International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

A Cross-Sectional Study to Assess the Knowledge, Attitude, and Practices Regarding Low Back Pain Among Traffic Police Officers

Dr. Neeti Christian[1], Dr. Dheeraj Sharma[2], Dr. Jahanvi Gowswami[3]

[1]Principal Incharge / Associate Professor, Khyati College of Physiotherapy, Ahmedabad, Gujarat, India.
[2]Clinical Physiotherapist, Jaipur, Rajasthan, India.
[3]Clinical Physiotherapist, Ahmedabad, Gujarat, India.

Abstract

Background: Low back pain (LBP) is a common and disabling musculoskeletal condition, particularly prevalent among occupations involving prolonged standing and physical exertion, such as traffic policing. Despite awareness about LBP, a gap often exists between knowledge and actual preventive or treatment practices.

Objective: This study aimed to assess the knowledge, attitude, and practices (KAP) regarding LBP among traffic police officers in Ahmedabad, Gujarat, to identify gaps and inform future interventions.

Methods: A cross-sectional study was conducted involving 100 traffic police officers selected through stratified random sampling. A structured questionnaire was used to gather data on demographics, knowledge, attitudes, and practices related to LBP. Descriptive analysis was performed to interpret the findings.

Results: Out of 100 traffic police officers surveyed, 61% had moderate knowledge of low back pain (LBP), 26% had poor knowledge, and only 13% had good knowledge. A neutral attitude toward LBP was observed in 59% of participants, while 25% showed a positive attitude. In terms of practices, 61% relied on inappropriate self-management strategies, and only 39% followed proper treatment-seeking behaviour. A significant positive correlation was found between knowledge and attitude ($p < 0.05$), but no significant correlation was observed between knowledge and practice or attitude and practice.

Conclusion: The study highlights significant gaps in the knowledge, attitudes, and practices related to low back pain among traffic police officers. Despite moderate awareness, there is poor adherence to appropriate management strategies, with underutilization of physiotherapy services. Targeted educational programs and workplace health interventions are essential to improve LBP management and reduce its occupational impact.

Keywords: Low back pain, Knowledge Attitude Practice (KAP), Traffic police, Physiotherapy awareness, Occupational health, Cross-sectional study, Musculoskeletal disorders, Workplace ergonomics.

Introduction:

The human body functions as a complex system made up of bones, muscles, joints, and connective tissues. The spine, an essential part of the musculoskeletal system, serves as the central support structure and is composed of vertebrae separated by intervertebral discs. These discs' act as shock absorbers and facilitate

smooth movement. However, damage or degeneration of these structures may lead to musculoskeletal disorders, particularly low back pain (LBP)[1].

LBP is recognized globally as one of the most prevalent and disabling musculoskeletal conditions. It is characterized by discomfort in the lumbar region and is commonly caused by factors such as poor posture, repetitive physical stress, inadequate ergonomics, and prolonged standing or sitting[2]. According to the Global Burden of Disease 2010 study, LBP ranks among the top contributors to years lived with disability worldwide[3]. Its significant impact on quality of life and work productivity has made it a major concern in occupational health.

Traffic police officers are among the occupational groups most susceptible to LBP due to the physical demands of their job. Their role often requires them to stand for extended periods, be exposed to vehicle vibrations, and perform repetitive movements, all of which contribute to musculoskeletal strain[4]. Furthermore, environmental conditions such as extreme temperatures, poor air quality, and noise pollution exacerbate physical stress and fatigue[5].

Research suggests that long hours of static posture, lack of ergonomic training, and physical strain increase the risk of LBP among traffic police[6]. Inadequate awareness, improper practices, and absence of preventive strategies often lead to recurrent or chronic back pain in this population[7]. Moreover, this pain affects not only physical functioning but also mental health, contributing to absenteeism, decreased job satisfaction, and diminished productivity[8].

Although many traffic police personnel may be aware of the causes and consequences of LBP, there is often a gap between their knowledge and actual preventive practices[9]. Hence, evaluating their level of knowledge, attitude, and practices (KAP) is crucial for designing targeted interventions and promoting spinal health.

