

## ORIGINAL ARTICLE

## IJPHY PREVALENCE OF LOW BACK PAIN AMONG THE UNDERGRADUATE STUDENTS OF ISRA UNIVERSITY KARACHI CAMPUS

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## ABSTRACT

**Background:** LBP is a condition with a high prevalence and recurrence rate. This condition has the potential to create a major impact on the individual over extended periods of time. Numerous reasons and factors for lower back pain have been suggested; including age, gender, body mass index (BMI) and physical activity of the patient. There are different treatments and techniques being implemented, however their effects are minimal. Students at University level are at high risk of LBA due to prolonged sitting and standing hours.

**Methods:** Research was conducted on 190 students of ISRA University, Karachi Campus. The duration of the study was 6 months, the participants were randomly selected, who were studying in ISRA University, Karachi Campus and self-administered questionnaires with consent forms were distributed to all the participants. Participants were asked to complete the questionnaire and return it to the concerned person after one week.

**Results:** 71.6% had history of low back pain whereas 28.4% did not have history of low back pain. 84.7% students used computer whereas 15.3% did not use computer. 65.3% left the class room due to low back pain whereas 34.7% did not leave the class room. 61.6% students had prevented normal work from 1-7days due to low back pain during last 12 months, 26.8% prevented normal work from 0 days whereas 11.6% students had prevented normal work from 8-30days due to low back pain during last 12 months.

**Conclusion:** The overall aim of this study was to analyze the prevalence of low back pain among the undergraduate students of ISRA University, Karachi Campus. The study provided a detailed awareness about the level of prevalence of lower back pain among the undergraduate students. The results of this study showed that most of the students were experiencing lower back pain, and it was also found that it is directly related to their work.

**Keywords:** prevalence, low back ache, university students.

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## INTRODUCTION

Low back pain is defined as the presence of at least one of the following terms documented in a client's chart: low back, back pain, backache, radiating pain down the leg, sciatica, pain or paresthesia radiating into lower extremity, disc herniation, nerve root impingement (L1-S2), buttock or posterior thigh pain. This might affect their efficiency at work and patients may plan to change their work [1-4].

Low back pain has a high prevalence and recurrence rate. This condition has the potential to create a major impact on the individual over extended periods of time. It often influences the individual's life on all levels including impairments, disabilities and handicaps. LBP is difficult to diagnose and the effectiveness of treatment is limited. This problem occurs on high scale and requires high health care burden and social costs. In most of the countries, it is one among the activity limiting complaints, causing disability in people resulting in sick leaves etc. According to Bernard [5], the term MSDs refers to "conditions that involve the nerves, tendons, muscles, and supporting structures of the body"

Numerous reasons and factors for lower back pain have been suggested; including age, gender, body mass index (BMI) or the physical activity of the patient [6]. Persistent pain is associated with multiple co-morbid relationships such as individual factors, pain, other disorders, and psychological, social, work-related, and economical factors [7]. However, clinical studies have proved that there is no relation between low back pain and its associated factors.

The alteration of spinal alignment was thought to be the reason of low back pain, but on observation, people with no complaints of low back pain had abnormal posture when compared to normal anatomical posture [8].

Individuals experience acute low back pain for a few days or weeks. The reason can be trauma or other disorders associated to the low back area and can lead to disability. International guidelines states that low back pain should be recorded in early stages.

Despite various techniques and modalities being used, the effects are minimal. According to the statistics of USA, around \$50 billion is being spent annually towards low back pain. Most of low back pain lasts for few days or may lead to serious conditions [9]. The primary goal of treatment is to minimize pain and return the individual to their premorbid quality of life. The individuals are taught coping skills which facilitate effective recovery.

The domination of LBA is described as the number of individuals who register with complaint of low back pain. Survey can be done as questionnaires and the incidence can be recorded at frequent intervals to determine the incidence of LBA [10].

## METHODOLOGY

This is a cross sectional study and the subjects were chosen using convenient random sampling. It was conducted on 190 students of ISRA University, Karachi Campus.

The duration of the study was 6 months. Self-administered questionnaires with consent form were distributed to all the participants. Participants were asked to complete the questionnaire and returned to the concerned person after one week. Both gender of undergraduate students (MBBS and DPT) aged between 18 to 25 years were included in the study.

## DATA ANALYSIS

All the questionnaires were delivered to the participants. Data was analyzed using Statistical Packages for Social Sciences (SPSS) version 20. Frequency, percentage and Chi square test with 95% confidence interval.

