

Effect of Pelvic Traction in the Management of PLID Patient: A Randomized Controlled Trial

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ABSTRACT:

Background: Pelvic traction is a form of physical therapy that is used to treat pain and discomfort in the lower back, hips, and legs that is commonly related with back problems. Traction is a term that describes a series of mechanisms that help to stabilize bones, immobilize them, and relieve pressure on the skeletal system. Lumbar traction has been used since prehistoric time for spinal disorders.

Objective: To observe the effect of pelvic traction in the management of PLID patient. **Method:** A randomized controlled trial was carried out in the department of Physical Medicine & Rehabilitation of Dhaka Medical College Hospital, Dhaka, Bangladesh. A total number of 70 patients with PLID fulfilling the selection criteria were taken as study population. They were divided into two groups named as study group 35 patients (Group A) and control group 35 patients (Group B). Group A patients were treated with pelvic traction and Group B without pelvic traction. Pelvic traction was given at continuous mode, with one-third of body weight of the patient and 20 minutes in each session on daily basis for 2 weeks period. Patients were followed up to 6 weeks. **Results:** Majority of the patients were in 41-50 years age group, 16 (45.7%) in group A and 14 (40.0%) group B and male was predominant than female. In group A, most of the patients were housewife which was 9 (25.7%) and in group B most of the patients were in services which was 12(34.3%). Most of the patients came from middle class, 19 (54.3%) in group A and 20 (57.1%) group B. The mean (\pm SD) duration of pain was 33.4 ± 12.3 days and 37.0 ± 16.0 days in group A and group B ($p=0.297$). LBP with radiation to leg found in most cases in both groups which was 20(57.1%) and 24(68.6%) in group A and group B respectively ($p=0.182$). Majority of patients got relieve while resting, 30(85.7%) and 32 (91.4%) in group A and B respectively ($p=0.452$). Pain was severe in 24 (68.6%) cases of group B and 14 (40.0%) cases of group A ($p=0.056$). Prolonged working (30.4%) and leaning forward (30.4%) were the main aggravating factors in group A whereas leaning forward (20.7%) were the main aggravating factors in group B.

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The mean score of Schober's test before treatment was 3.8 ± 0.7 in group A and 3.6 ± 0.7 in group B ($p=0.418$). The mean score after 2 weeks was 4.8 ± 0.8 and 4.5 ± 0.6 ($p=0.082$), after 4 weeks 5.2 ± 0.8 and 4.7 ± 0.7 ($p=0.012$) and after 6 weeks 5.8 ± 0.9 and 5.3 ± 0.8 ($p=0.015$). The mean score of VAS before treatment was 8.6 ± 1.1 and 8.9 ± 0.9 ($p=0.302$). After 2 weeks, the score was 5.8 ± 1.1 and 6.4 ± 1.1 ($p=0.022$), after 4 weeks 3.3 ± 0.9 and 4.3 ± 1.1 ($p=0.001$) and after 6 weeks was 1.4 ± 1.5 and 2.9 ± 1.4 ($p=0.001$). **Conclusion:** This study was done on a small, selected admitted patients in physical medicine and rehabilitation department of Dhaka Medical College Hospital. The results of this study showed that Pelvic traction reduces pain in patients with PLID by reduction of VAS score and increment of Schober's test score.

Keywords: Pelvic traction, PLID, LBP.

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INTRODUCTION

Prolapsed lumbar disc is a spinal condition that can cause lower back pain, as well as numbness, tingling, a "pins and needles" feeling and muscles weakness in the lower body. This ailment is also known as a herniated or ruptured disc, and it is usually caused by natural, age-related wear and tear. It can affect persons of all ages, although it is most common in those between the ages of 35 and 45^[1]. Low back pain, whether with or without sciatica, is a leading cause of morbidity worldwide^[2]. LBP is a tough term to define, however it refers to a symptom complex in which pain originates in the lumbar spine and is transferred to the leg or foot^[3]. Sciatica is pain that radiates from the lower back down one or both legs. The lifetime incidence of sciatica is 50-70 percent, and the incidence of sciatica can be as high as 40%.^[2]

Clinically serious sciatica owing to disc prolapse, on the other hand, affects 4-6 percent of the population^[3]. The existence of pain, radiculopathy, and other symptoms is dependent on the location and severity of the herniation. A thorough medical history, physical examination, and neuroimaging can help distinguish herniated lumbar disc prolapse from other causes of low back pain and sciatica^[2].

