



Research article

## EFFECTIVENESS OF BACK SCHOOL EXERCISES IN NON SPECIFIC LOW BACK PAIN

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### ABSTRACT

**Background:** Worldwide, 65–80% of the population experience low back pain at some stage of their lives. The most common cause of disability is related to the musculoskeletal system; particularly low back pain and spinal disorders. It is convenient to classify low back pain into two group's i.e. specific and nonspecific low back pain. **Aim:** To study effectiveness of back school exercises in nonspecific low back pain. **Methods:** A sample size of 50 between age group of 20 – 60 years was selected. Pre intervention VAS and RMDQ score was noted with back school intervention for four weeks followed by post intervention VAS and RMDQ score. **Results:** After back school intervention the VAS score for pain intensity was reduced at rest and on activity, the RMDQ scores was also reduced significantly, it shows the low back pain disabilities was reduced in all age groups. **Conclusion:** From the study it is concluded that the back school exercises are effective in nonspecific low back pain. The back school interventions can improve workability of patient.

**KEYWORDS:** Nonspecific-low-back-pain (NSLBP), Back-School-Exercises, Roland-Morris-low-back-pain-disability-questionnaire

### INTRODUCTION

Worldwide, 65–80% of the population experience low back pain at some stage of their life <sup>[1]</sup>. The most common cause of disability is related to the musculoskeletal system; particularly low back pain and spinal disorders <sup>[2]</sup>. It is convenient to classify low back pain into two group i.e. specific and nonspecific low back pain. The majority of low back pain is non – specific and has no clear diagnostic, prognostic or treatment protocols <sup>[3]</sup>. Most cases (90%) are nonspecific and occur in all age groups <sup>[4]</sup>. Nonspecific low back pain is characterized by the absence of structural change; that is, there is no disc space reduction, nerve root compression, bone or joint injuries, marked scoliosis or lordosis etc. that may lead to back pain. Despite the lack of structural change in nonspecific low back pain; it can limit daily activities and cause temporary or permanent inability to work, being one of the main causes of absence at work in the

world <sup>[4]</sup>. The incidence of nonspecific LBP is higher in workers subjected to heavy physical exertion, such as weight lifting, repetitive movements, and frequent static postures <sup>[5,6]</sup>. Back school is defined as a postural education program used for the prevention and treatment of patients with low back pain, which includes therapeutic exercises and theoretical and practical lessons given to a group of patients, supervised by a physical therapist <sup>[7]</sup>. The Back School method was developed in 1969 in Sweden by Mariane Zachrisson Forsssel with the goal of managing the patient's current episode and preventing recurrent episodes of low back pain <sup>[8]</sup>. The program is composed of 4 sessions lasting approximately 45 minutes, with each session organized by theoretical components and including exercises that aim to improve mobility, flexibility, and strength <sup>[9]</sup>.

**Aim:** To study the effectiveness of back school exercise program in nonspecific low back pain

**METHODOLOGY**

**Study design:** The Interventional study was done at Physiotherapy outpatient department of Vikhe Patil Memorial Hospital, ahmednagar.

**Ethical approval:** Study was ethically approved by IEC, PDVVPF's, COPT, Ahmednagar.

**Inclusion criteria:** Subjects included were Patients of both genders, back pain of unknown origin, back pain since six to twelve weeks, age between 20 – 60 years

**Exclusion criteria:** Patients taking

**Sample size:** fifty sample size

**Sampling method:** The sampling method was convenient sampling

**Methodology:**

**Procedure:** Patient's were selected according to inclusion criteria, written consent was obtained, procedure was explained, VAS [10] score was noted, subjects were asked to fill pre intervention questionnaire, back school exercise program [11] was given for four weeks, three days a week, one hour per session followed by VAS score and post intervention questionnaire.

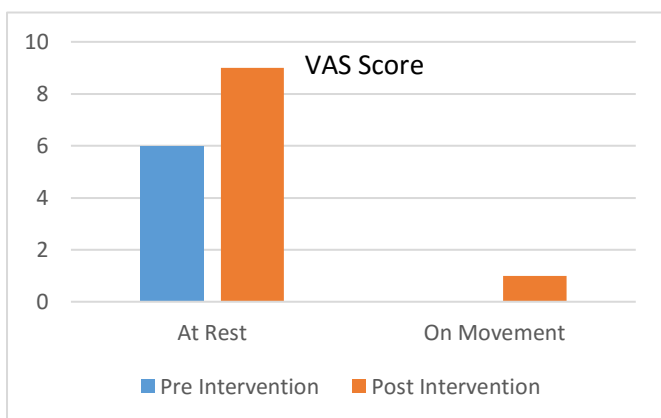
**Outcome measurements:** VAS, Roland & Morris low back pain disability questionnaire (RMDQ) [12] was used as outcome measure.

**RESULTS**

As data was analyzed the intensity of back pain measured with VAS (Visual Analogue Scale), the pre intervention score at rest & on movement was 6 & 9, after back school intervention, the pain intensity was 0 & 1 on rest and activity respectively. The average score of RMDQ for pre assessment was 19 which was reduced to 04 in post assessment.

**Table 1. Pre & Post VAS Score**

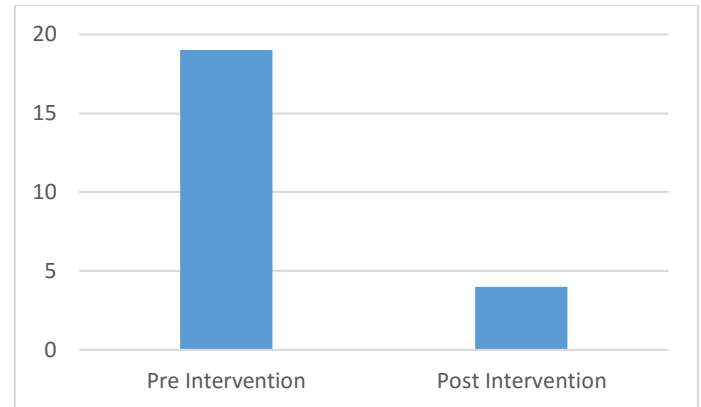
	VAS SCORE	
	At Rest	On Movement.
Pre intervention	06	09
Post intervention	0	01



**Figure 1. Pre & Post VAS Score**

**Table 2. Average RMDQ Score**

RMDQ Score	
Pre Intervention	19
Post Intervention	04



**Figure 2. Average RMDQ Score**

**DISCUSSION**

The objective of study was to find out the effectiveness of the back school program in patients with nonspecific low back pain. On follow-up, reduction in both pain intensity and disability in both groups was observed. The study also found more than 20% improvement in pain and for RMDQ score

A study by andrade SC has also shown an effectiveness of the back school method compared with a non-treatment or control intervention [13]. Pain due to musculoskeletal discomfort is a multi – factorial phenomenon. It can affect almost all parts of body depending upon the physical movement characteristics and work setup [14]. As the majority of patients in study were farmers, occupational exposure in farming is quite different from other physically demanding occupations. While working farmers are exposed to various potentially dangerous situations like excessive bending, twisting, kneeling, carrying load, squatting, extremes of temperature, vibration from equipment's and transport, exposure to dust, static and awkward stoop postures, repetitive and monotonous work, etc. All these are the predisposing risk factors associated with various musculoskeletal disorders but commonly associated with low back pain [15]. As, the back care is important and the data collected shows the back school intervention is effective in eliminating pain and nonspecific low back pain.

**CONCLUSION**

The study concludes that the back school exercises are effective in reducing pain and nonspecific low back pain.

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