

## CLINICAL STUDY ON EVALUATION OF ROLE OF BHUJANGASANA AND SHALABHASANA IN KATISHOOL IN HEAVY VEHICLE DRIVERS

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### ABSTRACT

Almost 8 persons out of 10 suffer from Low Back Ache at least once in their life. About 70% of the Low Back Ache sufferers belong to the age group of 30- 40 years. With the change in form of transport from ancient to modern era especially in four wheeler (heavy vehicle like bus) user's *Katishool* is now most common complaint. Yoga has a great role to prevent and cure many of the so called life style disorders. As a matter of fact yogasana's has been considered as the most convenient, drug less and inexpensive method of achieving certain desired effects. *Bhujangasana* & *Shalabhasana* are important Asana's specifically indicated in *Katishool*. In the present study use of Asana i.e. use of *Bhujangasana* or *Shalabhasana* showed mild to moderate relief in signs and symptoms of *katishool*. Post treatment follow ups showed marked relief and reduction of recurrence in the episodes of *katishool* in bus drivers.

**Keywords:** *Katishool*, *Kati stambha*, Low Back Pain, *Bhujangasana*, *Shalabhasana*.

### INTRODUCTION

*Yana-sevena* i.e. use of a vehicle is one the basic of the society from ancient time till today. In the ancient time the transport or travelling media was especially animal but now a day's people are using vehicles for travelling or transport. If we think about developing cities like Pune we have no escape key from this vicious circle of money, work, health and stress. In concern of work, transport forms a major part especially public Transport, indeed "Pune Mahanagar Pariwahan Mandal Limited" (PMPML) is a symbolic representation of these rapid life. And of course, the drivers are adversely affected. The journey of

PMPML is a roller coaster ride because the roads are full of pits and elevations.

Statistics reveals that about 70-80% of adult population have either suffer or are likely to suffer from low back pain. Exposure to vibration due to damaged roads and Decayed vehicle seems to be main etiological factor for low back pain in bus drivers. Study of bus drivers showed that low back pain disorders are associated with age, back accident, cumulative whole body vibration and postural overload. Lumbosacral pain has been a recognized human affection for a long time<sup>[1]</sup>.

Hippocrates also talks about lumbosacral pain. In western medicine we find the very

first report on naked eye description of the normal and degenerate spine in the Writing of Vesalius in 1555. Virchow first described what is now known as a Lumber disc prolapsed in 1875<sup>[3]</sup>. Middleton and teacher first described lumber disc herniation. Goldthwait in 1905 described the result of manipulating the lower back of a patient who was thought to be suffering from a sacroiliac subluxation. The Description of different types of back pain, their causes and management are described in Ayurveda texts that are said to be 2000 to 3000 years old. Yoga has a great role to prevent and cure many of the so called life style disorders. As a matter of fact *yogasanas* have been considered as the most convenient, drug less and inexpensive method of achieving certain desired effects. *Bhujangasana* and *Shalabhasana* are mentioned in yogic texts & these *asana* may be found useful in *katishool*.<sup>[2]</sup> These *asana* may be useful in downward movement of *apanavayu*. *Bhujangasana* and *Shalbhasana* are stretching *asana* and have been indicated in relieving *Katishool*<sup>[4]</sup>. Hence an attempt is made to study the combined effect of *Bhujangasana* and *Shalbhasana* in *Katishool*.

#### **AIMS & OBJECTIVES:**

- 1) To prove the efficacy of *Bhujangasana* and *Shalbhasana* as costless, effective external tool in *Katishool*.
- 2) To assess the effect of *Bhujangasana* and *Shalbhasana* on health.

#### **MATERIALS AND METHODS:**

This study was planned as a non-pharmacological approach for the management of *Katishool* and also to observe the efficacy of *Asana* in its prevention and the regularizing of functions of *kati*.

#### **Hypothesis:**

Null hypothesis – *Asana* has no effect in *Katishool*.

Alternative hypothesis – *Asana* helps in reducing the signs and symptoms of *Katishool*, helps in prevention of same.

**Source of data:** The source of collection of participant was PMPML Depot, Dhankawdi, Katraj, Pune.

**Study design:** It is a clinical study. A pre-test and post-test with 30 patients Open trial with one group only

**Casepaper:** Patient consent, history and physical examination were done according to the case paper. According to the availability, various concerned were subjective and objective investigative parameters were taken into consideration.