Pain is the most common sign of a prolapsed lumbar intervertebral disc, which can be felt in the lower back, the leg, or both. Sciatic discomfort (and anterior crural pain in upper disc disorders) is now widely acknowledged to be caused by direct impingement of a prolapse on a nerve root, rather than 'referred' discomfort from disordered joints or subluxated vertebrae^[4]. Due to the variability of the patient population and the lack of a clear and useful approach, chronic low back pain is poorly understood and inadequately treated. It also causes job losses, which have increased more rapidly in recent years than any other prevalent kind of disability^[5]. The diagnosis is made based on the patient's medical history and a physical examination during which the pain is replicated. X-rays may reveal disk degeneration and facet arthritis, but the diagnosis is made on the basis of clinical evidence. The treatment focuses on the source of the pain. On this premise, flexion or extension is prescribed. Body mechanics are still necessary for improving posture and changing standing and working positions. The diagnosis is made based on the patient's medical history and a physical examination during which the pain is replicated. X-rays may reveal disk degeneration and facet arthritis, but the diagnosis is made on the basis of clinical evidence. Presence of intradiscal-

nuclear herniation (bulge) and protrusion in MRI is the standard imaging technique used to detect PLID. The treatment focuses on the source of the pain. On this premise, flexion or extension is prescribed. Cailliet (1990) stated that body mechanics are still required to improve posture and adjust standing and working situations. Patients who have radiating pain and/or paresthesia that does not improve with trunk motions are candidates for traction treatment. The patient can be in either a prone or supine posture, with the traction belts pulling on the front or posterior aspects of the joint [12]. Mechanical traction can be applied in a static or intermittent manner. The length of treatment sessions recommended ranges from a few minutes to 40 minutes [6]. Since Hippocrates' day, various techniques of spinal traction have been documented for pain management. Many physicians, therapists, and patients recall the ineffectiveness of continuous or "bed" traction, which was utilized for many years. Many physicians and therapists have gotten disinterested in employing spinal traction as a result of all of this ignorance and confusion. Traction, when applied correctly and under the right circumstances, can be a very successful and useful therapy procedure [7]. According to a recent UK-wide survey, 41% of therapists used traction with 5% of LBP patients, who almost exclusively presented with 'nerve root' problems; 3-10% of LBP sufferers will experience 'sciatica' or 'nerve root' pain, with or without neurological signs, with 90% recovering, but a further 10% requiring surgery [8]. In Western industrialized countries, back discomfort is fairly frequent. In their active lives, over 80% of people will experience one or more episodes of back discomfort [9]. Bangladesh is an impoverished country with a

large population, few resources, and ineffective management. As a result, a large proportion of disabled individuals presenting with low back pain cannot be managed with the current resources and management system for a variety of reasons. The prevalence of LBP varies by country, however it is consistently high in developed countries [10]. For spinal diseases, lumbar traction has been used since prehistoric times. Its pain-relieving technique appears to separate the vertebrae, decrease pressure or contact forces from wounded tissue, promote peripheral circulation through massage, and lessen muscular spasms [11]. The goal of this study was to see how well pelvic traction worked in the treatment of PLID.

OBJECTIVE

To observe the effect of pelvic traction in the management of PLID patient

METHODS & MATERIALS:

This study was designed as a randomized controlled trial (RCT). This study was carried out in the Department of Physical Medicine & Rehabilitation at Dhaka Medical College Hospital, Dhaka- from November 2013 to April 2014 for a period of six (6) months. All the patients, who presented with PLID in an age group of 18 to 50 years of both sexes attending in the Department of Physical Medicine & Rehabilitation were included as study population. A total number of 70 patients with PLID fulfilling the selection criteria were taken as study population. Patients were selected by randomized sampling method. Incorporation of the patients in the two groups was performed by lottery.

