Low back pain among preprimary and primary school teachers affecting their Activities of Daily Living (ADL's): Questionnaire based study

ABSTRACT:

Background: Low back pain is a complicated illness that is influenced by a variety of circumstances, making it difficult to pinpoint a single cause or even a major contributor. The yearly first-time incidence of low back pain is 5% and the annual prevalence ranges from 15 to 63 percent (those suffering at the time of diagnosis) **Objective:** The study's goal is to find out how common low back pain is among preprimary and primary school teachers by analyzing questionnaire responses. Methods: A suitable sample approach was used to conduct a questionnaire-based cross-sectional study on 200 school instructors in diverse schools (Mother's pet kindergarten, mundle English medium, kinder joy, etc). **Result:** The results revealed that preprimary and primary school teachers have a moderate level of low back discomfort, with an average score of 25.35 percent.**Conclusion:** It also shows that there is a moderate increase in low back discomfort as one's working years grow.

Keyword: Low back pain, pre-school teachers, kindergarten

INTRODUCTION

Low back pain is the leading cause of disability and incapacity to work, with up to 90% of the world's population experiencing it at some point in their lives. Low back pain is a complicated illness influenced by a variety of circumstances, making it difficult to pinpoint a single cause or even a single important contributor [2]. Low back discomfort affects 5% of people for the first time each year [1], which is a significant number. LBP not only affects people's quality of life but also affects their productivity at work. [1] In undeveloped countries, the situation is said to be significantly worse, with poor working conditions. [2]

Women in their forties and fifties frequently complain about low back pain. From the premenopausal to the menopausal phase, it slows the release of hormones by the ovaries. This is a method that takes time. In postmenopausal women, the overall prevalence of LBP is substantial. Many chronic pain illnesses and severe musculoskeletal system diseases impact women in a more numbing way. As you become older, your spine's discs may begin to wear down. Injuries or repetitive action can also induce degeneration. After the age of 40-45, the majority of people experience some degree of disc degeneration. It does not always cause discomfort, but in some people, it can be very painful.

The study showed that people with low back pain have physical limitations as a result of their discomfort. These impairments have an impact on their daily life activities, and the degree of their discomfort has an impact on their level of disability [15].

NEED FOR STUDY:

The goal of the study is to learn how low back pain affects preprimary and primary school teachers. Additionally, it is to gather possible risk factors of low back pain and educational awareness in regards to low back pain.

Graham Brennan and Carmel Vekins 13 july (2007) revealed high prevalence of lower back pain and unveiled a recurrence rate and behavioural habits of sufferers, which are warning signs of a more chronic state to come. Nyland and Grimmer (2003) [4] assessed undergraduate physiotherapy students using Nordic back care questionnaire and their thorough assessment of lower back pain retrospectively. Palmer et al. [27] prospectively revealed 36% prevalence in general population which increase to 49% over 10 years. Croft and colleagues (1998) [5] showed that although 59% of sufferers did not consult again within 6 months of injury, only 25% had fully recovered within 12 months. Tsuboi H, Takeuchi K, Watanbe M, Hori R, Kobayashi F: Psychosocial factors related to low back pain among school personnel in Nagoya, Japan Ind Health 2002, Sealesta OJ, et al, ergonomic issues among sewing machine operators in the textile manufacturing industry in Botswana, work 2011.

AIM

The purpose of this research is to find out how common low back pain among preprimary and primary school teachers.

OBJECTIVE

The study's goal is to determine the prevalence of low back pain among preprimary and primary school teachers based on questionnaire responses.

METHODOLOGY

A questionnaire-based cross-sectional study was used as the study design.

- Learning environment: a variety of schools (Mother's Pet Kindergarten, Mundle English Medium, Kinderjoy, and so on).
- Sampling method: A convenience sample
- All teachers are included in the target population.
- Number of participants: 200

INCLUSION CRITERIA

- Both genders
- Age: 20- 45 years

EXCLUSION CRITERIA

- Traumatic condition
- Spinal surgeries
- Pregnancy
- Radiculopathy

PROCEDURE

A teacher observational study was done in several schools.

