



## Research Article

### EFFECT OF MADHUGHRITA YAPANAVASTHI IN TREATMENT OF LUMBAR SPONDYLOSIS

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#### ABSTRACT

Lumbar spondylosis, a degenerative condition of lumbar spine is affecting majority of adults presently. The treatment options available nowadays are diverse and often undependable ensuing rising costs and variability in management throughout the country. It may be considered as *Kateegraha* owing to the grasping pain or stiffness in the *Katee Pradesha*. *Katee* is one of the *Vatasthanas* and pain/stiffness is caused by *Vata*, hence *Kateegraha* may be considered as *Vatavyadhi*. *Vasthi* therapy is the *Agyachikitsa* for *Vata Dosh* which can be done here. *Madhughrita Yapanavasthi* is *Vatahara*, *Brumhana* and *Trikaprishta Soolahara*. It would be especially good in degenerative conditions associated with pain affecting *Trika* region like Lumbar spondylosis. The study design was of interventional type. Twenty patients, satisfying the selection criteria were selected from the OPD of Govt. Ayurveda College *Panchakarma* Hospital, Thiruvananthapuram. They were given *Deepana Pachana* first, and then *Snehaweda* and finally *Madhughrita Yapanavasthi* for 8 days while the follow up period were for 16 days. The assessment was done before treatment, after treatment and after follow up. Changes in the following variables- pain, stiffness, tenderness, range of movements and muscle strength were analyzed. For all variables except the muscle strength p value were statistically significant at the level of 0.001. The p value for Muscle strength was significant at the level of 0.05 for after treatment - after follow up comparison. And it was significant at the level of 0.01 for before treatment - after follow up comparison. *Madhughrita Yapanavasthi* is thus effective in managing Lumbar spondylosis.

**KEYWORDS:** *Madhughrita Yapanavasthi*, Lumbar Spondylosis, *Kateegraham*

#### INTRODUCTION

Low back pain affects most of the adults during some point in their lifetime. Luckily for many persons, the symptoms are minor and transitory, with much of it subsiding soon. Chronic low back pain, defined as pain symptoms persisting beyond three months, affects an estimated 15–45% of the population. [1] If more risky diagnoses like cancer and fracture have been dismissed, the sources of low back pain remain extensive which also includes the realm of degenerative changes within the axial spine. And Lumbar spondylosis may be applied non-specifically to any and all degenerative conditions affecting the disks, vertebral bodies, and/or associated joints of the lumbar spine. Spondylosis refers to degenerative changes in the spine such as bone spurs and degenerating intervertebral discs. Internationally, lumbar spondylosis can begin in persons as young as 20 years. It increases with, and perhaps is an inevitable concomitant of, age. Approximately 84% of men and 74% of women have vertebral osteophytes, most frequently at T9-10 and L3 levels. [2] Lumbar spondylosis affects the life and productivity of the individual in a negative manner. Mostly this condition is managed conservatively nowadays. Even though the prevalence of low back pain is more within our country, the treatment options are sundry and inconsistent, thereby increasing the costs and unevenness in its management.

This highlights the importance of an efficient therapeutic intervention for the same. *Vasthi* therapy is the *Agyachikitsa* for *Vatadosha* which predominates in all the above mentioned conditions of Lumbar spondylosis. *Vasthi* is also described as *Ardhachikitsa* i.e., equivalent to half of a whole *Chikitsa*. [3] By the descriptions of *Madhughrita Yapanavasthi* in *C.S.Siddhi*, we can understand that it is *Brumhana* and *Trikaprishta Soolaharam*. [4] This particular *Vasthi* which consists of drugs which are *Vatahara* would be especially good in degenerative conditions associated with pain affecting *Trika* region like Lumbar spondylosis. This *Vasthi* is being successfully utilized in the management of Lumbar spondylosis and a clinical evaluation of the same is essential to showcase and justify its efficacy and provide an insight to its probable mode of action.