All the responses were collected by the researcher. Initially, all the responses were coded with a unified coding system and data were entered in to the SPSS 20 according to the unified coding to assure participants anonymity. Each question was coded according to the number of options and a unique code was used for each option of the closed questions.

A self-administered questionnaire was used as a data collection tool as it is useful method of covering a large population in a relatively short time and cost effective. This method had valid questionnaires which were simple with close ended questions. The participants were given adequate time to complete the questionnaire.

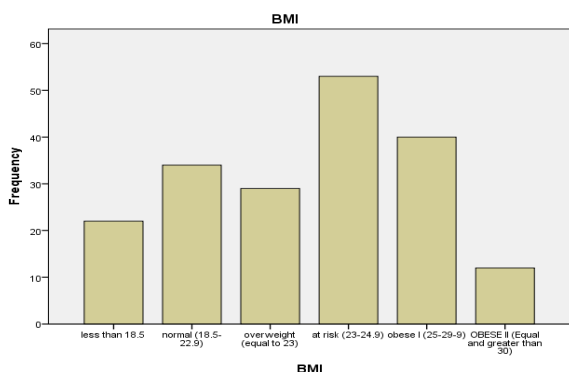
## RESULTS

190 questionnaires were given to the undergraduate students of ISRA University Karachi Campus and they had to answer all the sections. The age of the students was 18 to 25 years. After data analysis, the mean age of the students was  $20.46 \pm 1.599$ .

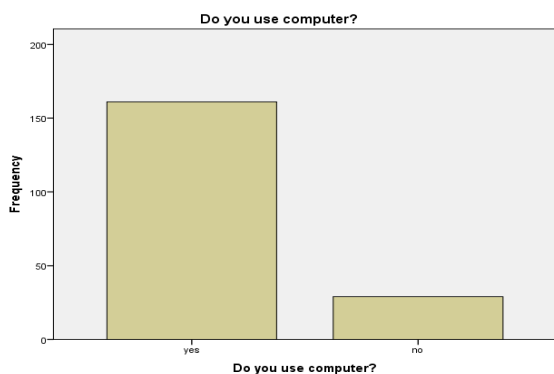
According to Asian value of BMI, among 190 students, 27.9% students were at risk (23-24.9), 21.1% students belonged to obese I category (25-29.9), 17.9% were within normal values (18.5-22.9), 15.3% were overweight (equal to 23) whereas 11.6% students were less than 18.5 category (Figure 1). Out of 190 students, 84.7% students used computer whereas 15.3% did not use computer (Figure 2). 46.8% students used computer 6-8 hours, 30.5% used 3-5 hours, 18.4% used less than 3 hours whereas 4.2% used computer more than 8 hours per day (Figure 3). Out of 190 students, 64.2% students were studying more than 8 hours/day whereas 35.8% less than 8 hours/day (Figure 4). Out of 190 students, 65.3% left the class room due to low back pain whereas 34.7% did not leave the class room (Figure 5). 54.7% students had low back pain from 1-7 days during last 12 months, 27.4% had 8-30days whereas 17.9% students had low back pain everyday (Figure 6). 70% students reduced work activity at home or away from home due to low back pain during the last 12 months whereas 30% students did not reduce work activity at home or away from home due to low back pain during last 12 months (Figure 7). 63.7% students reduced leisure activity due to low back pain during last 12 months whereas 36.3% did not reduce leisure activity (Figure 8). 68.4% students visit-

ed a doctor, physiotherapist, chiropractor due to low back pain during the last 12 months whereas 31.6% did not seek any professional help (Figure 9). 61.1% students prevented normal activities due to low back pain during last 12 months whereas 38.9% continued with normal activities (Figure 10).

