Bulletin of Pure and Applied Sciences
Zoology (Animal Science), Vol.43B, No.1s,
January-June 2024: P.841-845

Print version ISSN 0970 0765
Online version ISSN 2320 3188

Original Research Article *Content Available online at: https://www.bpasjournals.com/*

Prevalence and Factors Associated with Non-Specific Low Back Pain among School Teachers.

K. Ramya[1], M. Srinivasan[2], Arun Jenikkin.A [3], Shanmuganth Elayaperumal[4]

Author's Affiliation:

[1]UG Scholar, School of Physiotherapy, Sri Balaji Vidyapeeth, Puducherry. (ramya2903202@gmail.com)

[2]Associate Professor, School of Physiotherapy, Sri Balaji Vidyapeeth, Puducherry, (hayagreeve@gmail.com)

3Assistant Professor, School Of Physiotherapy, Sri Balaji Vidyapeeth, Puducherry (arunjenikkin@gmail.com)

4 Professor and Principal of Physiotherapy, School Of Physiotherapy, Sri Balaji Vidyapeeth, Puducherry (shankutty1981@gmail.com)

ABSTRACT:

BACKGROUND: Low back pain was the most common musculoskeletal disorder. In general, the low back pain consists of two types, which is specific and non-specific low back pain.Non- specific low back pain is described as aches and discomforts that are felt below the costal margin and above the inferior gluteal folds, together with or without leg pain and are not associated with any particular pathology that is known to be present.

OBJECTIVE: The main objective of the study is to identify the prevalence and factors associated with nonspecific low back pain among school teachers.

METHODOLOGY: It is a cross Sectional Study. A total of 85 participants from primary government school in puducherry and are aged between 25-50 years of either gender. The participants are selected according to the inclusion criteria. Low back pain was assesd by assessment criteria.

RESULT: A total of 85 subjects from different primary government schools were examined with 64.61% of prevalence rate.The prevalence was significantly high. It was significantly confirmed ($P < 0.05$). So, this study concluded that the prevalence and factors associated with non specific low back pain among school teachers is high.

CONCLUSION : It is concluded that about 64.61%of school teachers were present with non-specific low back pain, and those aged with 46-50 years, female teachers and work experience 11-15 years had greater level of non-specific low back pain,due to prolong hours of sitting and standing.

Keywords: Non-specific low back pain, school teachers, oswestry disability index scale questionnaire.

How to cite this article: K. Ramya, M. Srinivasan, Arun Jenikkin.A, Shanmuganth Elayaperumal (2024). Prevalence and Factors Associated with Non-Specific Low Back Pain among Schoolteachers.. *Bulletin of Pure and Applied Sciences-Zoology*, 43B (1s), 841-845.

INTRODUCTION:

Non-specific low back pain is described as aches and discomforts that are felt below the costal margin and above the inferior gluteal folds, together with or without leg pain and are not associated with any particular pathology that is known to be present[1]. Low back pain is also known as "lumbago"represents one of the most common musculoskeletal problems among the working population including teachers. Due to physical demands of their everyday tasks, which involve prolonged period of sitting, standing and bending, school teachers are at risk for developing low back Pain[4, 5, 6]. The main causes are lifting large objects including books, overhead projectors and other equipments.It is postulated that awkward posture, prolonged sitting when working on students work and when preparing for lessons and uncomfortable furniture are the contributing factors for developing low back pain[7,8]. In both industrialized and developing nations, low back pain is the most common musculoskeletal ailment, and is a leading cause of disability [5]. In addition to lowering people's quality of life, low back pain also causes higher absenteeism and early retirement, which reduces labor productivity [2-3]. Especially among teachers, it is far more prevalent than other occupational categories.

METHODOLOGY:

It was a Cross-Sectional study of descriptive type with sample size of 100 teachers from different primary government schools in Puducherry. Out of 100 participants 15 were refused to participate in the study. At the end of the observation, the data was collected from 85 individuals. An ethical clearance was obtained from both institution and schools. The purpose and importance of the study was explained to the participants and those teachers who might refuse to participate in the study were not forced. The study was carried out over three months from November 2022 - January 2023. The study population consists of male and female school teachers of age range of 25-50 years old, who had a working experience of 1 year or more. The sample selection was done through random observation according to the inclusion criteria. The participants were included, history of non-specific low back pain less than 3 month. The age group above 25-50 years. Both genders were considered. Participants were excluded if they had history of any back pain with trauma,any neurological symptoms involving prolapsed intervertebral disc, radiculopathy, history of recent abdominal or back surgeries, any congenital musculoskeletal disorder like scoliosis, radiating pain, pregnancy and uncooperative patients. The data was collected using oswestry disability index scale questionnaire to evaluate the functional disability of a individuals**.**