Need for the Study

LBP continues to be one of the leading causes of work-related disability, especially among individuals with physically demanding roles. In professions such as traffic policing, which involve sustained periods of standing, awkward postures, and minimal rest breaks, the prevalence of LBP is significantly higher than in the general population[10]. Despite being a preventable condition in many cases, the lack of routine ergonomic training and fitness awareness among traffic police leads to increased vulnerability[11].

In addition, traffic officers tend to overlook initial signs of back pain, which may evolve into long-term issues without prompt action[12].

Therefore, it is important to evaluate their awareness, beliefs and practices concerning LBP.

Methodology

The study was conducted over a period of two months and included a sample of 100 traffic police officers. Participants were aged between 20 and 60 years and included both male and female officers who were currently experiencing low back pain. Additional inclusion criteria required participants to be working a minimum of 7–8 hours per day and to have no recent history of surgery or trauma.

The exclusion criteria ruled out officers who had undergone recent surgery, had part-time or irregular work schedules, had congenital spinal deformities, or had recently participated in similar research studies.

This study was conducted among traffic police officers serving in the Ahmedabad district. To ensure representation across various age groups, service ranks, and levels of work experience, a stratified random

sampling method was used. Out of the 138 officers approached, 100 completed the survey and were included in the final analysis.

Data Collection

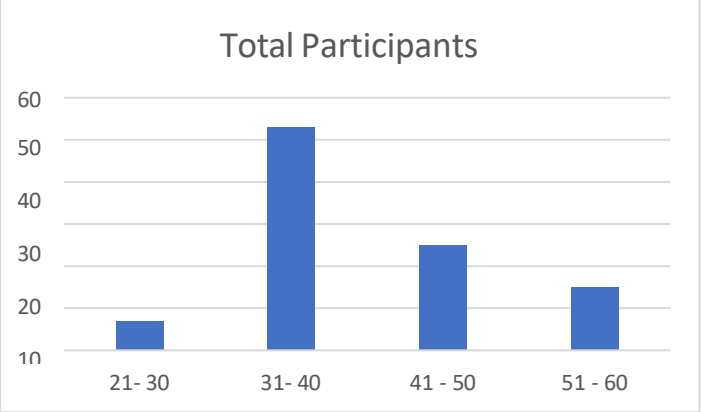
Information was gathered using a structured questionnaire specifically developed for this study. The questionnaire was organized into four key sections:

- Demographic Information: Included questions related to participants' age, gender, duration of service, and other personal and professional background data.
- Knowledge Assessment: Focused on participants' awareness of low back pain, including its causes, symptoms, risk factors, and preventive strategies.
- Attitude Evaluation: Explored beliefs and perceptions regarding the seriousness of LBP, its effect on daily functioning, and preferences for treatment and management.
- Practice Assessment: Investigated current habits and interventions used by participants to cope with or manage LBP, such as home remedies, medical consultation, and use of physiotherapy services.

Results:

Out of 138 participants, 100 successfully completed the questionnaire. The remaining 38 participants were unable to do so due to work-related responsibilities, limited time availability, and language difficulties. Among the 100 respondents, 78% were male and 22% were female. In terms of age distribution, 7% were between 21–30 years, 53% were between 31–40 years, 25% were between 41–50 years, and 15% were between 51–60 years (Fig. 1.1).

Figure 1.1 Total Participants



Knowledge on low back pain: The findings revealed that a majority (54%) of the traffic police officers acknowledged low back pain (LBP) as a common condition (Fig. 2.1). When asked about the age group most affected by LBP, 52% correctly identified individuals aged 46–60 years, while the remaining participants showed less awareness of other vulnerable age groups (Fig. 2.2). Regarding gender susceptibility, 48% of the respondents believed that males are more commonly affected by LBP, whereas 45% thought females are more affected, reflecting a divided perception (Fig. 2.3). Additionally, when questioned about the impact of LBP on their lifestyle, 57% of participants affirmed that it does affect them, 38% disagreed, and 5% were unsure. These responses highlight varying levels of knowledge and awareness among the officers regarding the prevalence and demographic patterns of LBP.

