Capsulitis)
Acromion
AC joint
Clavicle
Shoulder capsule
Scapula
Glenohumeral joint
Humerus
The buildup of scar tissue restricts movement inside the joint, resulting in pain and severely limiting motion.
SMI

DISCUSSION


Frozen Shoulder (Adhesive Capsulitis)
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SMI

CONCLUSION

SUMMARY

""To Evaluate the efficacy of Nasya with Mahamasha taila and Nasaapana with Dashamoolibalamasha kwatha in the management of Avabahuka wsr to Frozen shoulder."

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Glenohumeral joint
Humerus
The buildup of scar tissue restricts movement inside the joint, resulting in pain and severely limiting motion.
SMI

ANNEXURE