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LOW BACK PAIN AMONG MOTORCYCLISTS VISITING GUJRANWALA TEACHING HOSPITAL (GMCTH) OPD: A CROSS-SECTIONAL STUDY

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ABSTRACT

Objective: Determine the prevalence of low back pain (LBP) among motorcycle riders who come to the GMCTH OPD.

Methods: This cross-sectional study was carried out among Gujranwala locals who were visiting the GMCTH OPD in Pakistan. Included were all male bikers who ride motorcycles. Data was gathered using an organized questionnaire. Data on low back pain, the most common riding posture, position changes, visits to a consultant for LBP, deviations from normal routine, decreased physical activity in the past year, decreased leisure activity due to LBP, and LBP in the previous week were gathered.

Results: The mean age of the 100 participants was 22 years. 65 BIKERS, or 65%, reported having LBP. when 33 (33%) reported bending forward when riding, the majority of riders (n = 67, 67%) reported maintaining an upright posture. It was also discovered that the commonly altered location was mostly higher, i.e. (n=87, 87%). There was a significant correlation found between LBP and age (p-value 0.003), daily motorbike time (p-value 0.005), and frequency of position changes (p-value 0.003).

Conclusion: In summary, low back pain is prevalent among motorcycle riders. People who ride motorcycles and experience low back discomfort were shown to have significantly greater levels of age, daily riding time, and posture changes.

INTRODUCTION

Low back pain (LBP) is a condition that originates in the lower back area and can affect one or both legs. It can be acute or chronic, ranging from dull constant pain to abrupt severe pain that prevents the person from functioning normally. Motorbikes are perceived as a basic mode of transportation in lower and middle class individuals due to their many benefits, such as low fuel consumption and ease of movement in traffic jams. Several studies have found that bike riders experience higher levels of LBP (5–11). A literature review has revealed that factors that are non-modifiable include low physical activity, overweight, smoking, and drug abuse.

low back pain (LBP) is a major health problem and two third of the adult population suffer from LBP at some time in their lives and approximately 12% to 44% of people have LBP at any given time (22) in their lives with an estimated point prevalence of 33% among office workers (23). Because of high variation in clinical characteristics, lack of consensus over diagnostic criteria or clinical classification, wide variation in course and prognosis, and limited success in finding effective treatments, LBP manifests itself a big challenge for clinicians and researchers. However, new research has generated a wealth of evidence on the epidemiology, prognosis, and treatment of back pain (24).

Comparing the prevalence of LBP between populations has become more challenging over time due to considerable methodological heterogeneity across studies and difficulties in obtaining true population estimates. Instead of incidence, remission and duration, prevalence of LBP has been found more in the literature (25).
Particularly, long-term use of motorbikes exposed the drivers to musculoskeletal problems, such as low backache, spinal damage, and disc prolapse.
We conducted a study among residents of Gujranwala visiting GMCTH OPD who ride motorcycles and investigated the frequency of LBP and its risk factors in these individuals. It has been reported that pressure within the lower back disc can be more serious while sitting than standing, and motorcyclists are regularly in the sitting position while riding the 12, 13, and therefore they are most at risk for LBP.

METHODS: From August 2022 to December 2022, a cross-sectional study was conducted in the GMCTH OPD in Gurranwala, Pakistan. Male residents who ride motorcycles for at least two hours a day made up the research population. Non-consenting motorcyclists and medical students with spinal abnormalities were not allowed. The sample size was estimated using the Epi Info Sample Size Calculator. assuming a 65% LBP frequency and a 7% error margin. We had to round down the initial sample size of 101 to 100. The 100 respondents were chosen using the purposive sample method. Data was gathered using an organized questionnaire.

Data on low back pain were gathered, including the most common riding posture, position changes, visits to a consultant for LBP, deviations from regular routine, decreased physical activity in the last year, decreased leisure activities owing to LBP, and LBP in the previous week.After outlining the goals and advantages of the study, each participant who rides a motorcycle signed an informed consent form.SPSS version 21 was utilized for data entry and analysis. When it came to qualitative characteristics like the presence of LBP, frequency and percentages were given. The connection between LBP and independent variables such as age, gender, marital status, educational attainment, most common riding posture, and change in posture was examined using the Chi-square test. P-value less than 0.05 is deemed significant.
All procedures were carried out in compliance with the Helsinki Declaration of 1975, as amended in 2008, and the ethical requirements of the national and institutional responsible committee on human experimentation.

RESULTS: One hundred motorbike riders took part in the research. It was discovered that 65 (65%) of the residents had LBP often. (TABLE 1)
More prevalent among unmarried (GRAPH2). statistics also show more participants were undergraduate (GRAPH 3).
There was a significant correlation found between LBP and the cyclists' age (p-value 0.033) and daily riding time (p-value 0.005). Specifically, LBP was seen to be higher in riders who rode their bikes for longer periods of time each day than in riders who rode for shorter periods of time, 2.61±1.28 and 2.11±1.05, respectively. Additionally, it was shown that motorcycle riders with LBP changed positions much more frequently (n=78, 78%) than non-LBP riders (n=23, 23%; p-value = 0.003) (GRAPH 3).