This study is an attempt to bring *Vasthi* therapy into the mainstream treatment protocol in such conditions. Since it is a *Yapana Vasthi* it can also produce effects of *Rasayana* which are beneficial for the patient. The patient may feel decreased signs and symptoms and thereby can increase his/her quality of life. The objective of the study is to assess the Effect of *Madhughrita Yapanavasthi* in Treatment of Lumbar spondylosis.

#### MATERIALS AND METHODS

The study was carried out at Government Ayurveda College *Panchakarma* Hospital, Poojappura,

Thiruvananthapuram. Patients of both sex diagnosed with Lumbar spondylosis between the age limit of 40-70 years were taken as study population. The study was designed as an Interventional study with pre post test without a control group. The following was considered for including and excluding patients from the study.

#### Inclusion criteria

Patients diagnosed clinically with signs and symptoms of Lumbar spondylosis and having radiological changes suggestive of the disease. These are:

1. Back or buttock pain. Pain that runs from the lower back down one or both legs.
2. Numbness or weakness in one or both legs.
3. Difficulty walking.
4. Leg, back, or buttock pain that gets worse when you bend over or twist.
5. Loss of bladder or bowel control, in rare cases.
6. X ray findings include decrease in the disc space, bony spur formation at the upper or lower portions of the vertebrae, and calcium deposition where the

vertebrae have been affected by degenerative inflammation.

#### Exclusion criteria

Diagnosed case of low back pain due to

1. Congenital anomaly
2. Malignancy or neoplastic infiltration.
3. Fracture
4. Ankylosing spondylitis
5. Patients not cooperating with the study
6. Patients contraindicated for *Vasthi*
7. Structural deformities related to spine and hip like Kyphosis, Scoliosis etc.

Twenty consecutive patients satisfying the inclusion criteria and sample size were selected for study from the OPD of Govt. Ayurveda College *Panchakarma* Hospital, Thiruvananthapuram after getting their consent. It was an Interventional Study, pre posttest without control group. Relevant semi structured questionnaire, clinical proforma, Goniometry and Visual analogue scale were taken as study tools. The interventional procedures which were done are given in a table format below:

**Table 1: Interventional Procedures**

No	Intervention	Days	Drug
1.	<i>Deepana</i>	3-5	1. <i>Gandharvahastadi Kashaya</i> (90 ml twice daily at 7 am and 7 pm before food) 2. <i>Vaishwanara Choorna</i> (5 gm bd with 100ml of hot water at 8.30 am and 8.30 pm)
2.	<i>Rookshana</i> (along with <i>Deepana</i> )	3-5	<i>Choorna Pindasweda</i> with <i>Kolakulathadi Choornam</i> as per standard procedure.
3.	<i>Abyangam &amp; Avagahasweda</i>	7	Whole body <i>Abyanga</i> with <i>Sahacharadi Taila</i> as per standard procedure and <i>Avagahasweda</i>
4.	<i>Madhughrita Yapanavasthi</i>	8	<b>Route of administration</b> – Rectal <b>Time of administration</b> – The time is generally in between 9.30 am – 11am, when patient is not having much appetite.

#### Ingredients and dose of *Madhughritayapana vasthi*<sup>[4]</sup>

1. *Makshikam* - 2 *Prasritam* -192ml
2. *Lavanam* - ½ *Aksham* -6gm
3. *Ghritam* - 2 *Prasritam* -192ml
4. *Kalkam(Musta)* - 1 *Aksham* -12gm
5. *Mamsarasa* - 4 *Prasritam* -384ml

Total = 8.083 *Prasritam* = 786 ml

The maximum duration of intervention was decided to be of 25 days. Primary data was collected by interview, observation and lab investigations. The data related to each patient was collected by recording his or her case history as per relevant case proforma. The patients were examined thoroughly and both subjective and objective parameters were recorded. Laboratory investigation including examination of blood for Hb, ESR, lipid profile, RA Factor and ASO was done. The following data were collected: Demographic data, Data related to Lumbar spondylosis and its clinical findings and Data related to response to treatment. Changes in the score value of the following variables- pain, stiffness, tenderness, range of movements, muscle strength were noted down for assessment. For statistical analysis; before and after comparison of pain, tenderness, stiffness, muscle strength

was done using Wilcoxon Signed rank test. Range of movements was evaluated using paired t test. For data analysis SPSS software was utilized.