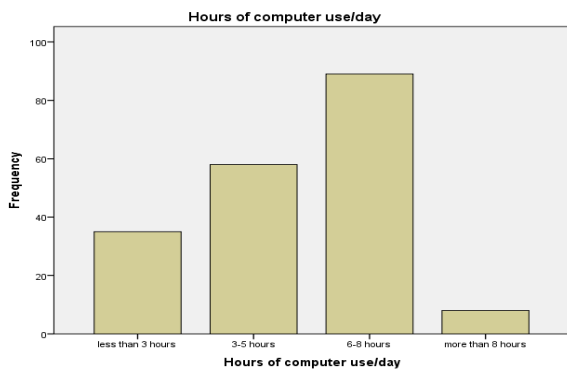
**Figure 1: BMI**



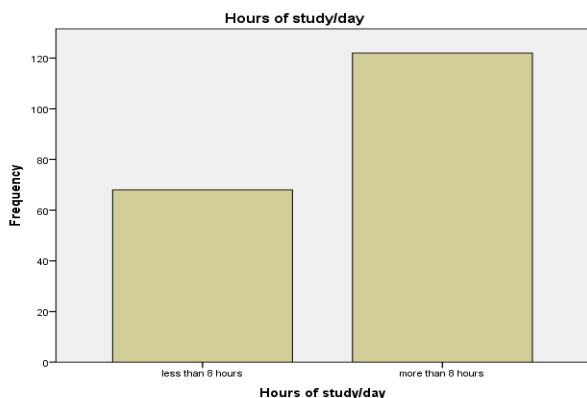
**Figure 2: Do you use computer?**



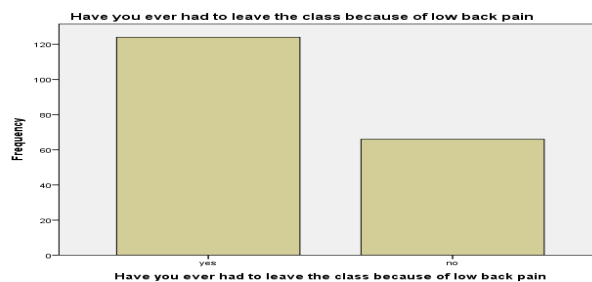
**Figure 3: Hours of computer use/day**



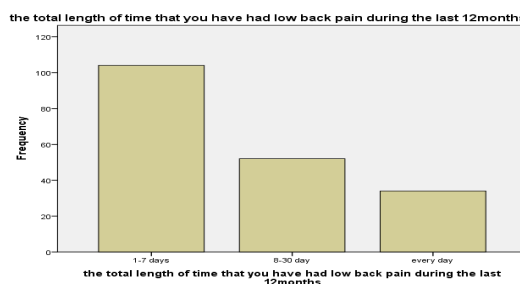
**Figure 4: Hours of study/day**



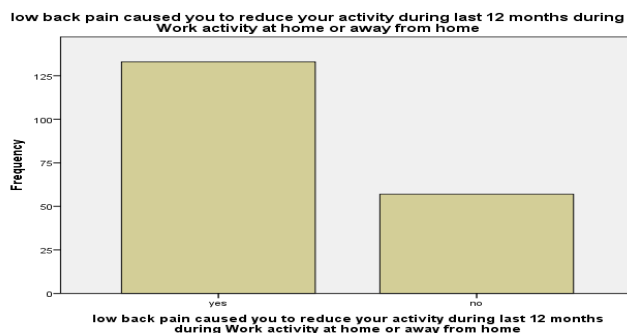
**Figure 5: Have you ever had to hospitalized leave the class because of low back pain**



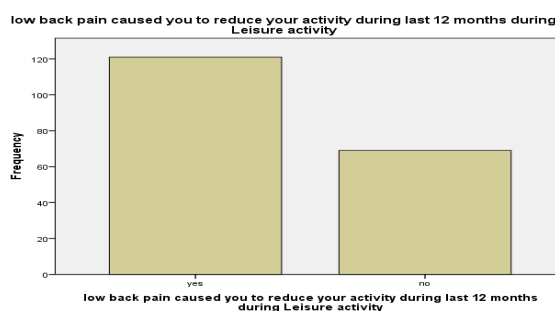
**Figure 6: The total length of pain During the last 12months**



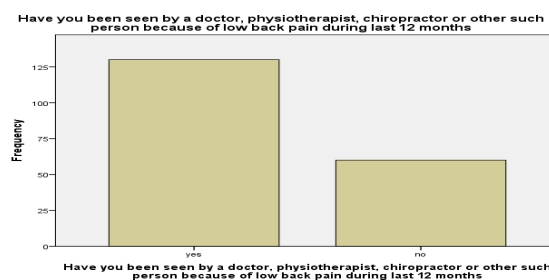
**Figure 7: Low back pain caused less Work activity at home or away from home**



**Figure 8: Low back pain caused you to reduce your activity during last 12 months during Leisure activity**



**Figure 9: Have you been seen by a doctor, physiotherapist, chiropractor or other such person because of low back pain during last 12 months**



**Figure 10:** During the last 12 months have you been prevented from carrying out normal activities (e.g. Job, housework, Hobbies) because of this trouble in lower back



