



Research Article

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EFFECT OF ASHWAGANDHA GHRITA MATRABASTI ON KNEE OSTEO ARTHRITIS OF ELDERLY POPULATION

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ABSTRACT

Whole world is witnessing a surge in the elderly population. The people of geriatric age group are vulnerable to many ailments. Degenerative changes are accounted as a primary cause for disease of senility. Osteoarthritis vis-a-vis Sandhigata vata is a common manifestation presenting with pain and stiffness in affected joints. Knee joint suffers most as it bears maximum load of body weight. Time honored Ayurveda has proposed many novel therapies to combat aging and age related problems. Matrabasti, a type of Snehabasti; is a therapy indicated safe in all age group. It is a very unique therapeutic procedure because of its preventive, promotive, rejuvenative, curative properties. It is applicable in all Vatavyadhis including sandhigata vata (Osteoarthritis). In this background 30 patients belonging to 60-75 age group were recruited to evaluate the effect of Ahwagandha Ghrita Matrabasti in the dose of 60ml for 9 days. Follow up period was fixed for 18 days. The Western Ontario and Mac-master Osteoarthritis Index (WOMAC) was used as assessment parameter. WOMAC scale was used to assess pain, stiffness and difficulty in performing routine functions. The study showed statistically significant improvement on all three factors. Matrabasti with Ashwagandha ghrita curbs the pain, stiffness and discomfort in routine activity, in the patients of knee osteo arthritis belonging to geriatric age group.

Key words: Sandhigata Vata, Knee Osteoarthritis, Matrabasti, Ashwagandha Ghrita,

INTRODUCTION

Jara (senility) is the stage of the life where vata is in the dominant state and Rasadi saptadhatu (body tissue) are in deprived state. This potent combination is responsible for many vatavikaras¹. Among them Sandhigatvata (Osteoarthritis) is commonest one, especially Knee Osteoarthritis.

Advancing age in an adult is associated with several degenerative changes in the body. Osteoarthritis is the most common form of degenerative joint disorder. It is ranked one

among top few diseases branded by WHO as 'Global disease burden'. 80% of old age people have radiological evidence of Osteoarthritis, though 25-30% is symptomatic. Knee Osteoarthritis is the leading cause of disability in developed countries.

Ancient scholars have stated that the Basti treatment is the best amongst Panchakarma as it serves manifold purposes. Basti is good in all conditions like in Vata, Pitta, Kapha, Rakta, Samsargaja, and Sannipataja Vyadhis². In view of the above, it is no exaggeration to say, Basti constitutes half of the treatment; it

is the complete treatment as per some scholars.

Matrabasti is a type of Snehabasti; it is a very unique therapeutic procedure because of its preventive, promotive, rejuvenative, curative properties. It is applicable in all Vatavyadhis. Matrabasti is most indicated procedure in elderly owing to its balya, Vatahara, and alpagnisandhukshana properties³.

MATERIALS AND METHODS

Aim: To evaluate the role of Matrabasti in Janusandhigatavata (knee osteoarthritis)

It was a single centre, open label, observational clinical study with pre and post test assessment. The study protocol was approved by the institutional ethics committee and ethical clearance for the trial was taken. 30 patients of either sex diagnosed as Janusandhigatavata were selected incidentally from the out patient and in patient units of Govt. Ayurveda Medical College Hospital, Mysore. EC No: AS-GAMC[03]/2010-11 dated 26-4-2011

Inclusion Criteria

1. The subjects coming under diagnostic criteria
2. The subjects of either sex between the age group 60-75 years.
3. Patients diagnosed as primary Knee Osteoarthritis (Sandhigata vata).
4. Patients fit for Matrabasti.

Exclusion Criteria

1. Patients with secondary Knee Osteoarthritis.
2. Patient's having other systemic disorders which may interfere with the course of the disease and its management.
3. Patients who are incapacitated, bedridden and confined to wheel chair.

Diagnostic Criteria: Shoola, Shotha, Atopa, Vatapurna dhruti sparsha, Prasarana aakunchanayo vedana⁴, X-ray: Knee Joint AP and Lateral view were considered for diagnosis.

Intervention

1. Haritaki (*Terminalia chebula*) churna in appropriate doses for Anulomana.
2. Abhyanga (Udara, Kati and Janusandhi) by Ksheerabala taila followed by Nadisweda before each basti.
3. Ashwagandha⁵ ghrita Matrabasti, in a dose of 60ml was administered by rectal route after a light food.