#### Observation and Assessment methods:

Patients were assessed at different stages based upon the following assessment criteria's.

##### 1. Pain

The method used for pain assessment was Visual Analogue Scale (VAS). In this, a scale of 10 cm was drawn on a paper and the patient was instructed to mark against the reading related to his or her pain severity before treatment, which was considered to be the initial pain scale reading. The same procedure was repeated after treatment and after follow up. The scores of visual analogue scale were graded as follows:

- 0 = None
- 1-3 = Mild
- 4-6 = Moderate
- 7-10 = Severe

##### 2. Tenderness

The tenderness was graded as follows:

- Grade 0 - No tenderness

- Grade 1 - Joint tender
- Grade 2 - Winces with pain
- Grade 3 - Winces and withdraws affected part
- Grade 4 - Does not allow touching

**3. Stiffness**

Stiffness was graded as follows:

- Grade 0 - No stiffness
- Grade 1 - Trivial stiffness
- Grade 2 - Mild stiffness
- Grade 3 - Moderate stiffness
- Grade 4 - Severe stiffness

**4. Muscle strength**

- Grade 1 - Flicker of movement
- Grade 2 - Through full range actively with gravity counterbalanced
- Grade 3 - Through full range actively against gravity
- Grade 4 - Through full range actively against some resistance
- Grade 5 - Through full range actively against strong resistance

**5. Range of movements of Lumbar spine**

The range of movements was measured with goniometry and recorded accordingly for each movement.

**Table 2: Assessment of range of lumbar movements (in degrees)**

	Angle (BT)	Angle (AT)	Angle (AF)
Flexion			
Extension			
Right Lateral Bending			
Left lateral Bending			
Rotation Right			
Rotation Left			

**RESULTS AND DISCUSSION**

The relevant statistical changes observed for the patients under different variables are listed in the tables below.

**Table 3: Effectiveness of treatment on pain at different stages**

Pain	BT		AT		AF	
	N	%	N	%	N	%
Severe	5	25.0	0	0	0	0
Moderate	15	75.0	6	30.0	0	0
Mild	0	0	14	70.0	5	25.0
No	0	0	0	0	15	75.0
Total	20	100.0	20	100.0	20	100.0

**Table 4: Paired comparison of pain at different stages**

Paired comparison of Pain	Wilcoxon signed rank test	
	Z	P
BT-AT	4.359***	<0.001
AT-AF	4.379***	<0.001
BT-AF	4.472***	<0.001

\*\*\* - Significant at 0.001 level

**Table 5: Effectiveness of treatment on tenderness at different stages**

Tenderness	BT		AT		AF	
	N	%	N	%	N	%
No tenderness (Grade 0)	0	0	0	0	13	65.0
Tender joint (Grade 1)	0	0	13	65.0	7	35.0
Winces with pain (Grade 2)	0	0	4	20.0	0	0
Winces and withdraws (Grade 3)	16	80.0	3	15.0	0	0
Do not allow to touch (Grade 4)	4	20.0	0	0.0	0	0
Total	20	100.0	20	100.0	20	100.0

**Table 6: Paired comparison of tenderness at different stages**

Paired comparison	Wilcoxon signed rank test	
	Z	P
BT-AT	4.042***	<0.001
AT-AF	4.234***	<0.001
BT-AF	4.130***	<0.001

