

Current Trends Among Indian Physiotherapist About Lumbosacral Radiculopathy: A Cross Sectional Survey

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Abstract: Low back pain is very commonly seen in the general population at some point in their life irrespective of their biological profile. Only 3-5 % of people get lumbo sacral radiculopathy but this small percentage creates a very large number of patients for countries like India. Physiotherapists have to manage patients based on available resources and patients' psychological mind-set. This study was conducted to know current trends of assessment and management strategies among Indian physiotherapists about lumbo sacral radiculopathy with help of online surveys. **Materials and Methods:** For a period of 45 days google form survey questionnaire posted on various social media platforms and received 569 responses from Indian physiotherapists which statistically analyzed further. Questionnaires consist of closed ended questions related to assessment and management of lumbosacral radiculopathy. **Results:** This survey determines considerable variability in assessment and physiotherapy management when compared to global standards, which likely reflects the lack of evidence based clinical practice in India. **Conclusion:** Survey results identify the key focus areas for future research and help to develop strategies to promote evidence based practice so patients can get better and faster recovery.

Index Terms: Biopsychosocial model, Directional preference exercises, Evidence based practice, Indian physiotherapist, Lumbosacral radiculopathy

I. INTRODUCTION

Low back pain is a very common problem in society as the majority of people experience low back pain at some point of their life. (Damian Hoy et al., 2010) Low back pain is a heterogeneous disorder including patients with dominant nociceptive (e.g., myofascial low back pain), neuropathic (e.g., lumbar radiculopathy), and central sensitization pain. (Nijs J et al. 2015) Low back pain is a very familiar term to society as it is a major contributing factor in the current time to disability, loss of working hours and medical expenses. Worldwide, years lived

with low back pain related disability has been increased by 54% in 1990 to 2015, mainly because of population growth and aging. Around 40% of people have low back pain at some point in their lives, whereas this number goes up to 80% among people in the developed countries, out of them 3-5% population will develop lumbosacral radiculopathy. (Alexander CE et al. 2020) Lumbosacral radiculopathy can be seen in low to high income group, peoples of underdeveloped to developed countries, children to elderly people, in male and females, so in nutshell Lumbosacral radiculopathy can be seen in anyone irrespective of age, gender or geographic location. (Nafissi et al. 2012) India having very large numbers of patients who suffer from lumbosacral radiculopathy especially the majority of them in low to middle income slab who can't afford loss of work or long term physiotherapy treatment because of their economical state or psychological mind state. So to give best possible treatment in minimal required period one need to work on evidence based practice which is proven and globally acceptable. But even globally many physical therapists seem not to follow evidence-based guidelines when managing musculoskeletal conditions. (Zadro J et al 2019) So when it comes to Indian physiotherapist who have positive attitude toward evidence based program but lack of time, poor knowledge of statistic, inability to apply findings to patients with unique characteristics are major barrier to Indian physiotherapist. (Panhale VP et al 2015) Most of the research available on evidence based practice is on nonspecific musculoskeletal conditions. This study particularly focused on specific musculoskeletal conditions which is lumbosacral radiculopathy. So the Aim of the study is to find the level of evidence based practice followed by Indian physiotherapists for lumbosacral radiculopathy as there is very little available

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information on this. By this study results there is considerable scope to increase use of recommended treatments and reduce use of treatments that are not recommended and by that way many unwanted treatments and surgeries can be avoidable. These faster and better recovery will let Indian physiotherapists to work more and more in an evidence based manner for other conditions too.

Table 1: Survey questionnaire on lumbosacral radiculopathy	
General information:	
1	Name of participant
2	State where currently practicing
3	Registered physiotherapist or not?
4	Contact details
Assessment	
1	What special test do you prefer most to diagnose lumbosacral radiculopathy?
2	Do you prefer back MRI to diagnose lumbosacral radiculopathy?
Physiotherapy Intervention	
1	In case of moderate severity do you advise absolute bed rest?
2	Do you know about the BPS (bio psycho social) model?
3	What exercise do you prefer for lumbosacral radiculopathy?
4	Do you use any manipulation techniques to treat lumbosacral radiculopathy?
5	Choice of electrotherapy modalities if you prefer for lumbosacral radiculopathy.
6	How confident are you in treating lumbosacral radiculopathy?