Selection Criteria of Subjects

Inclusion criteria

- PLID patient with the complaints of
- Low back pain radiating below the knee (one or both limbs), with leg pain often being severe than back pain
- Distal dermatome pins and needles
- Chronic radicular pain in the L4, L5, or S1 dermatome with or without moderate neurological loss
- Severe, debilitating leg pain lasting 6–12 weeks
- Positive straight leg raising test
- Presence of intradiscal-nuclear herniation (bulge) and protrusion in MRI.
- Between the ages of 18 and 50
- Both men and women
- Patients who agreed to take part in the clinical trial and granted their approval.

Exclusion criteria

- Patients with Cauda equina syndrome or severe paresis
- Any history of trauma or fracture or spinal surgery
- Spondylo-arthritis, infection of spine, like TB, osteomyelitis, pyogenic infection.
- Spinal tumour or secondary metastases
- Multiple myeloma, spinal osteoporosis
- Long term oral steroid intake
- Pregnancy
- History of major psychiatric illness;
- Patients not agreed to the assigned programme of treatment
- Presence of extrusion and sequestration in MRI.

Data collection and Analysis

All data was meticulously compiled and edited. The data was filtered and validated for missing values and inconsistencies. All omissions and inconsistencies were meticulously fixed and eliminated. With the use of relevant methodologies and systems, computer-based statistical analysis was carried out. All data was carefully captured in a pre-made data collection form (questionnaire), with quantitative data expressed as mean and standard deviation and qualitative data expressed as frequency distribution and percentage. Data on a categorical scale was compared between groups using Chi-square (χ^2) or Fisher's Exact Probability test, whilst data on a quantitative scale was compared using Student's "t" test. A probability (p) value of 0.05 ($p < 0.05$) was deemed statistically significant for all analytical tests, and $p = 0.01$ was regarded highly significant, but $p > 0.05$ was regarded non-significant. Statistical analysis was carried out using Statistical Packages for Social Sciences (SPSS-23), a window-based computer program (SPSS Inc, Chicago, IL, USA). The confidence level was set at 95%. The summarized information was then interpreted and presented in the form of tables.

Results

A total number of 70 patients divided into two groups; Group A 35 patients (study group) and Group B 35 patients (control group). Group A patients were treated with pelvic traction and Group B without pelvic traction. Pelvic traction was given at continuous mode, with one-third of body weight, 20 minutes daily for 2 weeks period. Patients were followed up 2 weekly for 6 weeks

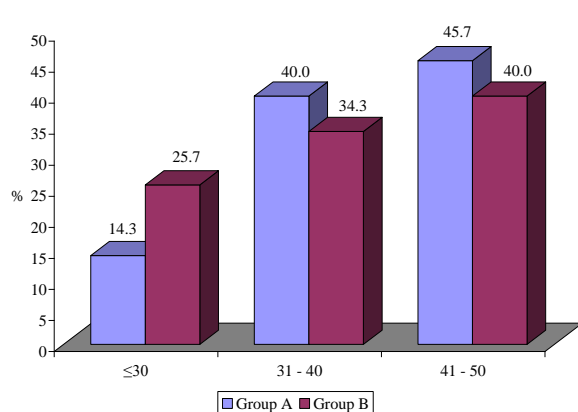


Figure-1: Age distribution of the patients

In figure-1 shows the age distribution of the patients. In group A, majority of the patients were in the age group of 41 to 50 years which was 16 (45.7%) cases followed by 31 to 40 years group and less than or equal to 30 years age group which were 14(40.0%) cases and 5(14.3%) cases respectively. In group B, majority of the patients were in the age group of 41 to 50 years which was 14 (40.0%) cases followed by 31 to 40 years group and less than or equal to 30 years age group which were 12 (34.3%) cases and 9(25.7%) cases respectively. The mean± SD age of the patients was 39.0±7.8 and 37.3±8.1 in group A and group B respectively. The difference of age between these two groups was not statistically significant ($p < 0.050$).