The duration of the treatment was 9 days which was followed by a follow up period of 18 days.

Drugs: Ashwagandha ghrita was purchased from Sri Dharmasthala Manjunatheshwara Ayurveda Pharmacy, Kuthpady, Udupi. Ksheerabala taila was taken from Govt. Ayurveda Medical College Hospital, Mysore. Haritaki churna was purchased from Dhanawantari Ayurvedic Medical, Kabir Road, Mysore.

Table 1: Questions⁷ in WOMAC scale

Pain	Stiffness	Level of difficulty in performing the following functions		
1. Walking	1. Morning stiffness	1. Descending stairs	7. Getting in and out of a car	13. Getting in and out of bath
2. Stair climbing	2. Stiffness occurring during the day	2. Ascending stairs	8. Going shopping	14. Sitting
3. Nocturnal		3. Rising from sitting	9. Putting on socks	15. Getting on and off toilet
4. Rest		4. Standing	10. Rising from bed	16. Heavy domestic duties
5. Weight bearing		5. Bending to the floor	11. Taking off socks	17. Light domestic duties
		6. Walking on flat	12. Lying in bed	

The WOMAC grading is; 0=None, 1=Slight, 2=Moderate, 3=Severe, 4=Extreme.

Assessment Criteria: WOMAC scale.

The results were assigned on the basis of WOMAC Osteoarthritis index.

The Western Ontario and Mac-master Osteoarthritis Index⁶

(WOMAC) is a disease specific, self-administered health status measure. It probes clinically important symptoms in the area of pain, stiffness and physical function in patients with osteoarthritis of the hip or knee. The index consists of 24

questions (5- pains, 2 -stiffness and 17 -physical functions) and can be completed in short duration. WOMAC is a valid, reliable and sensitive instrument for the detection of clinically important changes in health status following a variety of interventions, pharmacologic, surgical etc. Individual question responses are assigned a score between 0 (None) to 4 (Extreme). Individual question scores are then summed to form a raw score ranging from 0(best) to 96 (worst).

In the assessment of Level of difficulty, for practical purpose question 7, 8, 9, 11 were not considered as these are not applicable most of Indians. Question 10 and 12 were clubbed and question 16 was not considered as the selected subjects belong to elderly age group. Data were collected before treatment (BT), after treatment (AT) and after the follow up (AFU).

RESULTS AND DISCUSSION

In the present study, maximum numbers of patients were of age Group 60-65 years (50.0%) followed by 65-70 years age Group (26.7 %). Majority of the patients were of male (60%). In this study it was observed that majority of the patients were housewives i.e. 12 (40.0%) followed by labor 11(36.7%) and business were 7 (23.3%). Patients from rural area were more i.e., 19 (63.3%) and patients belonging to urban area were 11 (36.7%). It was found that 16 patients had the chronicity up to 5yrs, followed by 10 patients had chronicity 6-10 yrs and 4 patients had chronicity for more than 10 years.

Pain: Among 5 questions pertaining to pain, highly significant improvement was seen in 2 questions (walking on flat surface and climbing the stairs), statistically significant improvement in 2 questions (nocturnal and pain at rest) and result was not significant in one question (weight bearing). Shown in table 2. The mean overall score of pain was 8.5 ± 1.9 which reduced to 6.5 ± 1.8 after the treatment and after the follow up it was 6.2 ± 1.4 . The result of treatment on Pain parameter showed highly significant improvement.

Stiffness: It was seen that the result of treatment in morning stiffness showed highly significant improvement whereas day time stiffness remained unchanged. Shown in table 3. The mean overall score of stiffness was 2.7 ± 0.9 which reduced to 2 ± 0.7 after the treatment and after the follow up it was 2 ± 0.9 . The result of treatment on Stiffness parameter showed highly significant improvement.

Level of Difficulty in Performing Various Functions: Highly

significant result was seen in ascending the steps. No improvement in level of difficulty in descending the steps, standing and getting in/out of bed. In remaining all questions, the change was statistically significant. Shown in table 4. Whereas, the mean overall score of level of difficulty before the treatment was 19.9 ± 3.8 which reduced to 16.2 ± 3.6 after the treatment and after the follow up it was 16.8 ± 3.2 . The result of treatment on this parameter too was highly significant.