II. METHODS

The pandemic of COVID– 19 have pushed many researchers to use online surveys and rating scales due to Lack of in-person access to participants and timeliness. (De Man et al 2021) Survey research is a unique way of gathering information from a large cohort. Advantages of surveys include having a large population and therefore a greater statistical power, the ability to gather large amounts of information and having the availability of validated models. However, offline surveys are costly, there is sometimes discrepancy in recall accuracy and the validity of a survey depends on the response rate. (Jones T. L et al 2013) But Open web surveys can gather more responses with no cost burden in a limited timeline. The best way of open web survey is to conduct via google form. (Table 1). The google form quaternary designed to find a level of evidence based practice followed by Indian physiotherapists in assessment and interventions with a 10 to 15 minute response time. Direct, closed ended questions with pre-

determined response categories were structured. Questionnaire assessed by a team of senior physiotherapists for its construct and content validity. The questionnaire consisted of twelve compulsory questions which were divided into three sections – General Information (demographics), assessment and Physiotherapy Intervention. The General information section had four questions, assessment section having two questions, and last physiotherapy intervention section having six questions.

A. Participants

Inclusion and exclusion criteria:

All Indian registered physiotherapists were eligible for an online Survey who is dealing with lumbosacral radiculopathy cases. No age bar restriction was made for participants. A google form was posted to social media platforms like WhatsApp, telegram, Facebook etc., with aim of getting response from different corners of India as most physiotherapists were active on social media platforms in covid lockdown. Many attempts were made in 45 days (01/06/2020 to 15/07/2020) to reach the physiotherapist virtually and collected responses. All participants have to give informed consent prior to taking part in the survey and before final submission of form they have a chance to withdraw from study by not submitting responses. Respondents have to give informed consent and must reply to all questions in the survey then only the respondent can submit a survey. And in given time 569 google form responses received which were further taken for data analysis.

III. DATA ANALYSIS

Data was managed into excel spreadsheet to form a master chart and the IBM SPSS® software platform used for analysis.

IV. RESULTS AND DISCUSSION

A. Assessment related question

1) What Special Test Indian Physiotherapist Prefers Most To Diagnose Lumbosacral Radiculopathy?

Out of 569 respondent, 409 means 71.88% preferred Straight Leg Raise, 134 physiotherapist i.e. 23.55% preferred slump, 8 physiotherapists i.e., 1.40% preferred both test and rest of 18 physiotherapists preferred other special test for assessment of lumbosacral radiculopathy. Details of preferred Special Test responses are illustrated in figure 1.

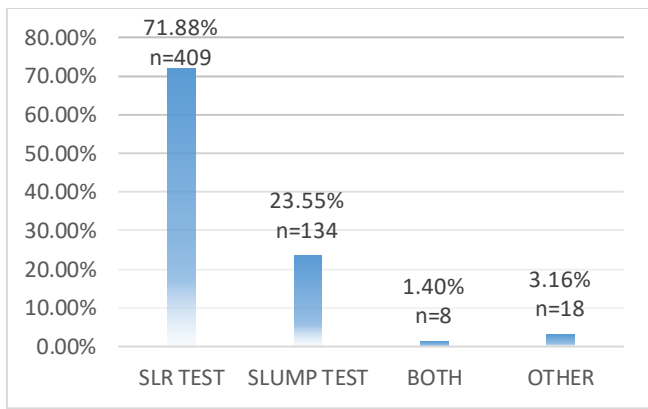


Figure 1 Special Test of Choice

Evidence based globally the most commonly used special test for lumbosacral radiculopathy is the Lasegue test which is famously called a straight leg test. And survey results find 71.88% responses matching the global standards. In case of low back pain this test is used to evaluate the sciatic compromise due to lumbosacral nerve root irritation. This test was first described by Dr. Lazarevic and it wrongly attributed to Dr. Lasegue sign. This test can be positive in lumbar disc herniation (most commonly), facet joint cyst or hypertrophy. This test has low specificity and high sensitivity for lumbar disc herniation. Positive sign suggestive of lower lumbar nerve root involvement (L4 to S1). (Camino Willhuber GO et al. 2020) Reproduction of radicular symptoms can also be produced by placing the patient in a seated position with the neck in full flexion and knees in full extension i.e., slump test. (Alexander CE, 2020)

2) Do Indian physiotherapists prefer lumbar spine MRI to diagnose lumbosacral radiculopathy?