\*\*\* - Significant at 0.001 level

**Table 7: Effectiveness of treatment on stiffness at different stages**

Stiffness	BT		AT		AF	
	N	%	N	%	N	%
No	0	0	0	0	12	60.0
Trivial	0	0	13	65.0	7	35.0
Mild	0	0	4	20.0	1	5.0
Moderate	12	60.0	3	15.0	0	0.0
Severe	8	40.0	0	0.0	0	0.0
Total	20	100.0	20	100.0	20	100.0

**Table 8: Paired comparison on stiffness at different stages**

Paired comparison	Wilcoxon signed rank test	
	Z	P
BT-AT	4.177***	<0.001
AT-AF	4.185***	<0.001
BT-AF	4.379***	<0.001

\*\*\* - Significant at 0.001 level

**Table 9: Effectiveness of treatment on muscle strength at different stages**

Muscle strength	BT		AT		AF	
	N	%	N	%	N	%
Against some resistance	7	35.0	4	20.0	0	0
Against strong resistance	13	65.0	16	80.0	20	100.0
Total	20	100.0	20	100.0	20	100.0

**Table 10: Paired comparison on muscle strength at different stages**

Paired comparison	Wilcoxon signed rank test	
	Z	P
BT-AT	.905	.366
AT-AF	2.000*	.046
BT-AF	2.646**	.008

\* - Significant at 0.05 level

\*\* - Significant at 0.01 level

**Table 11: Effectiveness of treatment on lumbar flexion at different stages**

	N	Flexion		Paired comparison	Paired difference		Paired t test	
		mean	sd		mean	sd	t	p
BT	20	20.15	10.158	BT - AT	15.200	7.381	9.209***	<0.001
AT	20	35.35	9.832	AT - AF	9.650	6.150	7.018***	<0.001
AF	20	45.00	9.537	BT - AF	24.850	8.768	12.675***	<0.001

\*\*\* - Significant at 0.001 level

**Table 12: Effectiveness of treatment on lumbar extension at different stages**

	N	Extension		Paired comparison	Paired difference		Paired t test	
		mean	sd		mean	sd	t	p
BT	20	11.00	4.812	BT - AT	6.500	3.253	8.937***	<0.001
AT	20	17.50	3.380	AT - AF	6.800	4.372	6.955***	<0.001
AF	20	24.30	3.948	BT - AF	13.300	6.097	9.756***	<0.001

\*\*\* - Significant at 0.001 level

**Table 13: Effectiveness of treatment on lumbar right lateral bending at different stages**

	N	Lateral bending Right		Paired comparison	Paired difference		Paired t test	
		mean	sd		mean	sd	t	p
BT	20	6.90	1.518	BT - AT	5.400	2.257	10.699***	<0.001
AT	20	12.30	2.029	AT - AF	5.200	1.508	15.422***	<0.001
AF	20	17.50	2.328	BT - AF	10.600	2.349	20.184***	<0.001

\*\*\* - Significant at 0.001 level

**Table 14: Effectiveness of treatment on lumbar left lateral bending at different stages**

	N	Lateral bending Left		Paired comparison	Paired difference		Paired t test	
		mean	sd		mean	sd	t	p
BT	20	7.15	2.007	BT - AT	5.500	1.318	18.664***	<0.001
AT	20	12.65	2.323	AT - AF	4.750	2.023	10.501***	<0.001
AF	20	17.40	1.847	BT - AF	10.250	2.074	22.099***	<0.001

\*\*\* - Significant at 0.001 level

**Table 15: Effectiveness of treatment on lumbar rotation- right at different stages**

	N	Rotation Right		Paired comparison	Paired difference		Paired t test	
		mean	sd		mean	sd	t	p
BT	20	6.40	2.798	BT - AT	4.850	2.601	8.339***	<0.001
AT	20	11.25	2.173	AT - AF	4.450	1.572	12.660***	<0.001
AF	20	15.70	1.780	BT - AF	9.300	2.922	14.235***	<0.001

