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DAILY TRAVELLING AND LOW BACK PREVALANCE AMONG UNDERGRADUATE STUDENTS OF A SWARRNIM STARTUP AND INNOVATION UNIVERSITY GANDHINAGAR: A CROSS-SECTIONAL STUDY.

Physiotherapy

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ABSTRACT

Background: Low back pain (LBP) is considered the single leading cause of disability-related musculoskeletal conditions globally.Low Back Pain is a serious problem in all the develop countries and is one of the most displayed problem at health service. The prevalence of low back pain has been reported among many people especially when resulting from work related and occupational activities. 75-84% of the general population suffer from low back pain and among them, it is estimated that 5-10% of the people experience LBP resulting in severe morbidity, increased health care costs, sick leaves and individual suffering. **Result:** NPRS score >2 and ODI score >20 were considered positive for backpain patients and it has found that it is having prevalence of 59% in participants who travel frequently.Age group of 18-24 years having prevalence of 72% and age group 25-30 having 18%. **Methodology:** A sample of students will be taken in this survey from Swarrnim startup and innovation University Gandhinagar. All students who meet the inclusion criteria will be eligible to participate in the study. The data were recorded through the semi structured questionnaire. The questions include distance of travelling, posture during travelling, type of vehicle, duration of journey and intensity of pain were reported. An online, standardized, self-administrated questionnaire to be used for data collection. The questionnaire were in English language and had three sections. **Conclusions:** This study, conducted among young adult students of swarrnim start-up and Innovation University, Gandhinagar, revealed that youth those are travelling regularly more than 30 minutes a day are prone to developing LBP, which aligns with published Western literature. This study shows that there is 59 % of prevalence of low back pain in students who travels regularly.

KEYWORDS

Low back pain, Numerical pain rating scale, Oswetry disability scale

INTRODUCTION

Musculoskeletal conditions arise throughout an individual's life at various points of time. Out of the many problems suffered, low back pain is one of the most frequently reported conditions. Low back pain is defined as "pain and discomfort, localised below the costal margin and above the inferior gluteal folds, with or without leg pain" and can be categorized into 3 typesAcute, Sub-acute and Chronic. Acute low back pain is defined as an episode of pain persisting for less than 6 weeks; sub-acute as pain persisting between 6 and 12 weeks; chronic as pain persisting for 12 weeks or more.[1]

Low back pain (LBP) is considered the single leading cause of disability-related musculoskeletal conditions globally. [1]Low Back Pain is a serious problem in all the develop countries and is one of the most displayed problem at health service. Low Back Pain is not considered an illness but a syndrome. It is considered a syndrome because one of the factors causes Low Back Pain is lumbar overload (lumbar stress condition) [2]

What makes the complaint of low back pain so frustrating for physicians is that an estimated 85 percent of patients with isolated low back pain cannot be given a precise pathoanatomical diagnosis. What makes low back pain so frustrating for patients is that primary care and emergency physicians appear perplexed in the face of it. Discouraged patients seek guidance from surgeons and pain specialists or seek alternative treatments such as spinal manipulation and acupuncture when time is often all that is needed. Indeed, recovery is generally inevitable regardless of what is done. One study demonstrated that 90 percent of patients recover within two weeks of presentation. [3]

A broad differential should be maintained when seeing a patient with low back pain, and the physician should consider three distinct categories of pathology: mechanical, nonmechanical, and visceral disease. Mechanical causes of low back pain include lumbar strain or sprain (idiopathic), degenerative processes of discs and facets, herniated discs, spinal stenosis, osteoporotic compression fractures, traumatic fractures, and spondylolisthesis (defined as anterior displacement of a vertebra on the one beneath it).[4]

Nonmechanical causes include neoplastic diseases, Paget's disease of the bone, inflammatory arthritis (often associated with HLA-B27), and infections such as shingles, osteomyelitis, epidural abscess, and septic discitis. The visceral diseases presenting as low back pain include aortic aneurysm, pancreatitis, perforated ulcer, nephrolithiasis, pyelonephritis, perinephric abscess, retroperitoneal hematoma, and prostatitis.[5]

The prevalence of low back pain has been reported among many people especially when resulting from work related and occupational activities. [6-7]75-84% of the general population suffer from low back pain and among them, it is estimated that 5-10% of the people experience LBP resulting in severe morbidity, increased health care costs, sick leaves and individual suffering.[8-9] It is also one of the common reasons for a person to seek medical help.This pathology is manifested at patient with disability, unable patient to work and low quality of life.[10]

There is a link between LBP and some risk factors, including age, education, obesity, smoking, hereditary factors, prolonged standing, injury, stress, anxiety, depression, poor interpersonal relationships and lack of social support .[11] Men and women are equally reported to be affected by this condition. 50% of adults and 30% of adolescents are said to be affected at least once. [11] Of late, there has been rising incidence of LBP among many young adults and children, which is of concern. [12] Sports and physical activity is one of the main factors causing LBP. [13] It was also reported that children below 14 year of age who experienced LBP, got it in more severity before 25 years. [14] Other risk factors which contribute towards a LBP is obesity and a positive family history apart from depression, stress and anxiety.