**Followup:** Follow up done periodically for total duration of 2 months.

1<sup>st</sup>followup: On 15<sup>th</sup> day.

2<sup>nd</sup>followup: On 30<sup>th</sup> day.

3<sup>rd</sup>followup: On 45<sup>th</sup> day.

4<sup>th</sup>followup: On 60<sup>th</sup> day (Post treatment).

#### **Inclusion criteria:**

1. Male Participants.
2. Age group of 30 to 50 years.
3. 30 individuals with complaint of *katishool* who are PMPML bus drivers.
4. Bus drivers who travel 90 -100 km/ day.
5. Bus drivers with complaints of *katishool* since last 2-3months.
6. No diagnosed pathology involved.

#### **Exclusion criteria:**

1. Handicapped patients.
2. Cases with cause of back pain as accident.
3. Cases with history of severe orthopaedic condition.
4. Psychogenic in reaction.

#### **ASSESSMENT CRITERIA**

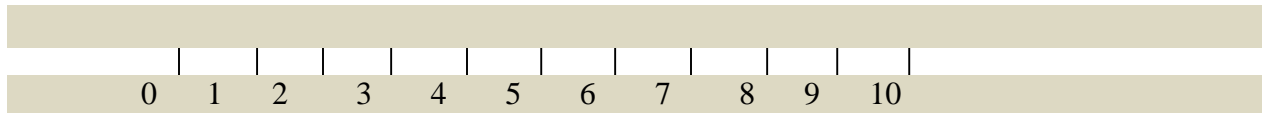
Visual analogue scale for subjective pain assessment

Flexion movement of spine

Straight leg rising in degrees to measure leg movements

### Visual Analog Score

Pain is a very subjective criterion. As it is feeling of patient, one cannot assess pain as it is. So for objective parameters, pain grade



Pain level:

VAS	Grade	SeverityIndex
(0-1)	0	No pain
(2-4)	1	Mild pain
(5-7)	2	Moderate pain
(8-10)	3	Severe pain

### Flexion Movement of spine:

**Flexion** – Measurement of the distance between the finger and the ground in centimeters. This test is used for *Kati stambha lakshana*.

a)	Ground	0
b)	10cm from ground	1
c)	20cm from ground	2
d)	30cm from ground	3

### SLR (Straight Leg Raising Test)

How to perform SLR? Ask the patient to lie down flat on supine position, ask him to raise one leg while watching the patient's face and stop when the patient complains of pain and confirm that he is complaining of back / leg pain and not hamstring tightness. The test is negative if there is no pain. This test is used for Padharshalakshana.

scale is measured according to the severity index. This test is used for *katishoolakshana*.

### Severity Index:

Severity of pain is measured by visual analog score as follows:

a)	Grade 0	90 Degree
b)	Grade 1	60-90 Degree
c)	Grade 2	45-60 Degree
d)	Grade 3	0-40 Degree

### Gaurav:

a)	No Gaurava:	0
b)	Mild Gaurava:	1
c)	Moderate Gaurava:	2
d)	Severe Gaurava:	3

### Yoga Module Adopted In The Study

Asana: -*Bhujangasana* and *Shalabhasana*

Time: - 15 mins for each Session

Morning: 6.00 am- 6.15 am.

Evening: 6.00 pm- 6.15pm.

Duration: - 45 days

Chanting for 5 mins

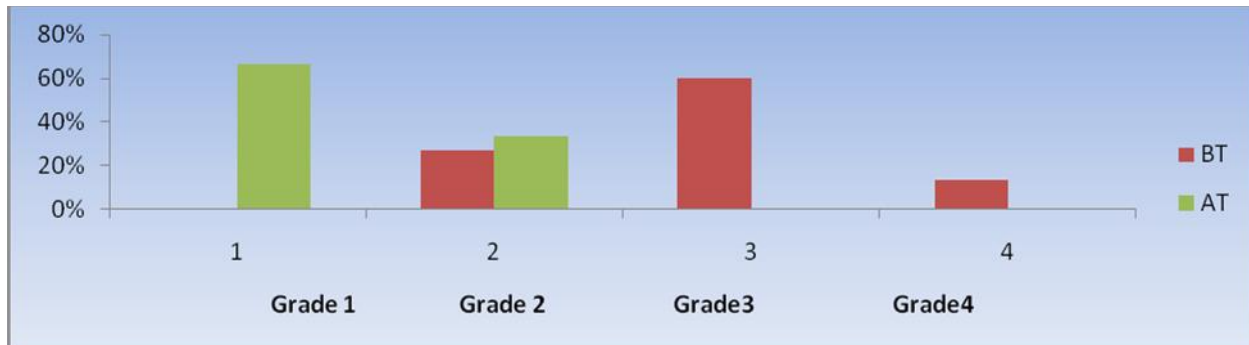
Relaxation for 5 mins

Total time for *Asana* procedures is 15 min.