\*\*\* - Significant at 0.001 level

**Table 16: Effectiveness of treatment on lumbar rotation- left at different stages**

	N	Rotation Left		Paired comparison	Paired difference		Paired t test	
		mean	sd		mean	sd	t	p
BT	20	5.55	2.762	BT - AT	4.900	1.971	11.119***	<0.001
AT	20	10.45	3.187	AT - AF	4.650	1.565	13.286***	<0.001
AF	20	15.10	2.614	BT - AF	9.550	2.282	18.715***	<0.001

\*\*\* - Significant at 0.001 level

Here we can find that there were considerable changes and relief to patients in terms of pain, tenderness, stiffness, muscle strength, lumbar flexion, extension, lateral bending and rotation. The muscle strength had considerable improvement only when before treatment and after follow up is compared. The results show the importance of *Vastichikitsa* in a *Vatika* condition like Lumbar spondylosis.

There are many causes for Lumbar spondylosis. It may occur owing to years of constant pressure on vertebrae, joint subluxation, poor posture, trauma etc. The

abnormal stress upon the vertebral bodies causes the body to form new bone in order to balance for the new weight distribution. These may be the causative triggers for Lumbar spondylosis. Some people with Lumbar spondylosis and also having corresponding x ray may not be having any symptoms. But majority may be having back pain due to severe nerve compression which was in turn caused by bulging discs and bone spurs on the facet joints which narrow the holes where the nerve roots exit the spinal canal. The bulging discs may also cause local inflammation causing the nerves to become more



sensitive. The disc herniation's can also impact the ligaments and cause pain. This may create restricted movements of the lumbar region.

In *Ayurvedic* way we can understand Lumbar spondylosis as *Kateegraha*. The part '*Katee*' according to *Ayurveda* is the lower back region. And '*Graha*' should be understood as grasping pain or stiffness. According to *Gadanigraha*, *Suddha/Samavata*, settled in the *Katee* causes *Ruja*/pain in that region, and this condition is termed as *Kateegraha*.<sup>[5]</sup> *Kateegraha* as such is not mentioned as an independent disease in *Bruhatrayees*. *Charakaacharya* says that depending upon the location and symptoms new diseases can be named. *Katee* is one of the *Vatasthana*s and pain/stiffness is caused by *Vata*, hence *Kateegraha* may be considered as a *Vatavyadhi*.

*Kateegraha* is a *Soolapradhanavyadhi* and *Soola* always occurs in association with *Vatadosha*. There is *Dhatukshaya* happening in this condition and *Vata* is the *Dosha* which gets aggravated. It is a *Sandhiasritha Roga* and comes under *Madhyama Rogamarga* which is also a recurrent type of disease. *Vasthi* which is a superior treatment for *Vata Dosha* is apt in this condition. *Sodhana* procedures are administered only after preparing the patient with required *Poorvakarmas*. A general protocol which can be followed in *Kateegraha* is *Deepana Pachana* and *Rooksha Sweda* for *Ama Pachana*. Then as a prerequisite *Snehana*, *Swedana* is done with *Vatahara* medicines. The medicines selected for *Vasthi* are *Madhu*, *Ghritha*, *Musta Kalkam* and *Mamsa Rasam*. These are *Vatahara* in nature and arrest the *Dhatukshayam* happening in the *Katee Pradesham*. Full structural corrections are not always happening during such a short duration of assessment, but the patient will have his symptoms relieved considerably. *Vasthi* is also supposed to have local actions such as cleansing the colon, nourishment, medication, vitamins supply, changing the environment of GIT, soothing action and stimulation of gut brain. Certain nerve endings may be stimulated by *Vasthi* procedures and may be sending appropriate signals to the nervous system.

## CONCLUSION

*Madhughrita Yapanavasthi* is found to be having very important role to play in the treatment of Lumbar Spondylosis by considering it as *Kateegraha*. It is very good in considerably reducing the symptoms of *Kateegraha* which is a *Vataja Roga*. As it is a *Yapanavasthi*, it will be tolerated by most of the patients. And also it does not demand a strict regimen and is easier for the patients to carry themselves after the procedure. This study also gives us a treatment protocol which may be followed in such cases to provide good results within minimum days of hospital stay. There is further scope of exploring the effectiveness of this study by incorporating more patients. Also a longer schedule and longer follow up could be done to find out any possibilities of structural corrections which may occur to the damaged areas.