Figure 2.1 Knowledge on Occurrence of back pain in the Community

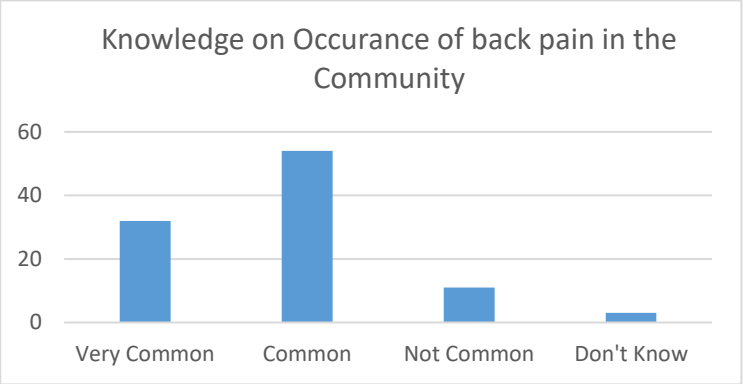


Figure 2.2 Knowledge on low back pain at different age group

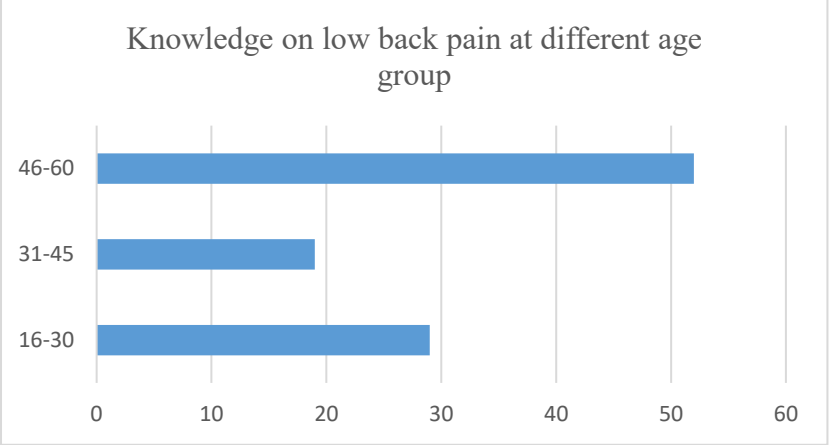
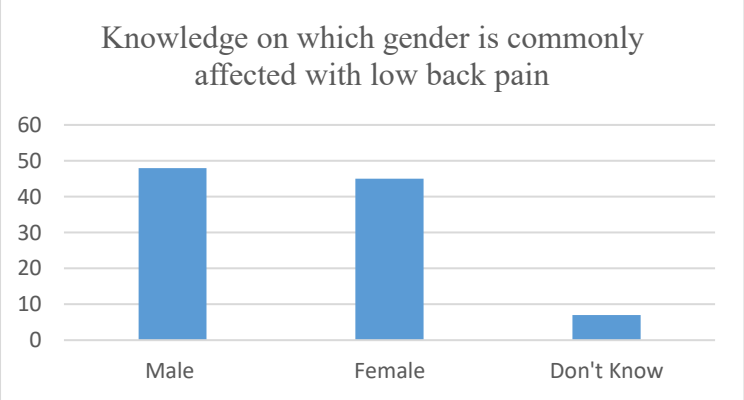
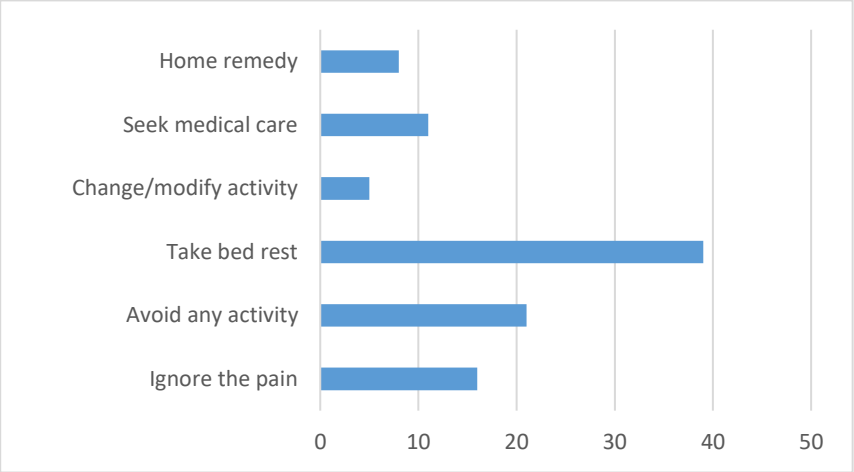