It is more prevalent in female gender, daily smokers, heavy job holders and have direct impact on the quality of life .[15]The relationship of travelling, chair support during travelling, travelling posture and low back pain is present and need to be precisely identified.[15]

Treatment for nonspecific low back pain, Deyo and Weinstein recommend, is nonsteroidal anti-inflammatory drugs prescribed on a regular schedule rather than on an as-needed basis. For most patients, the best recommendation is a rapid return to normal activities without overdoing exercise or lifting. Bed rest does not increase the speed of recovery from acute low back pain and may inhibit healing, and should not be recommended. For patients with chronic low back pain, aerobic exercise with strengthening exercises of the back and legs appear to be beneficial.[16]

Considering that low back pain is an important factor in limiting physical and cognitive abilities, especially among college students, and that it is costly for the health services, a study of the prevalence, associated factors, and disability rate produced by low back pain among college going students is important, as this will produce health indicators for this population, enabling the prevention of related factors and reducing the impacts of low back pain.

METHODOLOGY

Study Design: A cross sectional study
Population: College going students of swarnim startup and inovation university.

Selection Criteria
Inclusion criteria:
- Age 16 to 30 years,
- Both female and male,
- Travel through any vehicle example: Bus, 2 wheelers and other vehiclek.

Exclusion criteria:
- Having recent injury to back,
- Patients with psychological problem,
- Not willing to participate.

Sampling Method: Convenient Sampling

Sample Size: 100

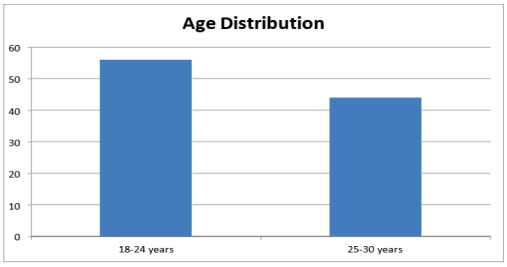
Outcome Measures :
1. NPRS (NUMERICAL PAIN RATING SCALE): This scale is for assessing the pain score of a patient.
2. ODI: Oswetery Disability Index : This scale is for assessing Functional ability
3. An online, standardized, self-administrated questionnaire
- A sample of students were taken in this survey from Swarrnim startup and innovation University Gandhinagar.
- All students who meet the inclusion criteria were eligible to participate in the study.
- The data were recorded through the semi structured questionnaire. The questions include distance of travelling, posture during travelling, type of vehicle, duration of journey and intensity of pain were reported.
- An online, standardized, self-administrated questionnaire to be used for data collection.
- The questionnaire were in English language and had three sections.
- Different sections of the questionnaire were adapted from the minimal dataset and the questionnaires that were validated and used in previous study.
- One to ten scoring to be used for questions reflecting the duration of current back pain, rating of pain intensity , number of episodes of LBP suffered during the past year, whether one feels tense or anxious, feeling depressed in the past year, perceptions of the likelihood that the current episode of LBP were become persistent and attitudinal questions such as 'physical activity worsens the pain', 'one should stop working if the pain increases in intensity', and 'one should not do work when currently suffering from pain'.

RESULTS
All statistical analysis was done using SPSS 25.0 software for windows. Descriptive analysis was used to obtain mean and standard deviations.

Demographic Data
AGE:
The research was performed on 100 participants between the age of 18-30. There were 56 patients between the ages of 18 to 24, 44 patients between the age 25 to 30.

Table1: Age Distribution

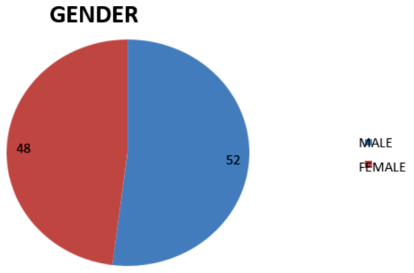
Age Distribution	
18-24 years	25-30 years
56	44



Graph 1: Age Distribution

Gender Distribution:
Table 2: Gender Distribution

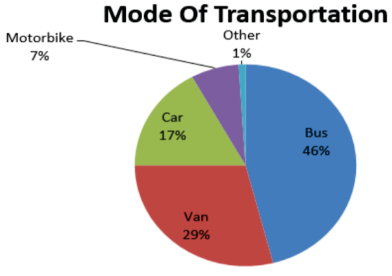
Gender Distribution	
Male	Female
52	48



Graph 2: Gender Distribution

Mode Of Transportation:
Table 3: Vehicle for travel.