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Figures

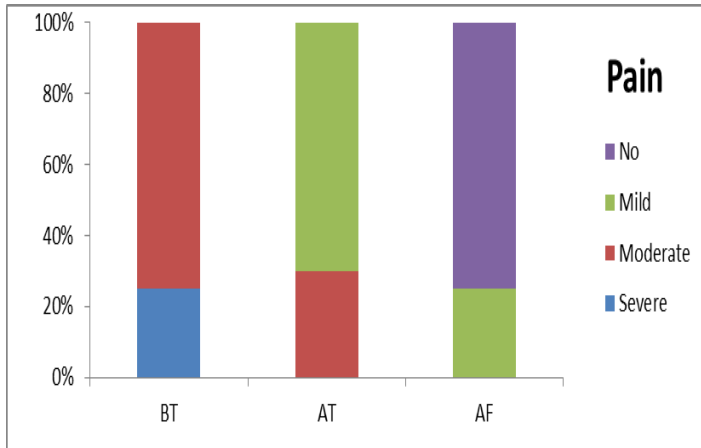


Diagram 1: Effectiveness of treatment on pain at different stages

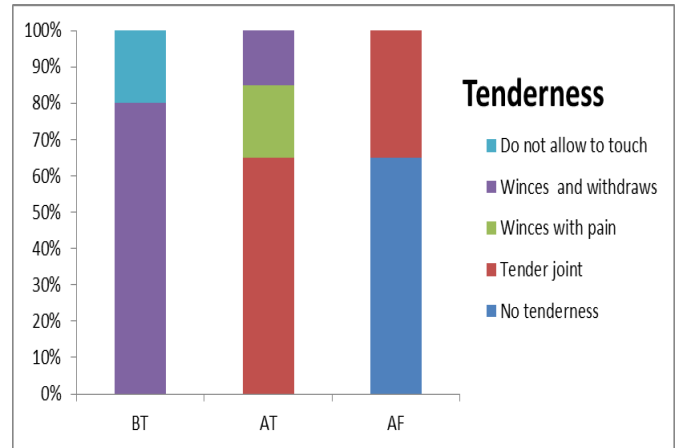


Diagram 2: Effectiveness of treatment on tenderness at different stages

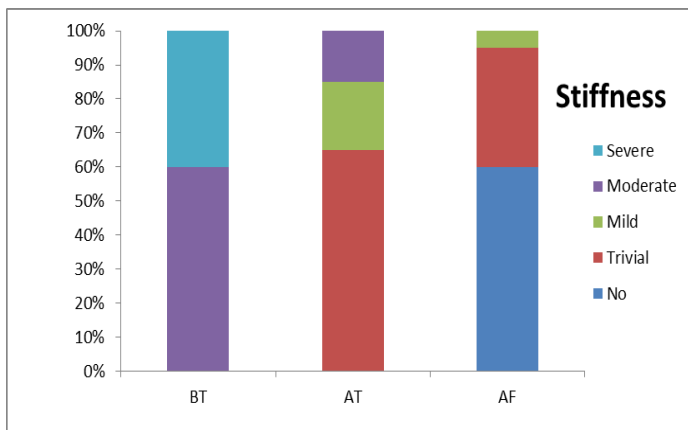


Diagram 3: Effectiveness of treatment on stiffness at different stages

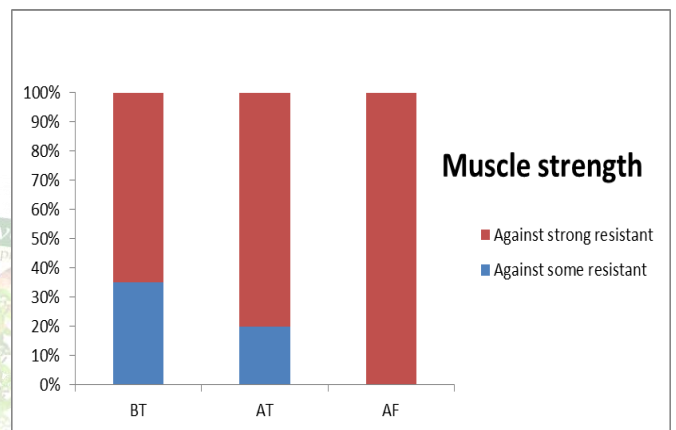