- The ethical committee and the institution's leader gave their approval.
- Permission was obtained from the school authority.
- Both genders were represented.
- The entire technique and questionnaire were explained to them.
- Each teacher signed a written consent form.
- The questionnaires were completed.
- Data was collected & analyzed

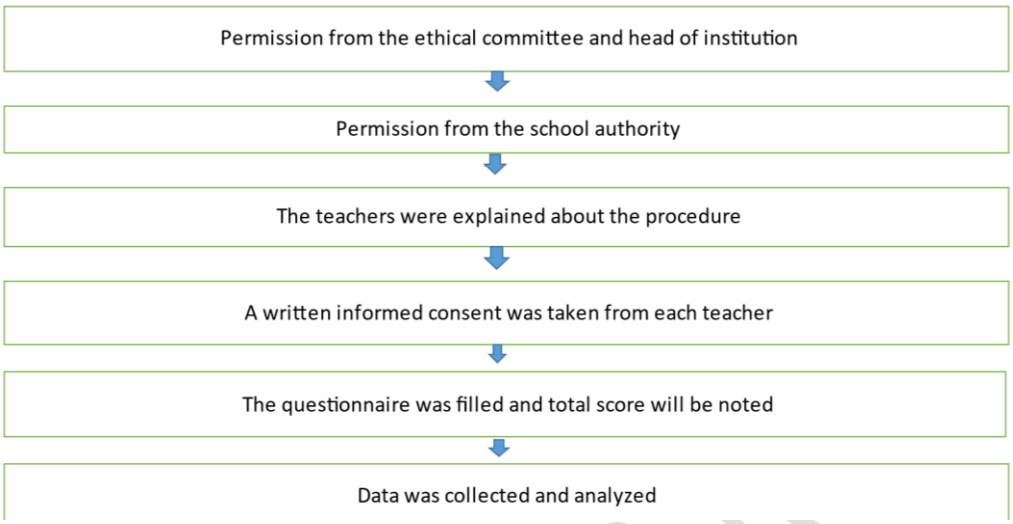

Fig. 1. Experimental procedure

MATERIAL:

The Modified Oswestry Questionnaire was employed, which consisted of ten closed-ended questions with a total score of 100 percent. The questionnaire includes a (NPRS) scale that an individual must complete based on the degree of their pain. On a scale of 0 to 5, each question is graded. To calculate the index, add the scores for all questions and multiply by two (range 0-100)

Scoring –

- 0-20: minimal
- 21-40: moderate
- 41-60: severe
- 61-80: crippling back pain
- 81-100: these patients are either bed-bound or have an exaggeration of symptoms

Fig .2 : Numerical rating scale

NRS- Numerical rating scale is an 11 point scale for patient self reporting scale.

RATING	PAIN LEVEL
0	NO PAIN
1-3	MILD PAIN
4-6	MODERATE PAIN
7-10	SEVERE PAIN

Oswestry Low Back Pain Scale

Please rate the severity of your pain by circling a number below:

No pain 0 1 2 3 4 5 6 7 8 9 10 ***Unbearable pain***

Name **Date**

Instructions: Please circle the **ONE NUMBER** in each section which most closely describes your problem.

Section 1 – Pain Intensity
0. The pain comes and goes and is very mild.
1. The pain is mild and does not vary much.
2. The pain comes and goes and is moderate.
3. The pain is moderate and does not vary much.
4. The pain comes and goes and is severe.
5. The pain is severe and does not vary much.

Section 2 – Personal Care (Washing, Dressing, etc.)
0. I would not have to change my way of washing or dressing in order to avoid pain.
1. I do not normally change my way of washing or dressing even though it causes some pain.
2. Washing and dressing increase the pain but I manage not to change my way of doing it.
3. Washing and dressing increase the pain and I find it necessary to change my way of doing it.
4. Because of the pain I am unable to do some washing and dressing without help.
5. Because of the pain I am unable to do any washing and dressing without help.