Figure 2.3 Knowledge on which gender is commonly affected with low back pain



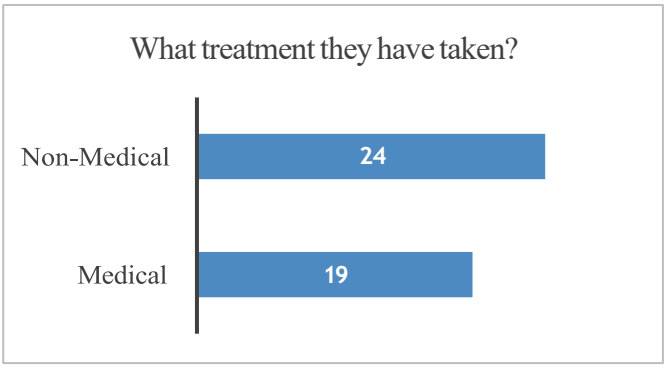
Attitude towards Low back pain: A significant portion of the traffic police officers preferred to manage low back pain (LBP) on their own rather than seeking professional help. Specifically, 39% of participants reported taking bed rest, 21% avoided any activity, 16% chose to ignore the pain, 11% sought medical care, 8% used home remedies, and only 5% modified their activity (Fig. 3.1) in response to LBP. When asked whether they had ever sought treatment for their back pain, 57% of the participants stated that they had not pursued any treatment, while 43% reported having done so. These findings indicate a strong tendency toward self-management and a reluctance to seek professional medical intervention among the participants.

Figure 3.1 Attitude towards low back pain



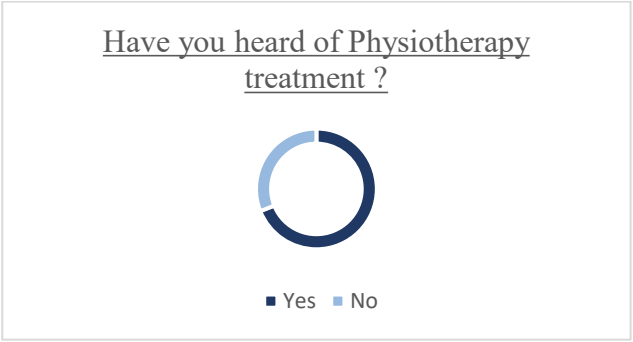
Practice towards low back pain: A total of 24 participants opted for non-medical treatment, while 19 participants chose medical treatment. This suggests that non-medical approaches were preferred by a slightly greater number of individuals in managing their low back pain. (Fig. 4.1)

Figure 4.1



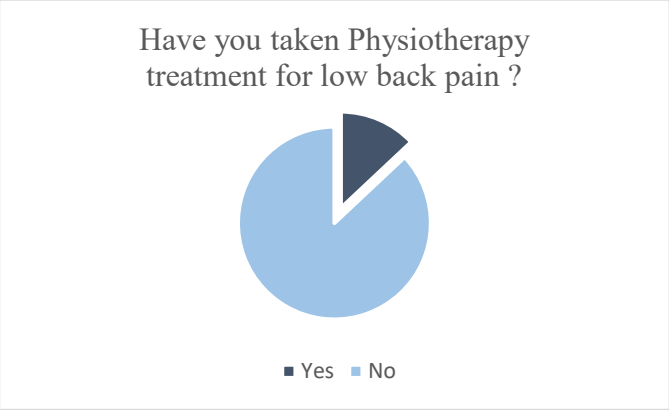
Out of all participants, 69% reported having heard about physiotherapy treatment**,** whereas 31% indicated they had not, showing that the majority were aware of physiotherapy as a treatment option. (Fig.4.2)