Mode	Number	Percentage
Bus	46	46%
Van	29	29%
Car	17	17%
Motorbike	07	7%
Other	01	1%



Graph 3: Mode of transportation

Table 4: Distance for travel.

Distance	Number	Percentage
11-30 km	68	68%
31-50 km	25	25%
51-70 km	07	7%

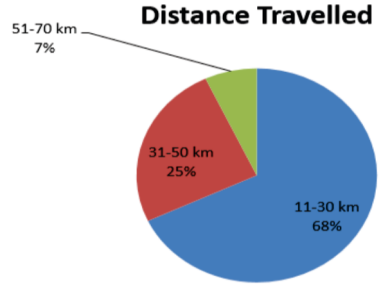


Chart: Distance Travelled

NPRS score >2 and ODI score > 20 were considered as a positive backpain patients from the given population and it has found that it is having prevalence of 59 % of back pain in participants who are traveling frequently.

Age group of 18-24 having prevalence of 72% and age group of 25-30 having prevalence of 18%.

Table 5: Mean value of NPRS and ODI

	Mean + SD
Age	23.25+4.46
NPRS	4.51+2.18
ODI	50.79 + 19.98

DISCUSSION

Various studies [1-3] reported that LBP is one of the most common causes of hospital visits and that it is the leading cause of activity limitations and work absences in many parts of the world. LBP poses a significant economic threat to the individual, family, workplace, and society. Initially considered to be a problem confined to developed countries, studies have now revealed an increasing prevalence in developing countries [15,16]. Although LBP can manifest at any age, LBP prevalence is the highest in the third decade of life [17]. LBP occurrence at an early age can cause disease progression, resulting in chronic LBP that has the potential to decrease an individual's quality of life [8]. Being a common health issue that affects all age groups, LBP and its risk factors have been evaluated by various authors internationally. However, data pertaining to the prevalence and risk factors for LBP in Indian subjects is scarce, particularly in young adults. This study, which included 1355 young adults, was unique as it not only examined LBP prevalence in young adults in swarnim startup and innovation university, Gandhinagar India,

According to Hestbaek et al. [18], the annual LBP prevalence in young adults is 32.4% compared with 59% annually, as observed in the current study. This study demonstrated that there is no sex predilection for LBP occurrence, which is consistent with several studies [19]. Furthermore, our results differ from those of Linton et al. [20] and Thomas et al. [21], which demonstrated a higher incidence in females and who also develop chronic backache compared with males. A meta-analysis by Hoy et al. [22] also showed an increased prevalence in females. Shiri et al.[23] conducted a meta-analysis and found that smokers have a higher prevalence and LBP incidence than non-smokers and that the pain is stronger in adolescents than in adults.

Static muscle load and flexion of the lumbar spine have been postulated as risk factors for LBP development; thus, prolonged sitting or sitting in an abnormal posture can aggravate LBP [25]. We found that posture while studying had no effect on LBP occurrence; however, the number of daily hours spent studying had a significant association with LBP.

With the increased sedentary life style, low back pain is getting common among adults as well as older people .it was observed in one study that the age of students did not mattered the younger students carried approximately the same as the oldeset one.studies on whole body vibration, as in travelling showed that unnatural posture or bad posture during travelling or work frequently adopted is the most of the people can be the source of low back pain.the truck drivers were observed in their sitting posture, frequency of such postures (bending,twisting,leaning).it was observed that such posture and other related activities were risk factors for developing of low back pain.

CONCLUSION

This study, conducted among young adult students of swarrnim start-up and Innovation University, Gandhinagar, revealed that youth those are travelling regularly more than 30 minutes a day are prone to developing LBP, which aligns with published Western literature. This study shows that there is 59 % of prevalence of low back pain in students who travels regularly.

Limitations

- Study was conducted in young adults.
- At the time of the study, these individuals often studied for long periods of time, which could be a major contributing factor to lbp occurrence. Thus, these subjects would have likely experienced high stress levels and monotony, which may have exacerbated lbp.
- Our study did not include sedentary lifestyle as a risk factor for lbp.
- this was a cross-sectional study, we could not assess LBP progression in these subjects

Future Recomendentions

Further studies are needed to evalute the possible risk factors for low back pain among students traveling from gandhinagar to swarnim university and other universities on regular basis, in order to implement forms of prevention and reduce the incidence, chronicity and impact on the individual's functionality.

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