Section 3 – Lifting
0. I can lift heavy weights without extra pain.
1. I can lift heavy weights but it gives extra pain.
2. Pain prevents me lifting heavy weights off the floor.
3. Pain prevents me lifting heavy weights off the floor, but I can my more energetic interests, e.g., dancing, etc.
manage if they are conveniently positioned, e.g., on a table
4. Pain prevents me lifting heavy weights but I can manage light
to medium weights if they are conveniently positioned.
5. I can only lift very light weights at most.

Section 4 – Walking
0. I have no pain on walking.
1. I have some pain on walking but it does not increase
2. I cannot walk more than 1 mile without increasing pain.
3. I cannot walk more than ½ mile without increasing pain. alternate forms of travel.
4. I cannot walk more than ¼ mile without increasing pain.
5. I cannot walk at all without increasing pain.

Section 5 – Sitting
0. I can sit in any chair as long as I like.
1. I can sit only in my favorite chair as long as I like.
2. Pain prevents me from sitting more than 1 hour.
3. Pain prevents me from sitting more than ½ hour.
4. Pain prevents me from sitting more than 10 minutes.
5. I avoid sitting because it increases pain immediately

Section 6 – Standing
0. I can stand as long as I want without pain.
1. I have some pain on standing but it does not increase with time
2. I cannot stand for longer than 1 hour without increasing pain
3. I cannot stand for longer than ½ hour without increasing pain.
4. I cannot stand for longer than 10 minutes without increasing pain.
5. I avoid standing because it increases the pain immediately.

Section 7 – Sleeping
0. I get no pain in bed.
1. I get pain in bed but it does not prevent me from sleeping well.
2. Because of pain my normal nights sleep is reduced by less than . one-quarter.
3. Because of pain my normal nights sleep is reduced by less than one-half.
4. Because of pain my normal nights sleep is reduced by less than three-quarters.
5. Pain prevents me from sleeping at all

Section 8 – Social Life
0. My social life is normal and gives me no pain.
1. My social life is normal but it increases the degree of pain
2. Pain has no significant effect on my social life apart from limiting
3.Pain has restricted my social life and I do not go out very often.
4. Pain has restricted my social life to my home.
5. I have hardly any social life because of the pain

Section 9 – Traveling
0. I get no pain when traveling.
1. I get some pain when traveling but none of my usual forms of with distance. travel make it any worse.
2. I get extra pain while traveling but it does not compel me to seek
3. I get extra pain while traveling which compels to seek alternative forms of travel.
4. Pain restricts me to short necessary journeys under ½ hour.
5. Pain restricts all forms of travel.

Section 10 – Changing Degree of Pain
0. My pain is rapidly getting better.
1. My pain fluctuates but is definitely getting better.
2. My pain seems to be getting better but improvement is slow.
3. My pain is neither getting better or worse.
4. My pain is gradually worsening.
5. My pain is rapidly worsening.

TOTAL

DATA ANALYSIS

- Data was spread in excel sheet Microsoft 2013
- Type of data: Descriptive.
- Presentation:
- a) Closed ended in %
- b)Statistical software : Open epical
- c) Version :6

RESULTS and DISCUSSION:

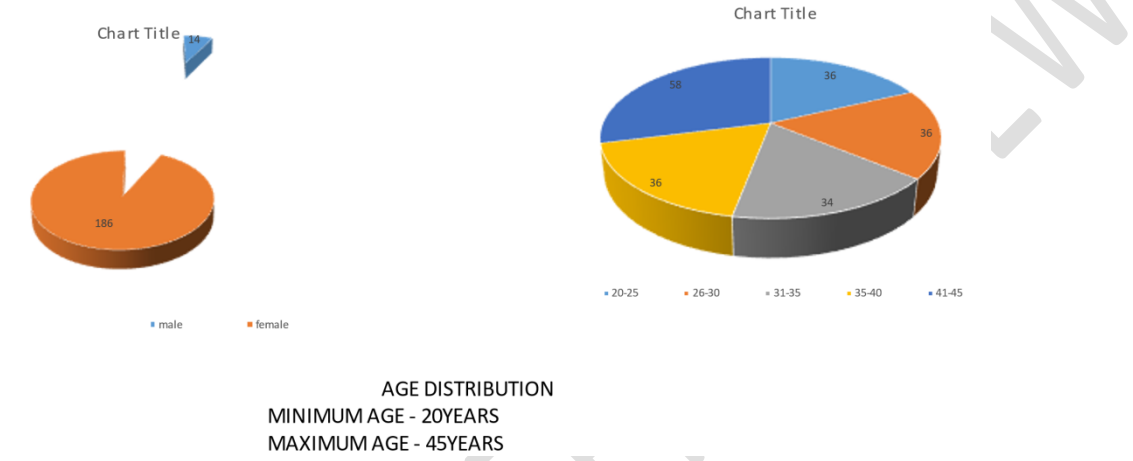

Fig. 3. Age distribution

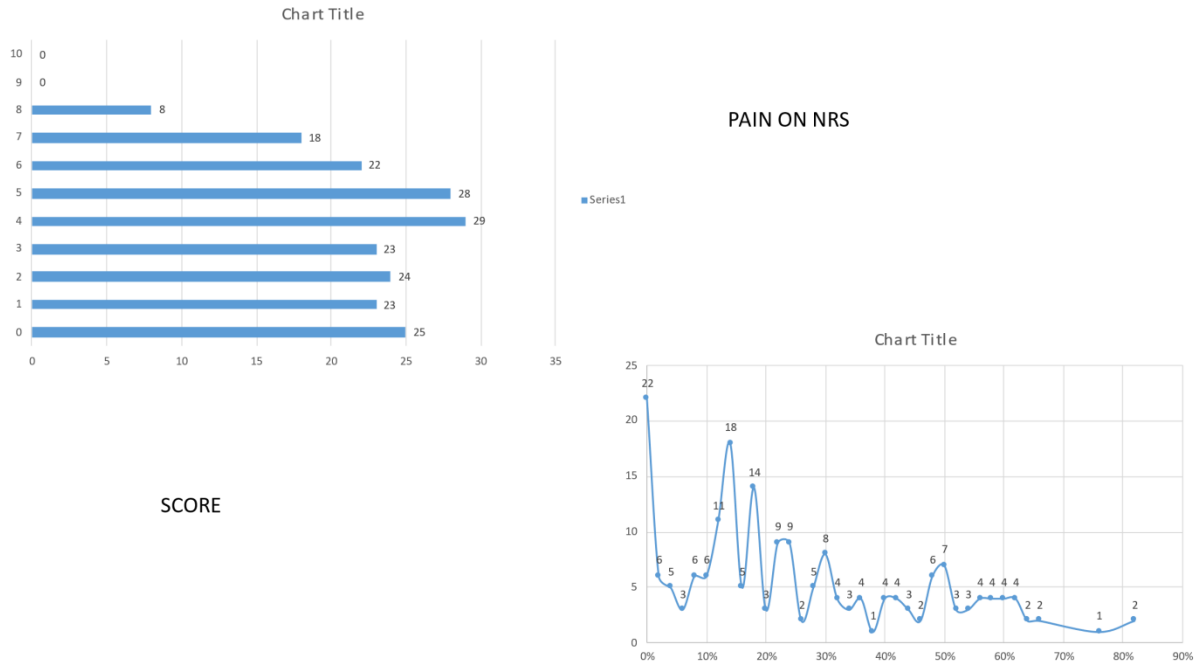

Fig. 4. Score distribution

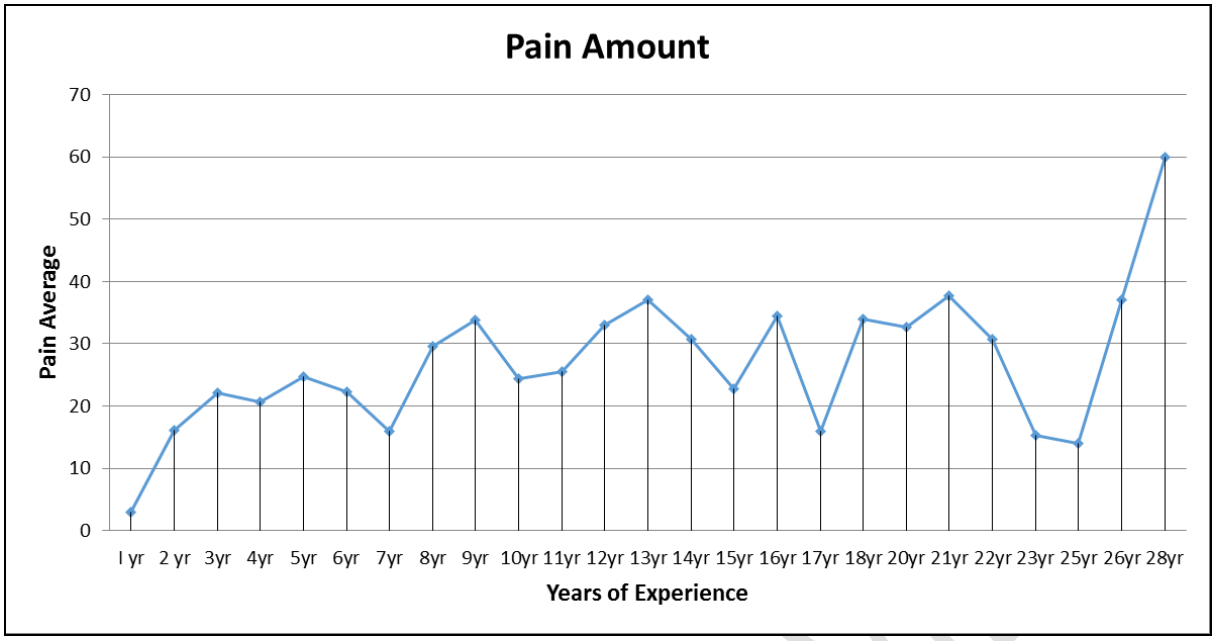

Fig. 5. Pain amount

The results suggest that preprimary and primary school teachers have a moderate level of low back discomfort, with an average score of 25.35 percent.

It also reveals that as one's working years grow, so does the incidence of low back discomfort.

The goal of the study was to find out how common low back pain is among pre-primary and primary school teachers, as well as what variables contribute to it.

Our research found that primary school teachers had a moderate prevalence of low back discomfort that interferes with their daily activities. According to some research, teaching is a high-risk occupation for low back discomfort.[3] Kindergarten instructors frequently engage in activities that cause stress on the pelvic and lumbar spine, such as forward leaning posture, crouching, and kneeling. Physical load activity, such as imbalanced posture, pelvic rotation, flexion while standing, and so on, characterizes their work. Physically demanding jobs were found to have a strong link to low back discomfort. Despite the fact that these participants had a significant prevalence of low back pain, their ratings were low. A high frequency of job demand has been identified as a risk factor in several investigations[1]. Many studies were reported on related aspects of low back pain[6-10]. Some of the important studies were reviewed[11-14].

CONCLUSION:

Teachers who work long hours are more likely to experience low back pain. It also reveals that as one's working years grow, so does the incidence of low back discomfort.

Ethical Approval and Consent :

The ethical committee and the institution's leader gave their approval. Respondents' written consent has been collected and preserved by the author(s).

REFERENCES:

1. Tsuboi H, Takeuchi K, Watanabe M, Hori R, Kobayashi F: Psychosocialfactors related to low back pain among school personnel in Nagoya,Japan. Ind Health 2002, 40(3):266–271.
2. Sealetsa OJ, Thatcher A: Ergonomics issues among sewing machine operatorsin the textile manufacturing industry in Botswana. Work 2011, 38(3):279–289.
3. Hayes MJ, Taylor JA, Smith DR: Predictors of work-related musculoskeletaldisorders among dental hygienists. Int J Dent Hyg 2012, 10(4):265–269.
4. Smith DR, Leggat PA, Speare R: Musculoskeletal disorders andpsychosocial risk factors among veterinarians in Queensland. AustraliaAust Vet J 2009, 87(7):260–265.
5. Smith DR, Mihashi M, Adachi Y, Koga H, Ishitake T: A detailed analysis ofmusculoskeletal disorder risk factors among Japanese nurses. J Safety Res2006, 37(2):195–200.
6. Deshmukh, Mitushi Kishor, Pratik Arun Phansopkar, and Kiran Kumar. "Effect of Muscle Energy Technique on Piriformis Tightness in Chronic Low Back Pain with Radiation." JOURNAL OF EVOLUTION OF MEDICAL AND DENTAL SCIENCES-JEMDS 9, no. 44 (November 2, 2020): 3284–88. https://doi.org/10.14260/jemds/2020/722.
7. Sinha, Saumi, Rakesh Kumar Sinha, Pratik Phansopkar, and Sachin Chaudhary. "Effect of Psychomotor Physiotherapy with Individualized Physiotherapy Program on Pain, Kinesiophobia and Functional Outcome Following Transforaminal Interbody Lumbar Fusion (TLIF): A Case Report." MEDICAL SCIENCE 24, no. 106 (December 2020): 4091–97.
8. Baisakhiya, Nitish, Prasad Deshmukh, and Vinod Pawar. "Tornwaldt Cyst: A Cause of Neck Pain and Stiffness." INDIAN JOURNAL OF OTOLARYNGOLOGY AND HEAD & NECK SURGERY 63, no. 1, 1 (July 2011): S147–48. https://doi.org/10.1007/s12070-011-0185-y.
9. Nagrale, Amit, Paul Glynn, Aakanksha Joshi, and Gopichand Ramteke. "The Efficacy of an Integrated Neuromuscular Inhibition Technique on Upper Trapezius Trigger Points in Subjects with Non-Specific Neck Pain: A Randomized Controlled Trial." JOURNAL OF MANUAL & MANIPULATIVE THERAPY 18, no. 1 (2010): 37–43. https://doi.org/10.1179/106698110X12595770849605.
10. Bhandakkar, Poulami Adwait, Waqar Naqvi, and Tasneem Sajjad Burhani. "Impact of Physiotherapy Rehabilitation on Patients with Bilateral Osteoarthritis Knee Pain - A Case Report." JOURNAL OF EVOLUTION OF MEDICAL AND DENTAL SCIENCES-JEMDS 9, no. 32 (August 10, 2020): 2316–17. https://doi.org/10.14260/jemds/2020/502.
11. Khanam, Najnin, Vasant Wagh, Abhay Motiramji Gaidhane, and Zahiruddin Quazi Syed. "Assessment of Work-Related Musculoskeletal Morbidity, Perceived Causes and Preventive Activities Practiced to Reduce Morbidity among Brick Field Workers." INDIAN JOURNAL OF COMMUNITY HEALTH 31, no. 2 (June 2019): 213–19.
12. Abbafati, Cristiana, Kaja M. Abbas, Mohammad Abbasi, Mitra Abbasifard, Mohsen Abbasi-Kangevari, Hedayat Abbastabar, Foad Abd-Allah, et al. "Five Insights from the Global Burden of Disease Study 2019." LANCET 396, no. 10258 (October 17, 2020): 1135–59.
13. Abbafati, Cristiana, Kaja M. Abbas, Mohammad Abbasi, Mitra Abbasifard, Mohsen Abbasi-Kangevari, Hedayat Abbastabar, Foad Abd-Allah, et al. "Global Burden of

369 Diseases and Injuries in 204 Countries and Territories, 1990-2019: A Systematic Analysis for the Global Burden of Disease Study 2019." LANCET 396, no. 10258 (October 17, 2020): 1204–22.
14. James, Spencer L., Chris D. Castle, Zachary Dingels V, Jack T. Fox, Erin B. Hamilton, Zichen Liu, Nicholas L. S. Roberts, et al. "Estimating Global Injuries Morbidity and Mortality: Methods and Data Used in the Global Burden of Disease 2017 Study." INJURY PREVENTION 26, no. SUPP_1, 1 (October 2020): 125–53. https://doi.org/10.1136/injuryprev-2019-043531.
15. Kose G, Hatipoglu S. The effect of low back pain on the daily activities of patients with lumbar disc herniation: a Turkish military hospital experience. Journal of Neuroscience Nursing. 2012 Apr 1;44(2):98-104