Figure 4.2



When asked whether they had taken physiotherapy treatment for low back pain, only 13% of participants reported having taken it, while 87% had not, indicating that physiotherapy treatment was utilized by a small proportion of the respondents. (Fig.4.3)

Figure 4.3



Discussion:

This study offers a comprehensive assessment of knowledge, attitudes, and practices (KAP) concerning low back pain (LBP) among traffic police officers, a group particularly susceptible due to the physical nature of their work. The results reveal a foundational awareness of LBP but expose notable gaps in detailed understanding, attitudes, and effective management approaches.

Knowledge: A little over half of the officers (54%) correctly recognized LBP as a common health issue, indicating moderate awareness. When identifying the age group most affected, 52% accurately pointed to individuals aged 46–60 years, consistent with existing evidence linking increased LBP prevalence with age-related spinal degeneration (Smith et al., 2017; Walker, 2016). However, the remaining respondents showed less awareness of other at-risk age groups, highlighting a gap in comprehensive knowledge that has also been reported in other occupational populations (Johnson et al., 2018). Regarding gender susceptibility, perceptions were divided, with 48% believing males are more affected by LBP and 45% believing females are more affected. This nearly even split underscores uncertainty and mixed beliefs within the group. Epidemiological studies generally report a slightly higher prevalence of LBP in females, influenced by biological and psychosocial factors (Hoy et al., 2012; Gore et al., 2018), suggesting an area where targeted education may help clarify misconceptions.

Attitudes: The officers' attitudes toward LBP reveal a tendency toward self-management rather than seeking professional care. For instance, 39% preferred bed rest, 21% avoided activities altogether, and 16% chose to ignore their pain. Only 11% sought medical treatment, reflecting a considerable reluctance to engage with healthcare providers for LBP (Fig. 3.1). Moreover, 57% of participants admitted they had never sought treatment for their back pain, despite more than half acknowledging that LBP impacts their lifestyle (Fig. 3.2). This suggests that even when aware of LBP's effects, many prefer to manage symptoms independently, potentially due to stigma, fear of job repercussions, or lack of knowledge about effective interventions (Dionne et al., 2008; Koes et al., 2010).

Practices: Regarding management, 24 participants opted for non-medical approaches while 19 chose medical treatment, reflecting a slight preference for non-medical strategies (Fig. 4.1). Awareness of physiotherapy was relatively high at 69%, yet only 13% had ever utilized physiotherapy for LBP (Fig.

4.3). This gap between awareness and actual utilization highlights significant underuse of an evidence-based treatment known to improve pain, function, and prevent chronicity (Furlan et al., 2015; Maher et al., 2017).

Barriers such as misconceptions about physiotherapy, limited access, cost, and time constraints may contribute to this underutilization. Incorporating workplace physiotherapy services and educational programs could facilitate better acceptance and use of these services (Savigny et al., 2009; Waddell et al., 2003).

Comparison with Other Studies: Consistent with prior research on occupations involving prolonged standing and repetitive physical tasks, this group showed high LBP prevalence and a preference for self-management strategies (Punnett & Wegman, 2004; da Costa & Vieira, 2010). However, the strong reliance on self-treatment and minimal engagement with professional care may be more pronounced among traffic police due to unique occupational culture and pressures to maintain readiness (Battie & Bigos, 1991). Unlike other professional groups that may adopt medical interventions or workplace accommodations more readily, police officers may delay treatment, increasing risk for chronic problems.