Outcome Measure:

1. Oswestry Disability Index

The oswestry disability index scale questionnaire assesses patient pain intensity, personal care, lifting, walking, sitting, standing, sleeping, social life traveling, employment /home making .Each of the section had five questions.Thus, a total score of 50 can be achieved. A percentage was calculated for each participant. Interpretation of the calculated score was 0-4(no disability), 5- 14(mild disability), 15-24(moderate disability), 25-34(severe disability), 35-50(completely disabled).

STATICAL ANALYSIS:

The collected data were entered, cleaned and edited using Statistical Package for Social Sciences (SPSS) version 10 for windows. Descriptive statistics were employed to summarize the socio- demographic data of the study sample and presented using tables and figures. Categorical variables were expressed as frequency and percentage.

RESULT:

Table.1: Socio Demographic Characteristics of the Primary School Teachers.

CHARACTERISTICS	VARIABLES	FREQUENCY(n)	PERCENTAGE
AGE	25 - 30 years	12	14.1%
	31 - 35 years	7	8.2%
	36 - 40 years	15	17.7%
	41 - 45 years	18	22%
	46 - 50 years	23	27%
GENDER	Male	33	38.8%
	Female	52	61.1%
TOTAL WORK EXPERIENCE	1 - 5 years	12	14.1%
	6 - 10 years	18	21.1%
	11 - 15 years	31	36.4%
	> 15 years	24	28.23%

Average age of the respondents was 25-50years (n=85). The majority, 23(27.05%) were in the age group of 46-50 years.Most of the respondents were females (n=52)61.17%. About (n=31)36.47% of the school teachers had work experience with 11-15years.

Table .2: **Functional Disability of Primary School Teachers**

SI.NO	SECTION	PERCENTAGE	MEAN VALUE	S. D	P-VALUE
1.	**Pain Intensity**	65%	2.49	1.03	0.019
2.	**Lifting**	56%	2.19	1.007	0.0195
3.	**Personal Care**	60%	2.05	0.95	0.017
4.	**Walking**	62%	2.17	0.99	0.0175
5.	**Sitting**	60%	3.01	1.31	0.0250
6.	**Standing**	55%	1.96	0.87	0.0178
7.	**Sleeping**	40%	2.77	1.29	0.0346
8.	**Social Life**	30%	1.73	0.72	0.0288
9.	**Travelling**	45%	2.37	1.06	0.0263
10.	**Employment/Home making**	50%	2.06	0.96	0.0206

(*P value is significant at <0.05)