Table 1: Distribution of the Study Population according to gender (n=70)

Gender	Group		p value
	Group A	Group B	
Male	25 (71.4)	21 (60.0)	0.314
Female	10 (28.6)	14 (40.0)	

Total	35 (100.0)	35 (100.0)
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*Chi-square test was done to measure the level of significance

Table 1 shows the distribution of patients according to gender. In group A male was predominant than female which was 25(71.4%) cases and 10(28.6%) cases respectively. In group B male was also predominant than female which was 21(60.0%) cases and 14(40.0%) cases respectively. The difference between these two group was not statistically significant ($p=0.314$).

Table 2: Distribution of Study Population according to Occupation

Occupation	Group		p value
	Group A	Group B	
House wife	9 (25.7)	6 (17.1)	0.420
Farmer	8 (22.9)	4 (11.4)	
Services	6 (17.1)	12 (34.3)	
Business man	6 (17.1)	5 (14.3)	
Student	5 (14.3)	5 (14.3)	
Hawkers	1 (2.9)	1 (2.9)	
Driver	0 (.0)	2 (5.7)	
Total	35 (100.0)	35 (100.0)	

*Chi-square test was done to measure the level of significance

Table 2 shows distribution of patients according to occupation. In group A most of the patients were housewife which was 9 (25.7%) cases followed by farmer, Services, Businessman and Student which was 8 (22.9%) cases, 6 (17.1%) cases, 6 (17.1%) cases and 5 (14.3%) cases respectively. In group B most of the patients were services which was 12(34.3%) cases followed by housewife, businessman, student and farmer which was 6(17.1%) cases, 5(14.3%) cases, 5(14.3%) cases and 4(11.4%) cases respectively. The differences of occupation among the two groups were not statistically significant (P=0.420).

Table 3: Distribution of the patients according to complain

Complain	Group		p value
	Group A	Group B	
Duration of pain in days (Mean ± SD)	33.4 ± 12.3	37.0 ± 16.0	0.297
Radiation of pain			0.182
Knee [n (%)]	3 (8.6)	0 (.0)	
Leg [n (%)]	20 (57.1)	24 (68.6)	
Toes [n (%)]	12 (34.3)	11 (31.4)	

Character of pain			0.112
Constant[n (%)]	7 (20.0)	13 (37.1)	
Intermittent [n (%)]	28 (80.0)	22 (62.9)	
Relieving factors			0.452
Rest [n (%)]	30 (85.7)	32 (91.4)	
Lying flat [n (%)]	5 (14.3)	3 (8.6)	
Severity			0.056
Mild [n (%)]	2 (5.7)	1 (2.9)	
Moderate[n(%)]	19 (54.3)	10 (28.6)	
Severe [n (%)]	14 (40.0)	24 (68.6)	

*Chi-square test was done to measure the level of significance; figure with parenthesis indicates percentage.

Table 3 shows distribution of patients according to complain. The mean (±SD) duration of pain was 33.4±12.3 days and 37.0±16.0 days in group A and group B respectively (p=0.297). LBP with radiation to leg was in most of the cases in both groups which was 20 (57.1%) cases and 24 (68.6%) cases in group A and group B respectively (p=0.182). LBP was intermittent in most of the cases in both groups

which was 28 (80.0) cases and 22 (62.9%) cases in group A and group B respectively (p=0.112). Most of the patients got relieve while resting which was 30(85.7%) cases and 32 (91.4%) cases in group A and group B respectively (p=0.452). Pain was severe in 24 (68.6%) cases of group B and 14 (40.0%) cases of group A; however, pain was Moderate in 19 (54.3%) cases of group A and 10 (28.6%) cases of group B (p=0.056).