As per evidence based practice standard imaging is usually not recommended in patients with lumbosacral radiculopathy whose symptoms are less than four to six week duration. Advanced imaging modalities such as CT and MRI can be considered as gold standard if used correctly in patients with radiculopathy that gives poor response to conservative management in four to six week, myelopathy, neurogenic claudication, or patients with “red flag” symptoms. (Rao et al. 2018). Study found very high dependency i.e. 83.48% (n=475) on advanced imaging scans which is against evidence based practice and it’s just an economic burden to patients, so it is very important to focus more on detailed physical examination and patient history than advanced imaging.

B. Physiotherapy Intervention

1) In case of moderate severity do you advise absolute bed rest?

But globally there are very limited articles or evidence which support absolute bed rest as part of treatment as it is associated with muscle deconditioning, muscle disuse atrophy, spinal

stiffness, and reduction in aerobic capacity etc. and thus it may delay recovery. (Dydyk AM et al 2021)

Study found that only 43.77% Indian physiotherapists would not recommend to have an absolute bed rest as per current evidence.

2) Do you know about the BPS (bio psycho social) model?

Melzack and Wall (1965) gate control theory failed to give an answer on phantom limb pain, allodynia, as pain is not only a biological phenomenon but its multifactorial where the higher Centre plays a very crucial role. (Massieh Moayedi et al. 2013) Study found that 56.76% physiotherapists were not aware about the biopsychosocial model of pain which is widely getting accepted and practiced worldwide which emphasizes work on cognitive level too for best possible outcome.

3) What exercise do you prefer for lumbosacral radiculopathy?

Directional preference exercises is the choice of Indian physiotherapist as it preferred by majority which is 31.46% of physiotherapists, other two next to it were core stability exercise (22.32%) and general back care exercises (15.47%). All graphical details illustrated in figure 2 which gives a complete idea.

Directional preference exercises have far better outcomes than

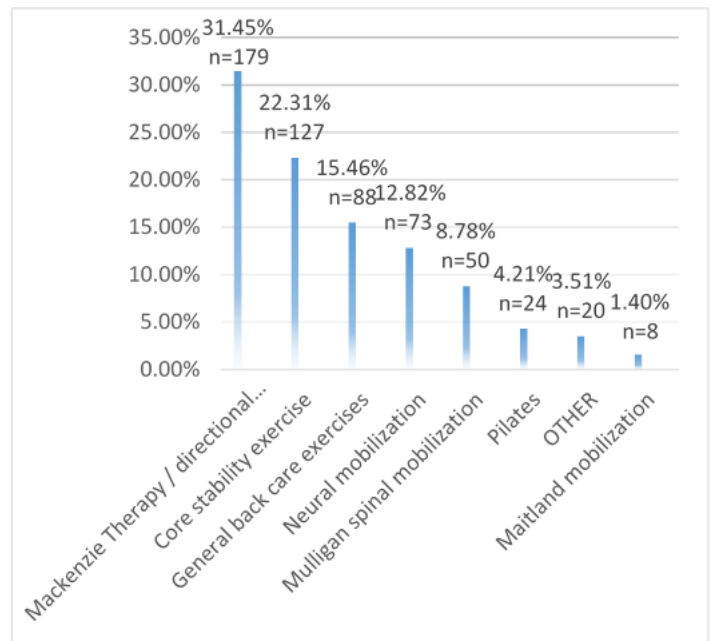


Figure 2 Choice of Exercise Protocol

non-specific general back care exercises to low back pain patients. Poor prognosis can be turned in favorable recovery if given specific directional preference exercises. (Long et al. 2008) All exercise programs can be used to manage patients with lumbosacral radiculopathy based on clinical presentation and choice of therapist.

4) Do you use any manipulation techniques to treat lumbosacral radiculopathy?