Diagram 4: Effectiveness of treatment on muscle strength at different stages

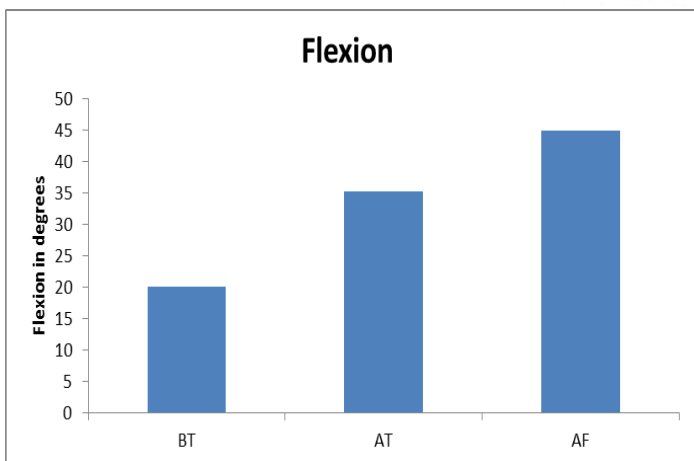


Diagram 5: Effectiveness of treatment on lumbar flexion at different stages

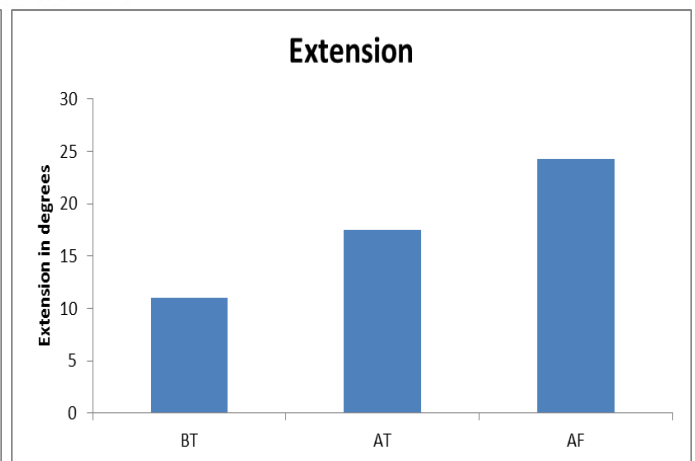


Diagram 6: Effectiveness of treatment on lumbar extension at different stages

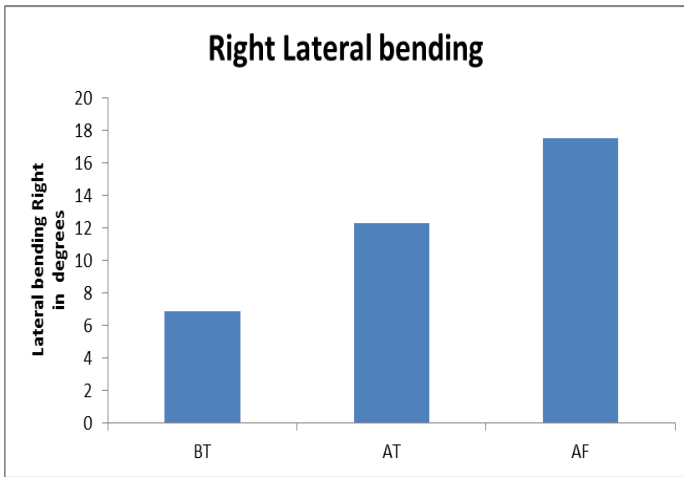


Diagram 7: Effectiveness of treatment on lumbar right lateral bending at different stages