DISCUSSION.This study calculates the frequency of Gujranwala residents attending GMCTH GRW Pakistan. Nearly half of the recruited patients in this study had LBP, which is comparable to a study done in Ilesa, Nigeria, which found 41% of the population had LBP but that study's target demographic was commercial motorcycle riders.[35]Another study, which involved staff

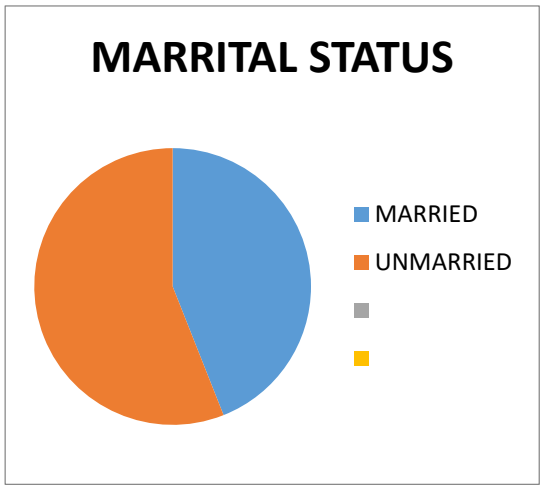
members in a rural hospital in Nigeria, discovered that 46% of participants had an overall prevalence rate of LBP, with 20% of participants being drivers.[16]

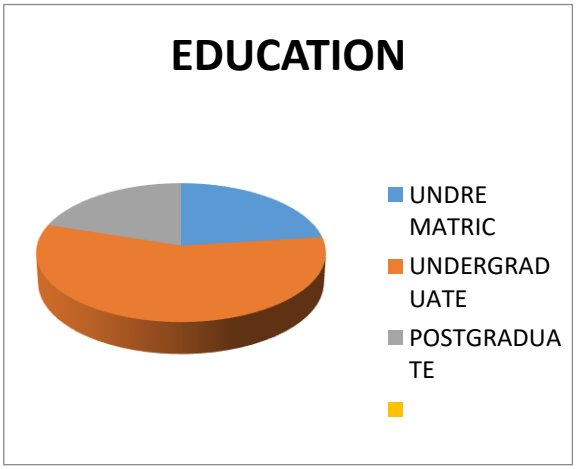
Furthermore, a study carried out in June 2013 in Dhaka, Bangladesh discovered that the prevalence of low back pain (LBP) in car drivers over the age of 40 was 4.67 times higher than that of those between the ages of 25 and 40.[17]Another study conducted in India among non-occupational motorcyclists in 2017 revealed that younger non-occupational motorcyclists experienced LBP more frequently as compared to those who were more experienced because they were less likely to get injured while riding a motorcycle.[5]In the current study, significant statistical associations exist between LBP and age of participants, sitting position, changing position while riding, and time durations penton motorcycle per day.

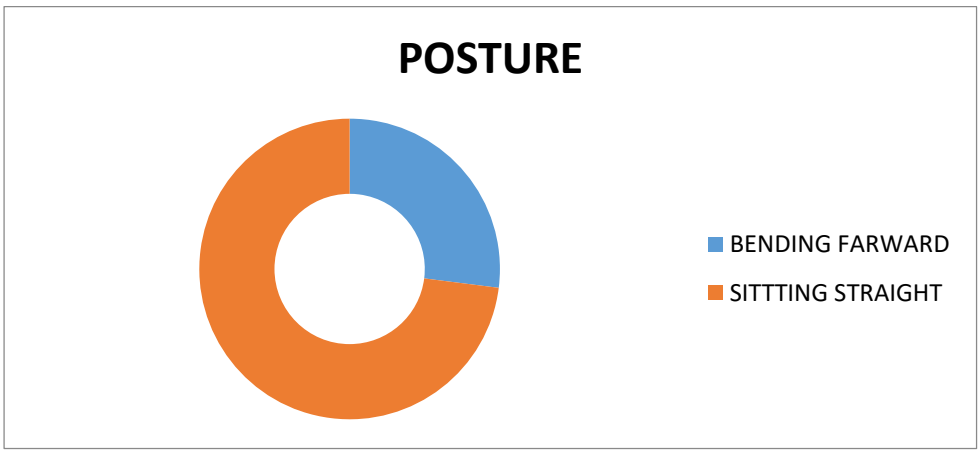
Participants in this study who rode motorcycles for longer periods of time were more likely to experience lower back pain (LBP). This could be because sustained posture for longer than 30 minutes reduces muscle power, which leads ligaments and joint capsules to less flexibility and less stability, resulting in structural deformities.[18]These results are consistent with a previous study that found participants who drove for more than seven hours a day, or 8 to 16 hours a day, were more likely to experience LBP than those who drove for one to seven hours a day. However, that study involved car drivers, not motorcycle riders.[17]Ogundele et al. conducted a study in Nigeria and reported that a higher percentage of full-time commercial motorcyclists who worked for more than eight hours a day experienced LBP.