The use of manipulation techniques should be based on the patient's physical condition, level of morbidity and skill of the physiotherapists. Because wrong selection of patient or faulty techniques may worsen the symptoms or may lead to serious complications. Study concluded that 57.12% Indian physiotherapists are not in favour to use any sort of spinal manipulation techniques.

5) Choice of electrotherapy modalities if you prefer for lumbosacral radiculopathy.

combination use are TENS (26.88%), IFT (20.56%), ILT (12.82%), SWD (12.12%), US (10.01%) and rest of many other options were there but the proportion of use is less than 10%.which illustrated in figure 3. (US=Ultrasound therapy, SWD= Short wave diathermy, ILT=Intermittent lumbar/pelvic traction, IFT=Interferential therapy, TENS=transcutaneous electrical nerve stimulation)

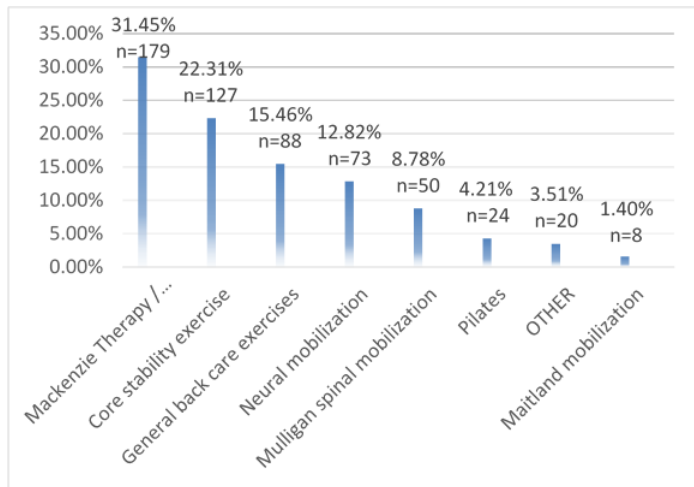


Figure 3 Choice of Electrotherapy Modality

Always use of particular modalities is big debatable because there are no thumb rules to use particular modalities. Intermittent pelvic traction, laser therapy and ultrasound therapy have positive outcomes while treating patients of lumbar disc herniation. (Unlu Z et al. 2008) Hahne AJ et al. 2010 concluded in systemic review that there was no clinically significant difference among the use of intermittent pelvic traction, laser therapy, and ultrasound therapy for management of lumbar disc hemiation with associated radiculopathy. Transcutaneous electrical nerve stimulator + Ultrasound locally combination with exercise is more effective than laser and exercise for pain and disability. (Kolu E et al. 2018)

6) How confident are you in treating lumbosacral radiculopathy?

Study showed that only 53.08% Indian physiotherapists have high confidence in assessment and management of lumbosacral radiculopathy cases. Details given in Figure 4.

Level of confidence	Percentage of physiotherapist	Number of physiotherapist
Low	4.21%	24
Medium	42.70%	243
High	53.08%	302

Figure 4 Confidence level in managing lumbosacral radiculopathy cases

The level of confidence can be improved by improving skills of assessment, management and focusing more on evidence based practice.

V. CLINICAL RELEVANCE

The information collected from this survey provides a description of current physiotherapy practice in Indian clinical setup with reference to current trends or global standards of evidence based practice.

VI. STUDY LIMITATIONS

Online google form survey is an "open" web-based survey, selection bias occurs due to the non-representative nature of the Internet population, and (more importantly) through self-selection of participants, which is known as the 'volunteer effect'. (Eysenbach, G. et al 2002)

CONCLUSION

This survey demonstrates considerable variability in assessment and physiotherapy management when compared to global standards, which likely reflects the lack of evidence based clinical practice in India. Also most of research is available on non-specific low back pain, very little work has been done on lumbosacral radiculopathy. Survey results provide vast information to physiotherapists and physiotherapy students regarding current clinical practice, a weak area which needs to be updated to meet global standards and identifies the key focus areas for future research.

DISCLOSURES

The authors declare that no financial support was obtained to undertake this study. The authors report no conflicts of interest. Study results show current trends practiced by Indian physiotherapists and that does not mean high rated options are better than others.

Because selection of any particular technique is based on various factors like patients history, clinical presentation,

availability of various modalities and facilities in clinical settings, skill of therapist and concern of patients.

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