Matrabasti in Janusandhigatavata: Snehana (therapy that uses medicated oils and fats) is the first line of treatment explained in the classics for Sandhigatavata. Matrabasti Snehana alleviates vata, nourishes Asthi and Majja dhatu acts as Brumhana and Rasayana⁸. Moreover, brumhana basti is has been shown effective in knee osteoarthritis.⁹

Probable mode of action of the intervention: Haritaki churna does Deepana, Pachana, and Vatanulomana¹⁰; by these properties it helps in purification of Srotas (body channels) by which sneha (medicated fat) can spread easily through cleaned Srotas and finally better absorption of sneha takes place.

In Janusandhigatavata Rikta Srotas (Snehadigunashoonya) is present apart from this Shleshaka Kaphakshaya (lack of synovial fluid) is also quite evident. Ksheera (milk) and Balamula (*Sida cardifolia*) are having qualities like, Madhurarasa (sweet taste), Sheetaveerya (cold potency) and Balya (strength promotive). Bala (*Sida cardifolia*) is Vadanasthapaka (analgesic) and Kaphavardhaka. Tila taila (sesame oil) is Ushna in Veerya (hot potency), Tikshna in Guna, and Madhura in Vipaka. Abhyanga (oil massage) is Vatahara. So in Janusandhigatavata sthanika (local) abhyanga with Kseerabalataila is helpful in alleviating Shula (pain) by controlling vata and helps to increase the Kapha bhavas and it does Dhatuposhana (nourishes the tissues) also.

The drug Ashwagandha (*Withania somnifera*), a well-known Rasayana drug, because of its Ushna (hot), Snigdha (unctious), Laghu (light) property, and Ushna Virya subsides Vata and Kapha and causes Agnideepana¹¹. As a result of this, the nutrients / essence reach the Dhatus traversing through the minute Srotas. Thus, it helps in subsiding Vata dominant in old age causing Vayasthapana (delays the senility) enabling the essence reach all Dhatus. Even, pharmacologically its antistress, anabolic, antidepressant, antioxidant and immunomodulating properties have been reported.

Table 2: Result on Pain

Sl No	Pain		None	Mild	Moderate	Severe	Extreme
1	Walking on flat surface	BT	0(.0%)	8(26.7%)	21(70.0%)	1(3.3%)	0(.0%)
		AT	0(.0%)	22(73.3%)	8(26.7%)	0.0%	0(.0%)
		AFU	0(.0%)	24(80.0%)	6(20.0%)	0.0%	0(.0%)
2	Going up and down stairs	BT	0(.0%)	0(.0%)	8(26.7%)	20(66.7%)	2(6.7%)
		AT	0(.0%)	2(6.7%)	23(76.7%)	5(16.7%)	0(.0%)
		AFU	0(.0%)	2 (6.7%)	23(76.7%)	5(16.7%)	0(.0%)
3	At night while in bed	BT	0(.0%)	13(43.3%)	16(53.3%)	1(3.3%)	0(.0%)
		AT	0(.0%)	24(80.0%)	6(20.0%)	0(.0%)	0(.0%)
		AFU	0(.0%)	26(86.7%)	4(13.3%)	0(.0%)	0(.0%)
4	Rest	BT	2(6.7%)	23(76.7%)	5(16.7%)	0(.0%)	0(.0%)
		AT	7(23.3%)	23(76.7%)	0(.0%)	0(.0%)	0(.0%)
		AFU	7(23.3%)	23(76.7%)	0(.0%)	0(.0%)	0(.0%)
5	Weight bearing	BT	0(.0%)	21(70.0%)	9(30.0%)	0(.0%)	0(.0%)
		AT	2(6.7%)	21(70.0%)	7(23.3%)	0(.0%)	0(.0%)
		AFU	3(10.0%)	22(73.3%)	5(16.7%)	0(.0%)	0(.0%)

Table 3: Result on Stiffness

Sl No	Stiffness		None	Mild	Moderate	Severe	Extreme
1	Morning	BT	0(.0%)	6(20.0%)	24(80.0%)	0(.0%)	0(.0%)
		AT	0(.0%)	21(70.0%)	9(30.0%)	0.0%	0(.0%)
		AFU	0(.0%)	16(53.3%)	14(46.7%)	0.0%	0(.0%)
2	During the day	BT	6 (20.0%)	21(70.0%)	3(10.0%)	0(.0%)	0(.0%)
		AT	10(33.3%)	20(66.7%)	0(.0%)	0(.0%)	0(.0%)
		AFU	12(40.0%)	18(60.0%)	0(.0%)	0(.0%)	0(.0%)