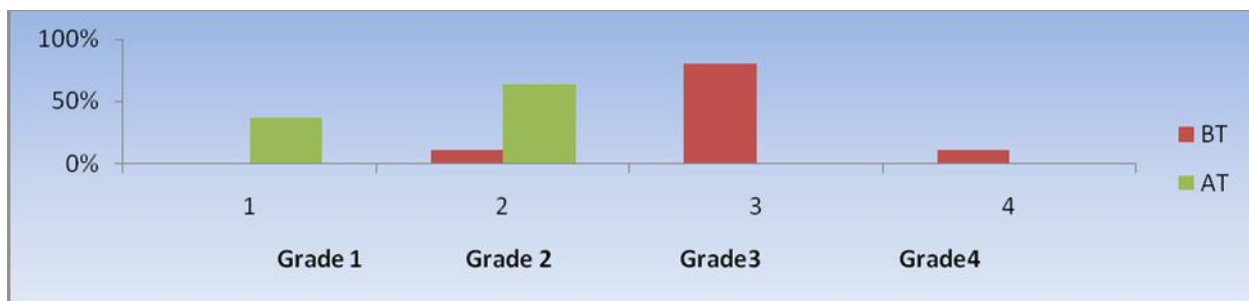
Timing of the *Asanas* was managed according to the group, patient's response and its respective asana. During the time of acute pain this *Asana* practice was not followed by the patient. Patients were advised to follow the practice daily. Improvement was assessed as per the following schedule.

**OBSERVATION AND RESULTS:**

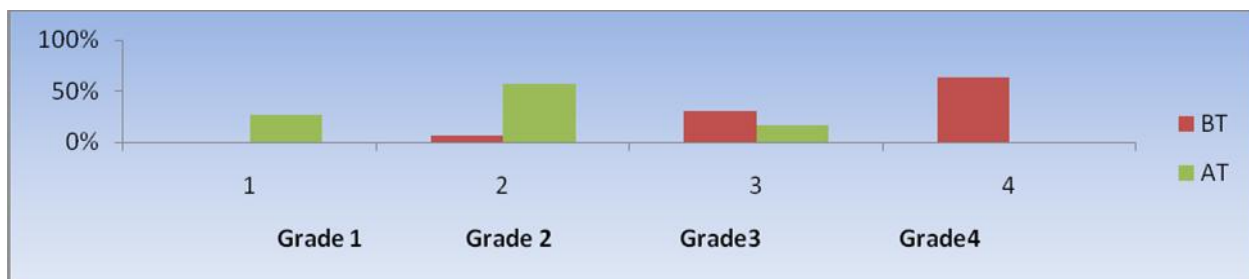
**Gradation wise distribution in Padaharsha:**



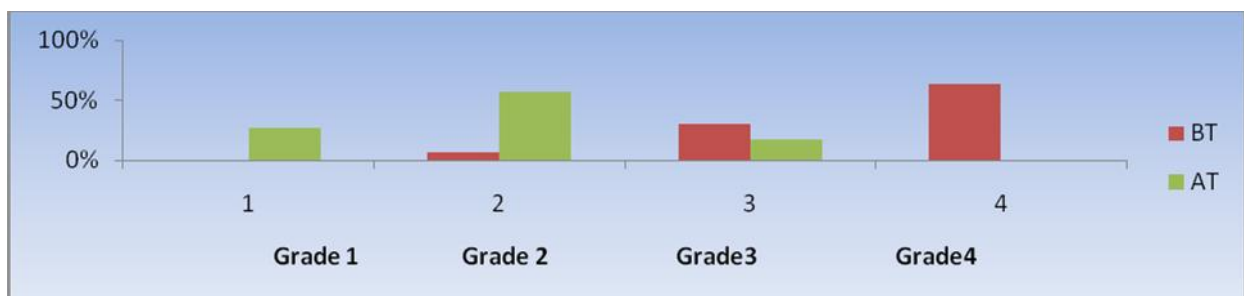
**Gradation wise distribution in Katishool:**