Table-4: Distribution of the patients according to aggravating factor

Aggravating factor	Group		Total
	Group A	Group B	
Prolonged working	28 (30.4)	17 (14.0)	45 (21.1)
Leaning forward	28 (30.4)	25 (20.7)	53 (24.9)
Coughing	17 (18.5)	20 (16.5)	37 (17.4)
Sneezing	9 (9.8)	19 (15.7)	28 (13.1)
Prolonged standing	7 (7.6)	17 (14.0)	24 (11.3)
Menstruation	2 (2.2)	8 (6.6)	10 (4.7)
Prolonged sitting	1 (1.1)	15 (12.4)	16 (7.5)

In table-4 shows the aggravating factor of the patients. Prolonged working (30.4%), leaning forward (30.4%) were the main aggravating factors in group A whereas leaning forward (20.7%), coughing (16.5%), sneezing (15.7%), prolonged working (14.0 %) and prolonged standing (14.0 %) were the main aggravating factors in group B.

Table-5 Distribution of the patients according to laboratory investigation

Laboratory investigation	Group		p value
	Group A (Mean ± SD)	Group B (Mean ± SD)	
TC (x10 ³ per mm ³)	7.7 ± 1.0	7.6 ± 1.2	0.638
ESR mm in 1 st hr	13.4 ± 5.1	14.9 ± 4.0	0.266
HB gm/dl	12.4 ± 1.3	11.9 ± 1.4	0.215
RBS (mmol)	5.9 ± 1.6	5.5 ± 0.7	0.213
Serum creatinine (mg/dl)	0.8 ± 0.2	0.9 ± 0.2	0.289

In table-5 shows laboratory investigation of the patients. The mean total count (x10³ per mm³) was 7.7 ± 1.0 and 7.6 ± 1.2 in group A and group B respectively (p=0.638). The mean ESR (mm in 1st hr) was 13.4 ± 5.1 and 14.9 ± 4.0 in group A and group B respectively (p=0.266). The HB

(gm/dl) was 12.4 ± 1.3 and 11.9 ± 1.4 in group A and group B respectively ($p=0.215$). The RBS (mmol) was 5.9 ± 1.6 and 5.5 ± 0.7 in group A and group B respectively ($p=0.213$). The Serum creatinine (mg/dl) was 0.8 ± 0.2 and 0.9 ± 0.2 in group A and group B respectively ($p=0.289$).

Table-6: Outcome of the patients according to Schober's test

Assessment by Schober's test	Group		p value
	Group A (Mean \pm SD)	Group B (Mean \pm SD)	
Pre treatment	3.8 \pm 0.7	3.6 \pm 0.7	0.418
2 weeks after treatment	4.8 \pm 0.8	4.5 \pm 0.6	0.082
4 weeks after treatment	5.2 \pm 0.8	4.7 \pm 0.7	0.012
6 weeks after treatment	5.8 \pm 0.9	5.3 \pm 0.8	0.015

In table-6 shows outcome of patient assessed by Schober's test. The mean score of Schober's test before treatment were 3.8 ± 0.7 and 3.6 ± 0.7 ($p=0.418$). The mean score of Schober's test 2 weeks after treatment were 4.8 ± 0.8 and 4.5 ± 0.6 ($p=0.082$). The mean score of Schober's test 4 weeks after treatment were 5.2 ± 0.8 and 4.7 ± 0.7 ($p=0.012$). The mean score of Schober's test 6 weeks after treatment were 5.8 ± 0.9 and 5.3 ± 0.8 ($p=0.015$).

Table-7: Outcome of the patients according to VAS

Assessment by Visual analogue scale	Group		p value
	Group A (Mean \pm SD)	Group B (Mean \pm SD)	
Pre treatment	8.6 \pm 1.1	8.9 \pm 0.9	0.302
2 weeks after treatment	5.8 \pm 1.1	6.4 \pm 1.1	0.022
4 weeks after treatment	3.3 \pm 0.9	4.3 \pm 1.1	0.001
6 weeks after treatment	1.4 \pm 1.5	2.9 \pm 1.4	0.001

In table-7 shows outcome of patient assessed by visual analogue scale (VAS). The mean score of VAS before treatment were 8.6 ± 1.1 and 8.9 ± 0.9 ($p=0.302$). The mean score of VAS in 2 weeks after treatment were 5.8 ± 1.1 and 6.4 ± 1.1 ($p=0.022$). The mean score of VAS in 4 weeks after treatment were 3.3 ± 0.9 and 4.3 ± 1.1 ($p=0.001$). The mean score of VAS in 6 weeks after treatment were 1.4 ± 1.5 and 2.9 ± 1.4 ($p=0.001$).