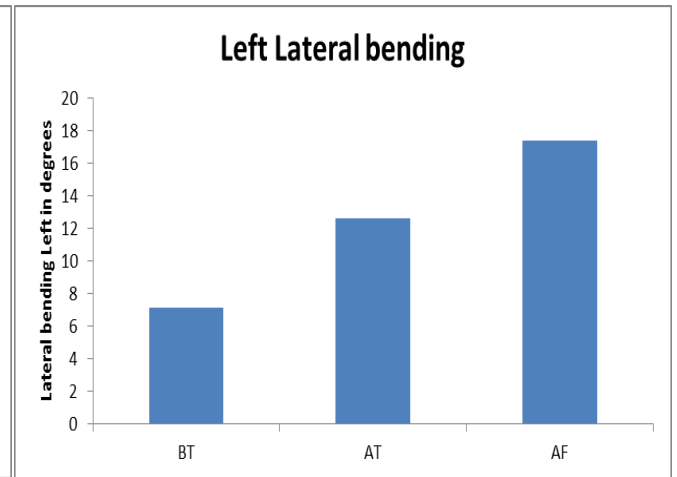


Diagram 8: Effectiveness of treatment on lumbar left lateral bending at different stages

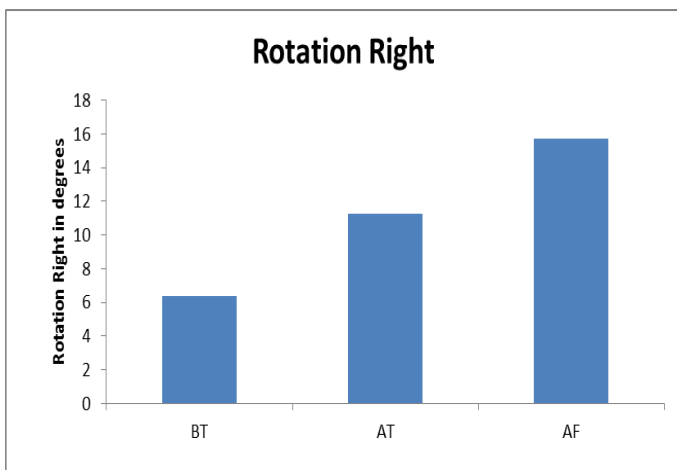


Diagram 9: Effectiveness of treatment on lumbar rotation- right at different stages

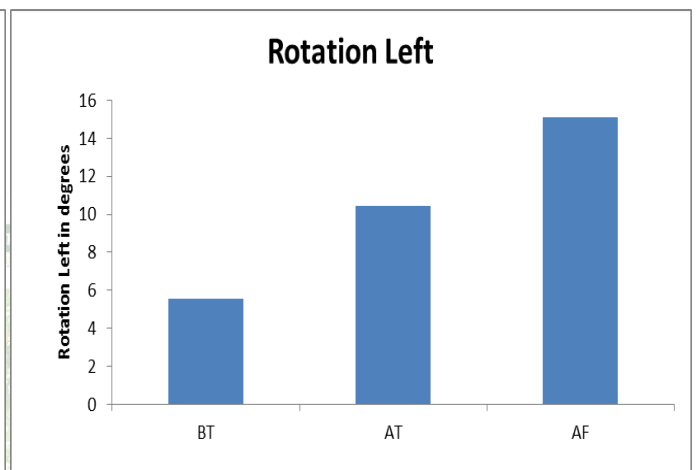


Diagram 10: Effectiveness of treatment on lumbar rotation- left at different stages