Figure.1: Functional Disability of Primary School Teachers

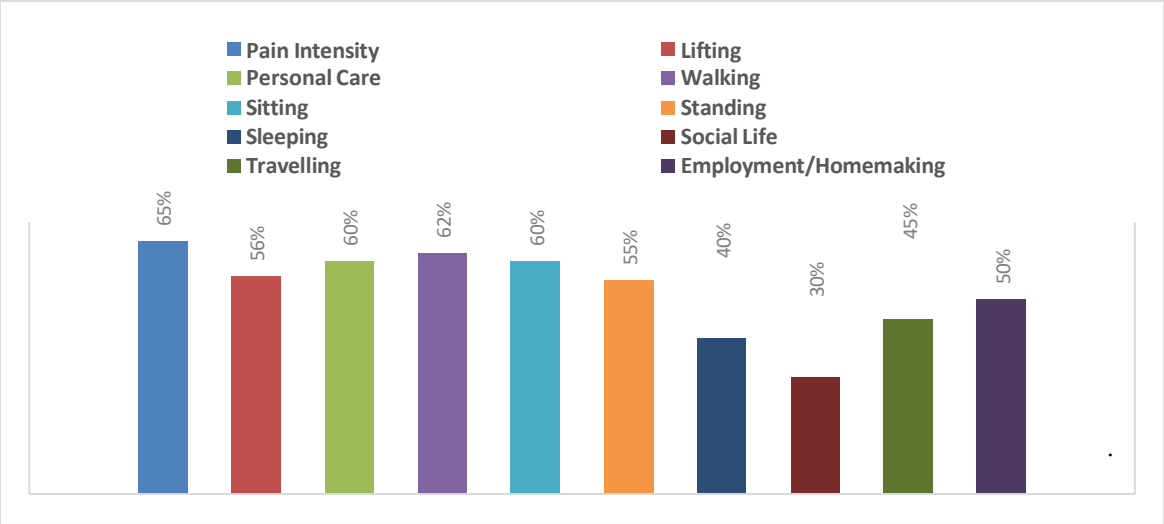

Figure :1 shows the functional disability of primary school teachers. It was measured according to oswestry disability index scale questionnaire, which had pain intensity, lifting, personal care, walking, sitting, standing, sleeping, social life, traveling, and employment/homemaking. The percentage of pain intensity was 65%, lifting was 56% personal care was 60%, walking was 62%, sitting was 60%, standing was 55%, sleeping was 40%, social life was 30%, travelling was 45%, and employment/homemaking was 50%.

DISCUSSION:

This study was attempt to determine the prevalence and factors associated with non specific low back pain among school teachers. The result of the current study indicated that low back pain is a common musculoskeletal disorder found in school teachers and its prevalence was 64.61% among 85 participants. In this study an increase in non-specific low back pain with age was observed. Teachers with age group 46-50years old are reported with non-specific low back pain in a high percentage. The previous study found age group 25-36 years old had a majority of non-specific low back and female teachers were three times more experienced low back pain than male teachers. On the other hand, a study stated by Jin et al (2004), younger teachers are at more risk for developing low back pain. Low back pain was increased during personal care, walking, sitting, pain intensity when compared to sleeping, traveling, social life and employment, it was concluded by oswestry disability index scale questionnaire. Some studies demonstrated that static posture and prolonged sitting could be risk factors for low back pain (omokhodion et al 2003;popeet al 2002).Factors such as age, gender, work experience appeared to be associated with the prevalence of non specific low back pain among school teachers in the present study.The result demonstrated that non-specific low back pain is a common complaint among school teachers and that teachers seems to have specific working conditions that may increase the prevalence rate of non-specific low back pain.

CONCLUSION

This study concluded that the prevalence and factors associated with non specific low back among school teachers was found to be 64.61%of prevalence rate. Certain factors such as age, gender, work experience were associated with the prevalence of non specific low back pain and increased the risk of low back pain among teachers. Some work - related activities such as correcting examination papers, prolonged sitting and

prolonged standing were found to be the most common activities for developing non-specific low back pain among school teachers.

REFERENCES:

1. BURTON A, BALAGUE F, Cardon G, ERIKSEN H, HENROTIN Y, LAHAD A, et al. Chapter
2 European guidelines for prevention in low back pain. EUROPEAN SPINE JOURNAL. 2006;15:136
2. Hoy D, Bain C, Williams G, March L, Brooks P, Blyth F, Woolf A, Vos T, Buchbinder R. A systematic review of the global prevalence of low back pain. Arthritis & rheumatism. 2012 Jun;64(6):2028-37.
3. Hoy D, March L, Brooks P, Blyth F, Woolf A, Bain C, Williams G, Smith E, Vos T, Barendregt J, Murray C. The global burden of low back pain: estimates from the Global Burden of Disease 2010 study. Annals of the rheumatic diseases. 2014 Jun 1;73(6):968-74.
4. Beatrice D. Background paper 6.24 Low back pain. World Health Organization. March 2004. Update on 2004 background paper, BP 6.24 Low back pain.
5. Erick P, Smith D. Musculoskeletal disorder risk factors in the teaching profession: a critical review. OA Musculoskelet Med. 2013 Dec 1;1(3):29.
6. Nurul I, Haslinda A, Saidi M, Shamsul B, Zailina H. Prevalence of Low back Pain and its Risk factors among School teachers. American Journal of Applied Sciences. 2010;7(5):634-9.
7. Tsuboi H, Takeuchi K, Watanabe M, Hori R, Kobayashi F. Psychosocial factors related to low back pain among school personnel in Nagoya, Japan. Industrial health. 2002;40(3):266-71.
8. McKeon MD, Albert WJ, Neary JP. Assessment of neuromuscular and aemodynamic activity in individuals with and without chronic low back pain. Dynamic Medicine. 2006 Dec;5:1-8.