Implications for Practice: This study highlights the need for targeted educational programs to improve traffic police officers' knowledge about LBP, especially regarding age-related and gender-specific risks. Promoting professional treatment options like physiotherapy over ineffective self-management is crucial. Workplace health initiatives should include regular training on LBP prevention and management and improve access to physiotherapy services. Policies encouraging early reporting and treatment without job-related fear can reduce LBP's incidence and impact in this workforce.

Conclusion

The study reveals significant gaps in knowledge, attitudes, and practices about LBP among traffic police officers. While basic awareness exists, there is limited understanding of risk factors and physiotherapy's role. Officers predominantly self-manage rather than seek professional care, leading to underutilization of effective treatments like physiotherapy. Addressing these gaps through education and workplace initiatives can enhance LBP management, improving officers' health and productivity.

Limitations

- The cross-sectional design limits causal inference between KAP elements.
- Reliance on self-reported data may introduce response bias due to social desirability or recall issues.
- The sample may not be fully representative of all traffic police or other occupational groups.
- The study did not explore reasons behind reluctance to seek professional treatment, limiting insight into barriers.

Recommendations

- Implement educational programs focusing on LBP risk factors and physiotherapy benefits.
- Improve accessibility and affordability of physiotherapy services for traffic police officers.
- Develop workplace health initiatives, including ergonomic training and regular physical exercises.
- Conduct longitudinal studies to evaluate changes in KAP over time and intervention effects.
- Investigate barriers to physiotherapy use to design targeted strategies for increased uptake.

References

1. Hoy, D., Brooks, P., Blyth, F., & Buchbinder, R. (2012). The Epidemiology of Low Back Pain. Best Practice & Research Clinical Rheumatology, [1(1-8)]
2. Punnett, L., & Wegman, D. H. (2004). Work-Related Musculoskeletal Disorders: The Epidemiologic Evidence and the Debate. Journal of Electromyography and Kinesiology, [2(9-14)]
3. Nicol V, Verdaguer C, Daste C, et al.. Chronic low back pain: a narrative review of recent international guidelines for diagnosis and conservative treatment. J Clin Med 2023, [3(1-4)]
4. Kahere M, Ginindza T. A cross-sectional hospital-based study of correlates of disability in patients with chronic low back pain in KwaZulu-Natal, South Africa. BMC Musculoskelet Disord 2022 [3(5-7)]
5. Chen S, Chen M, Wu X, et al.. Global, regional and national burden of low back pain 1990–2019: a systematic analysis of the Global Burden of Disease Study 2019. J Orthop Transl 2022, [3(8-12)]
6. Wu A, March L, Zheng X, et al.. Global low back pain prevalence and years lived with disability from 1990 to 2017: estimates from the Global Burden of Disease Study 2017. [3(13-16)]
7. Morris LD, Daniels KJ, Ganguli B, Louw QA. An update on the prevalence of low back pain in Africa: a systematic review and meta-analyses. BMC Musculoskelet Disord 2018.
8. Bello B, Bello Adebayo H. A Systematic review on the prevalence of low back pain in Nigeria. Middle East J Rehabil Health 2017.
9. GBD 2019 Diseases and Injuries Collaborators . 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.
10. Jia N, Zhang M, Zhang H, et al.. Prevalence and risk factors analysis for low back pain among occupational groups in key industries of China. BMC Public Health 2022.
11. Koes BW, van Tulder MW, Thomas S. Diagnosis and treatment of low back pain. BMJ. 2006 Jun 17;332(7555):1430-4.
12. Balagué F, Mannion AF, Pellisé F, Cedraschi C. Non-specific low back pain. The Lancet. 2012 Feb 4;379(9814):482-91.
13. van Tulder M, Becker A, Bekkering T, Breen A, del Real MTG, Hutchinson A, et al. Chapter 3: European guidelines for the management of acute nonspecific low back pain in primary care. Eur Spine J. 2006 Mar;15 Suppl 2
14. Hoy D, Bain C, Williams G, March L, Brooks P, Blyth F, et al. A systematic review of the global prevalence of low back pain. Arthritis Rheum. 2012 Jun;64(6):2028-37.
15. Chou R, Deyo R, Friedly J, Skelly A, Hashimoto R, Weimer M, et al. Noninvasive treatments for low back pain: A systematic review for an American College of Physicians clinical practice guideline. Ann Intern Med. 2017 Apr 4;166(7):493-505.
16. Maher C, Underwood M, Buchbinder R. Non-specific low back pain. The Lancet. 2017 Feb 18;389(10070):736-47.
17. Koes BW, van Tulder MW, Thomas S. Diagnosis and treatment of low back pain. BMJ. 2006 Jun 17;332(7555):1430-4.
18. Balagué F, Mannion AF, Pellisé F, Cedraschi C. Non-specific low back pain. The Lancet. 2012 Feb 4;379(9814):482-91.
19. van Tulder M, Becker A, Bekkering T, Breen A, del Real MTG, Hutchinson A, et al. Chapter 3: European guidelines for the management of acute nonspecific low back pain in primary care. Eur