DISCUSSION

A total number of 70 PLID patients were recruited for this study of which 35 patients were in study group (group A) who were treated with pelvic traction and the rest 35 patients were in the control group (group B) who were treated without pelvic traction.

The distribution of patients according to gender is recorded. In group A male was predominant

than female which was 25(71.4%) cases and 10(28.6%) cases respectively. In group B male was also predominant than female which was 21(60.0%) cases and 14(40.0%) cases respectively. The difference between these two group was not statistically significant ($p=0.314$). It has been found that male is more commonly affected by PLID. This may be due to the heavy works done by them. Similar to the present result Akbar and Mahar (2002) have reported that male is predominant in PLID group.

The distribution of patients according to age is recorded. In group A, majority of the patients were in the age group of 41 to 50 years (45.7%) followed by 31 to 40 years group (40.0%) and less than or equal to 30 years age group (14.3%). In group B, majority of the patients were in the age group of 41 to 50 years (40.0%) which was 14 cases followed by 31 to 40 years group (34.3%) and less than or equal to 30 years age group (25.7%). The mean \pm SD age of the patients was 39.0 \pm 7.8 and 37.3 \pm 8.1 in group A and group B respectively. The difference of age between these two groups was not statistically significant ($p<0.050$). It has been found from the above result that in both groups age of the patients was more than 30 years. Similar to the present result Akbar and Mahar (2002) have mentioned that PLID occurs in mid age or onwards. Borman et al (2003) have reported that most of the cases PLID occur after the age of 35 years which is very similar to the present study result ^[13].

The distribution of patients according to occupation is recorded. In group A most of the patients were housewife (25.7%) followed by farmer (22.9%), services (17.1%), businessman (17.1%) and student (14.3%). In group B most of the patients were services (34.3%) followed by housewife (17.1%), businessman (14.3%),

student (14.3%) and farmer (11.4%). The differences of occupation among the two groups were not statistically significant ($p=0.420$). It has been found that housewife are most vulnerable in disc prolapse in group A; however, service holder are more in group B. the disc prolapse is directly related with the occupation. The excess work load causes the PLID. Similar to this present study Kelsey et al (1984) have reported that occupation is directly related with the PLID and also have added that the occupation which is related with weight lifting is more associated with PLID ^[14]. Similarly, Seidler et al (2003) have published a report regarding the pattern of occupation and the occurrence of PLID which is consistent with the present study ^[15].

The distribution of patients by socio-economic condition is also recorded. Most of the patients were from middle class in both groups followed by poor. Only few patients were rich in both groups. There are no studies regarding the relationship of socioeconomic status and PLID; however, in this present study the majority people of the government hospital are from middle class as well as lower class. Therefore, the middle class patients are predominant here. The distribution of patients according to complain were recorded in this study. The mean (\pm SD) duration of pain was 33.4 \pm 12.3 days and 37.0 \pm 16.0 days in group A and group B respectively ($p=0.297$). From this result it is very clear that the both groups of the study population were in equal and non-significant difference of duration of pain. Therefore, at the time of analysis this doesn't create any overestimation of the result.