Table 4: Result on Difficulty

Sl No	Difficulty in		None	Mild	Moderate	Severe	Extreme
1	Ascending stairs	BT	0(.0%)	0(.0%)	11(36.7%)	19(63.3%)	0(.0%)
		AT	0(.0%)	2(6.7%)	23(76.7%)	5(16.7%)	0(.0%)
		AFU	0(.0%)	4(13.3%)	20(66.7%)	6(20.0%)	0(.0%)
2	Descending stairs	BT	0(.0%)	0(.0%)	9(30.0%)	20(66.7%)	1(3.3%)
		AT	0(.0%)	1(3.3%)	16(53.3%)	13(43.3%)	0(.0%)
		AFU	0(.0%)	1(3.3%)	12(40.0%)	17(56.7%)	0(.0%)
3	Rising from sitting	BT	0(.0%)	5(16.7%)	24(80.0%)	1(3.3%)	0(.0%)
		AT	0(.0%)	18(60.0%)	12(40.0%)	0(.0%)	0(.0%)
		AFU	0(.0%)	13(43.3%)	17(56.7%)	0(.0%)	0(.0%)
4	Rest	BT	2(6.7%)	23(76.7%)	5(16.7%)	0(.0%)	0(.0%)
		AT	7(23.3%)	23(76.7%)	0(.0%)	0(.0%)	0(.0%)

		AFU	7(23.3%)	23(76.7%)	0(.0%)	0(.0%)	0(.0%)
5	Standing	BT	1(3.3%)	21(70.0%)	8(26.7%)	0(.0%)	0(.0%)
		AT	2(6.7%)	24(80.0%)	4(13.3%)	0(.0%)	0(.0%)
		AFU	2(6.7%)	26(86.7%)	2(6.7%)	0(.0%)	0(.0%)
6	Sitting	BT	5(16.7%)	25(83.3%)	0(.0%)	0(.0%)	0(.0%)
		AT	15(50.0%)	15(50.0%)	0(.0%)	0(.0%)	0(.0%)
		AFU	12(40.0%)	18(60.0%)	0(.0%)	0(.0%)	0(.0%)
7	Bending to the floor	BT	0(.0%)	14(46.7%)	16(53.3%)	0(.0%)	0(.0%)
		AT	0(.0%)	23(76.7%)	7(23.3%)	0(.0%)	0(.0%)
		AFU	0(.0%)	20(66.7%)	10(33.3%)	0(.0%)	0(.0%)
8	Walking on flat surface	BT	0(.0%)	16(53.3%)	14(46.7%)	0(.0%)	0(.0%)
		AT	0(.0%)	21(70.0%)	9(30.0%)	0(.0%)	0(.0%)
		AFU	0(.0%)	26(86.7%)	4(13.3%)	0(.0%)	0(.0%)
9	Getting in / out of bed	BT	0(.0%)	23(76.7%)	7(23.3%)	0(.0%)	0(.0%)
		AT	1(3.3%)	23(76.7%)	6(20.0%)	0(.0%)	0(.0%)
		AFU	0(.0%)	22(73.3%)	8(26.7%)	0(.0%)	0(.0%)
10	Getting in / out of toilet	BT	0(.0%)	10(33.3%)	17(56.7%)	3(10.0%)	0(.0%)
		AT	1(3.3%)	20(66.7%)	9 (30.0%)	0(.0%)	0(.0%)
		AFU	2(6.7%)	15(50.0%)	13(43.3%)	0(.0%)	0(.0%)
11	Getting in / out of bath	BT	0(.0%)	6(20.0%)	24(80.0%)	3(10.0%)	0(.0%)
		AT	0(.0%)	15(50.0%)	15(50.0%)	0(.0%)	0(.0%)
		AFU	0(.0%)	10(33.3%)	20(66.7%)	0(.0%)	0(.0%)
12	Light domestic duties	BT	0(.0%)	8(26.7%)	20(66.7%)	2(6.7%)	0(.0%)
		AT	1(3.3%)	19(63.3%)	10(33.3%)	0(.0%)	0(.0%)
		AFU	0(.0%)	16(53.3%)	14(46.7%)	0(.0%)	0(.0%)

CONCLUSION

Matrabasti with Ashwangandha Ghrita in the dose of 60ml per day for 9 days showed significant improvement on all three parameters tested by WOMAC scale. Matrabasti is a safe and effective management alternative for the elderly subjects suffering from Knee Osteo arthritis.

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