Because of their low back pain, the majority of the motorcycle riders in this study shifted positions more frequently while riding. This may have been brought on by the discomfort they felt while seated on the motorcycle.[32]Additionally, a significant number of study participants experienced low back pain as a result of bending forward when seated while riding. This indicator, however, was not significantly linked to low back pain. Numerous studies have documented the connection between forward trunk lexion and lumbar spine lexion in individuals who sit for extended periods of time (19–20).These factors may be the cause of low back pain in motorcycle riders who ride for extended periods of time while maintaining a lexed posture.[2´]But a prior study discovered that bending forward when biking was linked to LBP in a higher percentage of subjects than riding upright. Consequently, it is essential to instruct motorcycle riders on the appropriate sitting posture.[35]

This result is consistent with another earlier study that discovered that prolonged lumbar spine loading on the vertical axis causes sustained compression on the spinal discs by exhausting the back muscles. When a disc becomes compressed, it may not be able to support heavier weights. Additionally, applying sudden pressure while stopping a motorcycle can result in significant spinal trauma.[5]







GRAPH 3

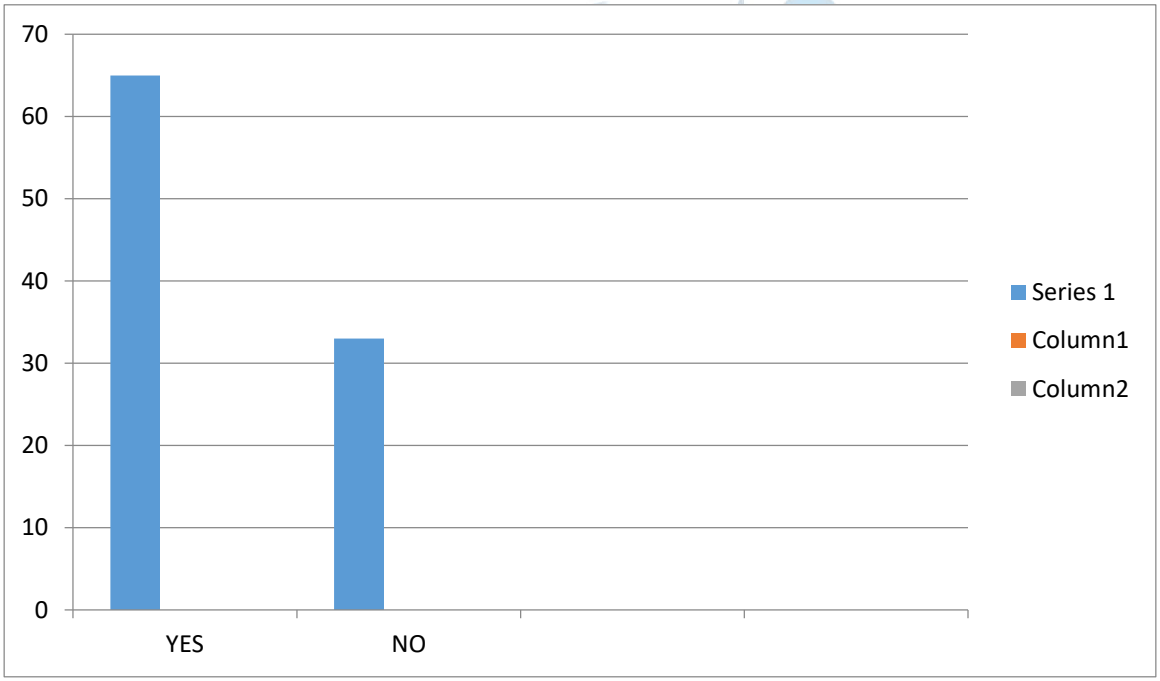


TABLE 1

CONCLUSION

The RESULTS of our study has shown remarkable number of bikers who ride motorcycle had pain in lower back region. The most common factor observed in the current study was time spent on riding motorcycle. Moreover, frequent change in the posture while riding was also reported by majority of the motorcyclists. Educational programs are much needed to create awareness among the bikers about above mentioned risk factors of LBP. long working hours, play a significant role in developing LBP among bikers . Moreover, several factors, including age, chronic illness, obesity, and physical activity, should be

taken into account in the prevention of LBP in motorcyclists

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