LBP with radiation to leg was present in most of the cases in both groups which was 57.1% cases and 68.6% cases in group A and group B

respectively ($p=0.182$). In PLID patients LBP frequently radiated to the leg. LBP was intermittent in most of the cases in both groups which was 80.0% cases and 62.9% cases in group A and group B respectively ($p=0.112$). Most of the patients got relieve while resting which was 85.7% cases and 91.4% cases in group A and group B respectively ($p=0.452$). Pain was severe in 68.6% cases of group B and 40.0% cases of group A; however, pain was Moderate in 54.3% cases of group A and 28.6% cases of group B ($p=0.056$). Similar to the present result, Schwarzer et al (1995) were performed a study and have found that low back pain is one the most common clinical features of PLID [16]. Waddell et al (1980) have reported that PLID caused severe low back pain with radiation to the leg [17].

The aggravating factor of the patients is recorded. Prolonged working (30.4%), leaning forward (30.4%) were the main aggravating factors in group A whereas in group B leaning forward (20.7%), coughing (16.5%), sneezing (15.7%), prolonged working (14.0 %) and prolonged standing (14.0 %) were the main aggravating factors. There are several aggravating factors of PLID of which prolong working is the most common to all. Similar to the present study Mundt et al (1993) have reported that non-occupational lifting of objects or children weighing 25 or more pounds with knees straight and back bent are associated with increased risk of herniated lumbar disc [18]. Helia–Vaara (1987) has reported that different activities are directly related with PLID [19].

The mean total count ($\times 10^3$ per mm^3) was 7.7 ± 1.0 and 7.6 ± 1.2 in group A and group B respectively ($p=0.638$). The mean ESR (mm in 1st hr) was 13.4 ± 5.1 and 14.9 ± 4.0 in group A and group B respectively ($p=0.266$). The HB

(gm/dl) was 12.4 ± 1.3 and 11.9 ± 1.4 in group A and group B respectively ($p=0.215$). The RBS (mmol) was 5.9 ± 1.6 and 5.5 ± 0.7 in group A and group B respectively ($p=0.213$). The serum creatinine (mg/dl) was 0.8 ± 0.2 and 0.9 ± 0.2 in group A and group B respectively ($p=0.289$). There was no significant difference between the groups in TC, ESR, HB, RBS and serum creatinine. The outcome of patient assessed by Schober's test was recorded. The mean score of Schober's test before treatment were 3.8 ± 0.7 and 3.6 ± 0.7 ($p=0.418$). The mean score of Schober's test 2 weeks after treatment were 4.8 ± 0.8 and 4.5 ± 0.6 ($p=0.082$). The mean score of Schober's test 4 weeks after treatment were 5.2 ± 0.8 and 4.7 ± 0.7 ($p=0.012$). The mean score of Schober's test 6 weeks after treatment were 5.8 ± 0.9 and 5.3 ± 0.8 ($p=0.015$). In both groups trend of improvement was positive. The improvement rate was better in group A than group B. The difference between two groups in improvement was statistically significant after 4 weeks and after 6 weeks. In both groups trend of improvement was positive. The improvement rate was better in group A than group B. The difference between two groups in improvement was statistically significant after 4 weeks and after 6 weeks. Borman et al (2003) have been reported similar result and have mentioned that pelvic traction with some medication have decreased the pain of PLID [13]. In another study Vander-Heijden et al (1995) have reported that the low back pain is relieved after pelvic traction [20] which is consistent with the present study.

CONCLUSION

This study was conducted on a small number of admitted patients in Physical Medicine and Rehabilitation department of Dhaka Medical College Hospital. The findings of this research back up the notion that Pelvic traction relieves

pain in PLID patients by lowering the VAS score and increasing the Schober's test score.

REFERENCES:

1. Perry M, Prolapsed Lumbar Disc, m.Laserspineinstitute.com/mobile/backproblem/prolapseddisc/lumbar
2. Akbar A, Mahar A. Lumbar disc prolapse: management and outcome analysis of 96 surgically treated patients. *J Pak Med Assoc.* 2002;52(2):62-5.
3. Shakoor MA, Hassan SA, Moyeenuzzaman M, Dev AK. Treatment with shortwave diathermy chronic low back pain. *Journal of Chittagong Medical College Teachers' Association*, 2010; 21(1): 40-4.
4. Logue VL. Treatment of lumbar disc prolapsed, *Post Graduate Medical Journal* 1953,234-42.
5. Ahmed MS, Shakoor MA, Khan AA; Evaluation of the effects of shortwave diathermy in patients with chronic low back pain, *Bangladesh Med Res Counc Bull* 2009; 35: 18-20.Schwarzer AC, Aprill CN, Derby R, Fortin J, Kine G, Bogduk N. The prevalence and clinical features of internal disc disruption in patients with chronic low back pain. *Spine* 1995;20:1878-1883
6. Pellecchia G L; lumbar traction : a review of the literature, *JPSPT*, November 1994,vol 20,No-5
7. Saunders H D. Lumbar Traction, *The Journal of Orthopaedic and Sports Physical therapy*, Summer 1979, Vol. 1, No. 1, 36-45
8. Harte AA, Baxter GD, Gracey JH, The effectiveness of motorised lumbar traction in the management of LBP with lumbo sacral nerve root involvement: a feasibility study. *BMC Musculoskeletal Disorders* 2007.
9. Vander-Heijden GJMG, Beurskens AJHM, Dirx MJM, Bouter LM, Lindeman E. Efficacy of Lumbar traction: a randomized clinical trial. *Physiotherapy.* 1995;81(1):39-35
10. Moyeenuzzaman M. A study of patients with low back pain attending Physical Medicine Department of IPGM & R [Dissertation]. BCPS, Dhaka. 1992
11. Hasan MA, Rahim MA, Siddiq MAB, Hossain MS, Taslim A, Paul S, Barua A, Hasn MMU, Islam MN, Haq SA. Study of spectrum of rheumatic diseases in the department of Physical Medicine and Rehabilitation, Chittagong Medical College Hospital, Bangladesh. *Journal of Chittagong Medical College Teachers' Association*, 2009; 20(1): 6-11.
12. Cailliet R. Spine disorders and deformities. In: Kottke FJ, Lehmann FJ, eds. *Krusen's Handbook of Physical Medicine and Rehabilitation.* 4th ed.Philadelphia: W.B. Saunders; 1990: pp.792-809
13. Borman P, Keskin D, Bodur H. The efficacy of lumbar traction in the management of patients with low back pain. *Rheumatol Int* 2003; 23: 82-86
14. Kelsey JL, Githens PB, White AA, Holford TR, Walter SD, O'Connor T, Ostfeld AM, Weil U, Southwick WO, Calogero JA. An epidemiologic study of lifting and twisting on the job and risk for acute prolapsed lumbar intervertebral disc. *Journal of Orthopaedic Research* 1984;2:61-66
15. Seidler A, Bolm-Audorff U, Siol T, Henkel N, Fuchs C, Schug H, Leheta F, Marquardt G, Schmitt E, Ulrich PT. Occupational risk factors for symptomatic lumbar disc herniation; a case-control study. *Occupational and Environmental Medicine* 2003;60:821-830

16. Seidler A, Bolm-Audorff U, Siol T, Henkel N, Fuchs C, Schug H, Leheta F, Marquardt G, Schmitt E, Ulrich PT. Occupational risk factors for symptomatic lumbar disc herniation; a case-control study. *Occupational and Environmental Medicine* 2003;60:821-830
17. Waddell G, McCulloch JA, Kummel ED, Venner RM. Nonorganic physical signs in low-back pain. *Spine* 1980;5:117-125
18. Mundt DJ, Kelsey JL, Golden AL, Pastides H, Berg AT, Sklar J, Hosea T, Panjabi MM. An epidemiologic study of non-occupational lifting as a risk factor for herniated lumbar intervertebral disc. *Spine* 1993;18:595-602
19. Helia-Vaara M. Body height, obesity, and risk of herniated lumbar intervertebral disc. *Spine* 1987;12:469-472
20. Vander-Heijden GJMG, Beurskens AJHM, Dirx MJM, Bouter LM, Lindeman E. Efficacy of Lumbar traction: a randomized clinical trial. *Physiotherapy*. 1995;81(1):39-35