Spine J. 2006 Mar;15 Suppl 2
20. Gupta S, Mishra AK, Singh M. Prevalence of low back pain among traffic police personnel in Kanpur, India. J Orthop Allied Sci. 2014;2(2):34-8.
21. Gopang UM, Pathan AA, Ali SM. Prevalence of low back pain among traffic police in Pakistan. Rawal Med J. 2017;42(4):485-8.
22. Vieira ER, Kumar S, Coury HJCG, Narayan Y. Low back problems and possible improvements in different occupational groups in Brazil, India, and the United States. Am J Ind Med. 2008 Aug;51(8):585-96.
23. Mohan V, Nagaprabhu V, Shanmugam S. Musculoskeletal disorders among traffic police personnel in Puducherry, India. Int J Med Sci Public Health. 2017;6(6):1149- 52.
24. Tamrin SB, Yokoyama K, Aziz N, Maeda S, Mori K, Abd Rahman A, et al. The association between risk factors and low back pain among commercial vehicle drivers in Peninsular Malaysia: A preliminary result. Ind Health. 2007 Apr;45(2):268-78.
25. Bovenzi M, Zadini A. Self-reported low back symptoms in urban bus drivers exposed to whole-body vibration. Spine (Phila Pa 1976). 1992 Jul;17(9):1048-59.
26. Gallagher KM, Callaghan JP. Early static standing is associated with prolonged standing induced low back pain. *Human Movement Science. 2015;44:111-121.
27. Kanaan, Saddam F. et al. 'Knowledge Related to Low Back Pain and Its Associated Factors in Patients with Low Back Pain: A Cross-sectional Study'. 1 Jan. 2023 : 217 – 225.
28. Deyo RA, Mirza SK, Turner JA, Martin BI. Overtreating chronic back pain: time to back off? J Am Board Fam Med. 2009;22(1):62–68.
29. Martin BI, Deyo RA, Mirza SK, Turner JA, Comstock BA, Hollingworth W, Sullivan SD. Expenditures and health status among adults with back and neck problems. JAMA. 2008;299(6):656–664. –
30. Yang G, Wang Y, Zeng Y, Gao GF, Liang X, Zhou M, Wan X, Yu S, Jiang Y, Naghavi M, Vos T, Wang H, Lopez AD, Murray CJ. Rapid health transition in China, 1990–2010: findings from the Global Burden of Disease Study 2010. Lancet. 2013;381(9882):1987–2015.
31. Vos T, Flaxman AD, Naghavi M, Lozano R, Michaud C, Ezzati M, Shibuya K, Salomon JA, Abdalla S, Aboyans V, Abraham J, Ackerman I, Aggarwal R, Ahn SY, Ali MK, Alvarado M, Anderson HR, Anderson LM, Andrews KG, Atkinson C, Baddour LM, Bahalim AN, Barker-Collo S, Barrero LH, Bartels DH, Basanez MG, Baxter A, Bell ML, Benjamin EJ, Bennett D. et al.Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet. 2012;380(9859):2163–2196.
32. Murray CJ, Vos T, Lozano R, Naghavi M, Flaxman AD, Michaud C, Ezzati M, Shibuya K, Salomon JA, Abdalla S, Aboyans V, Abraham J, Ackerman I, Aggarwal R, Ahn SY, Ali MK, Alvarado M, Anderson HR, Anderson LM, Andrews KG, Atkinson C, Baddour LM, Bahalim AN, Barker-Collo S, Barrero LH, Bartels DH, Basanez MG, Baxter A, Bell ML, Benjamin EJ. et al.Disability-adjusted life years