**Gradation wise distribution in Stambha:**



**Gradation wise distribution in Gaurav:**



**Statistical Analysis:**

**1. Mean of Katishool:**

	Mean	S.D.	T Cal	T Table	P Value
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<b>B.T.</b>	2	0.454	13.46	4.51	0.0001
<b>A.T.</b>	0.633	0.491			

**2. Mean of Stambha:**

	Mean	S.D.	T Cal	T Table	P Value
<b>B.T.</b>	2.066	0.691	16.15	4.51	0.0001
<b>A.T.</b>	1	0.454			

**3. Mean of Padharsha:**

	Mean	S.D.	T Cal	T Table	P Value
<b>B.T.</b>	2.233	0.568	11.94	4.51	0.0001
<b>A.T.</b>	0.9	0.661			

**4. Mean of Gaurav:**

	Mean	S.D.	T Cal	T Table	P Value
<b>B.T.</b>	1.833	0.592	13.046	4.51	0.0001
<b>A.T.</b>	0.333	0.479			

**DISCUSSION**

According to age group: Age wise distribution shows 13 participant (43.33%) in age group of 30-35 yrs, 15 participants (50%) in age group of 36-40yrs and 02(6.66%) in age group of 41-45yrs. 93.33% (28 participants) were in age group of 30 – 40 yr. 30-40 yr age group participant face this problem because continuous traveling for long period. According to *prakruti*: According to *prakruti* 40% (12 participants) were *vata -kaphaj* , 30% (09 participants) *vata -pittaj* , 16.66% (05 participants) *kapha-pittaj* , 13.33%(04 participants) *pitta-kaphajprakruti*. 70% (21 participants) were of *vatapradhanprakruti* because *katishool* is *naanatmajvatavyadhi*. According to *lakshana*: In *Katishoollakshana*: Before treatment 3 participants of grade -3 which were reduce to grade-1 (10%). Before treatment there are 24% participant in grade -2 which were reduce in grade -1 after treatment in 19 partic-

ipant and no reduction in 5 participant was seen. Before treatments there are 3 participant of grade-1 where reduce to grade-0 after treatment (10%). According to *Katishoollakshana*: Before treatment there was 8 participants in grade-3 which were reducing in grade-2 after treatment. (26.66%). Before treatment there were 16 participant in grade-2 which were reduce to grade-1 after treatment.(53%). Before treatment there are 6 participant in grade -1 which were reduce in grade-0 after treatment.(20%). According to *gauravlakshana*: Before treatment there were 19 participants which were reducing in grade-3 after treatment (63%) Before treatment there were 9 participants in grade-2 which were reducing to grade-1 after treatment (30%). Before treatment there were 2 participants in grade-1 which reduce in grade-0 after treatment (6.66%). According to *padharsha*: Before treatment there were 4 participants in grade-

3 which were reducing to grade-2 after treatment (13.33%) Before treatment there were 18 participants in grade-2 which were reducing to grade-1 after treatment (60%). Before treatment there were 8 participant in grade-1 which were reduce to grade-0 after treatment in 6 participant and no reduction in 2 participant(26.66%).

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## CONCLUSION

Occupation, involving travel specially the mode of transport being use of bus plays a primary role in the causation of *Katishool*. *Asanas* can be practiced without causing any undue disturbances in their daily routine of life irrespective of age, place, climate or any other such factor. *Yogasana's* have been considered as the most convenient, drug less and inexpensive method of achieving certain desired effects. *Asana* definitely plays an important role in prevention of *Katishool* and associated symptoms without any side effects. About 93.33% (28 participant) were in age group of 30 – 40 yr. generally in between 30 -40 yr age group participant faced this problem because of continuous traveling for long period. About 70% (21 participant) were of *vatapradhanprakruti* because *katishool* is *naanatmajvatavyadhi*. In the present study individual use of *Asana* i.e. use of *Bhujangasana* or *Shalabhasana* showed mild to moderate relief in signs and symptoms of *katishool*. Post treatment follow up showed marked relief and reduction of recurrence in the episodes of *katishool* in bus drivers.

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