## DISCUSSION

This was the first survey done in the ISRA University Karachi Campus to know the prevalence of the low back pain among the undergraduate students. Mustafa Ahmed Alshagga et al. determined the prevalence of cervical, shoulder and back pain and also identified the associated factors and distributing course of the pain that originated from the musculoskeletal structures [11]. Their study showed that 45.7% of the students who responded had experienced musculoskeletal pain in the last one week, at least in one site and 65.1% responded that they have had at least one site of MSP in the past year whereas in our study 51.6% students have experienced low back pain. Use of computer was also found to be a strong associated factor in musculoskeletal pain in the last year ( $P = 0.027$ ), daily hours of computer use (median  $\pm$  IQR (5.0  $\pm$  3.0), history of trauma (OR 7.5, 95% CI 2.24-2.56,  $P < 0.01$ ) and family history of MSP (OR 2.5, 95% CI 1.31-4.90,  $P = 0.006$ ). It was concluded that MSP among medical students was relatively high, thus, further clinical assessment is required in depth study of ergonomics.

Smith et al. in 2004 conducted a study to determine the prevalence of musculoskeletal disorders among nursing students in rural areas of Australia and also made a comparison with other studies that were conducted at international levels [12]. Eighty percent participants reported that they had experienced musculoskeletal disorders at some areas of the body and the most common complaint was found at the low back with the result of 59.2%. 34.6% musculoskeletal disorders were reported in the neck region. In the knee region about 25% musculoskeletal disorders were found, 23.8% complaints were found in the shoulder region, 16.5% in the feet, 12.7% in the wrist and 11.9% in the leg region respectively. Results also showed that male participants reported more complaints of shoulder pain as compared to females (39.3% vs. 22.0%,  $P = 0.0424$ ).

Similarly in our research, 60% students had musculoskeletal pain at some areas of the body and the most common complaint was found at the low back with the result of 60%, in the upper back with the result of 58%, in the buttock/hip/thigh region with the result of 59%, in the knee region about 62% musculoskeletal disorders were found and 62% in the ankle region respectively.

Oliveria R and Cabri J. conducted research about the low

back pain in young people [13]. They found that there was high prevalence of low back pain in the girls (46.3%) as compared to the boys (32.2%) ( $p < 0.05$ ). While they also got to know that the low back pain prevalence increases with respect to age. It was 31.7% between 10-14 years and 46% between 15-18 years.

They also discovered that individuals who have higher sporting level more than 14 hours per day are significantly prone to low back pain (53.7% -  $p < 0.05$ ).

Similarly in our research, prevalence of low back pain was found in the girls (60%) as compared to boys (40%) and the low back pain prevalence increases with age. Students who study more than 8 hours/day had a significant prevalence of low back pain.

In 2004 M.A. Jones, G Stratton, T. Reilly and V.B Unnithans determined the recurrent non-specific low-back pain prevalence and consequences in children [14]. In north-west England, they found out that the prevalence of the low back pain with reference to the average life time was about 40.2% and majority of the cases of the low back pain were the acute episodes of the lower back pain which eventually does not result in any disabling consequence due to its acute nature. However, 13.1% subjects who had experienced recurrent lower back pain resulted with disabling consequences. As a result of this, the students lost their physical activity, sports activity and remained absent from the school.

Similarly in this research, prevalence of the lower back pain with reference to the average life time was about 71.6% and majority of the cases of the lower back pain were the chronic episodes of the lower back pain. As a result of this the students lost their physical activity, sports activity and remained absent from the school.

Philippi Moroder, Armin Runer, Herbert Resch and Mark Tauber conducted their research on low back pain among medical students [15]. The result of their study was that due to the time consuming curriculum of the medical students and sedentary lifestyle, as a result of which a 12-month prevalence of lower back pain is reported by the medical students. The physical activity level of the medical students is also 2.5 times less than those having the physical education. The 12 month prevalence among the medical students was found out to be 53.4%. Thus, it was revealed that the low back pain prevalence is high in the medical students when compared to physical activity students which was alarming.

Similarly in this research, due to the study scheme of the medical students, they have a sedentary lifestyle as a result of which they have prevalence of low back pain during last 12 months.

## CONCLUSION

The overall aim of this study was to know the prevalence of low back pain among the undergraduate students of ISRA University Karachi Campus. The study provided a detailed awareness about the level of prevalence of lower back pain



among the undergraduate students. The results of this study showed that most of the students are experiencing lower back pain in their life span, and it was also found that this disorder has a prime relation with their work. The results showed that majority of the students faced difficulty in doing their daily activities and also certain reaching and throwing activities.

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