(DALYs) for 291 diseases and injuries in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. Lancet. 2012;380(9859):2197–2223.
33. Poiraudeau S, Rannou F, Le Henanff A, Coudeyre E, Rozenberg S, Huas D, Martineau C, Jolivet-Landreau I, Revel M, Ravaud P. Outcome of subacute low back pain: influence of patients' and

rheumatologists' characteristics. Rheumatology (Oxford) 2006;45(6):718–723. –
34. Rugelj D. Low back pain and other work-related musculoskeletal problems among physiotherapists. Appl Ergon. 2003;34:635–639.
35. Smith D, Mihashi M, Adachi Y, Koga H, Ishitake T. A detailed analysis of musculoskeletal disorder risk factors among Japanese nurses. J Safety Res. 2006;37(2):195–200.
36. Lin PH, Tsai YA, Chen WC, Huang SF. Prevalence, characteristics, and work- related risk factors of low back pain among hospital nurses in Taiwan: a cross- sectional survey. Int J Occup Med Environ Health. 2012;25(1):41–50.
37. Mitchell T, O'Sullivan PB, Burnett AF, Straker L, Rudd C. Low back pain characteristics from undergraduate student to working nurse in Australia: a cross- sectional survey. Int J Nurs Stud. 2008;45(11):1636–1644.
38. Sikiru L, Hanifa S. Prevalence and risk factors of low back pain among nurses in a typical Nigerian hospital. Afr Health Sci. 2010;10(1):26–30.
39. Chiou WK, Wong MK, Lee YH. Epidemiology of low back pain in Chinese nurses. Int J Nurs Stud. 1994;31(4):361–368.
40. June KJ, Cho S-H. Low back pain and work-related factors among nurses in intensive care units. J Clin Nurs. 2011;20(3–4):479–487.
41. Briggs AM, Bragge P, Smith AJ, Govil D, Straker LM. Prevalence and associated factors for thoracic spine pain in the adult working population: a literature review. J Occup Health. 2009;51(3):177–192.
42. Schofield D, Kelly S, Shrestha R, Callander E, Passey M, Percival R. The impact of back problems on retirement wealth. Pain. 2012;153(1):203–210.
43. Althubaiti, A. (2016). Information bias in health research: definition, pitfalls, and adjustment methods. *Journal of Multidisciplinary Healthcare*, *9*, 211-217.
44. Battie, M.C., & Bigos, S.J. (1991). Industrial back injury prevention. *Baillière's Clinical Rheumatology*, *5*(1), 59-78.
45. Creswell, J.W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
46. da Costa, B.R., & Vieira, E.R. (2010). Risk factors for work-related musculoskeletal disorders: A systematic review of recent longitudinal studies. *American Journal of Industrial Medicine*, *53*(3), 285-323.
47. Dionne, C.E., et al. (2008). Predictors of long-term disability related to low back pain in the Saskatchewan Spine Study. *Spine*, *33*(3), 236-244.
48. Furlan, A.D., et al. (2015). Massage for low-back pain. *Cochrane Database of Systematic Reviews*, (9).
49. Glasgow, R.E., et al. (2002). Evaluating the public health impact of health promotion interventions: the RE-AIM framework. *American Journal of Public Health*, *89*(9), 1322-1327.
50. Gore, M., et al. (2012). Pain severity in a sample of 366,894 adults from the United States, UK, Germany.