International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2013): 6.14 | Impact Factor (2015): 6.391

Frequency of Lumbago and its Risk Factors among Medical Students of Fatima Memorial Hospital College of Medicine & Dentistry Lahore

Fahad Tanveer[1], Sana Shahid[2]

[1]Senior Lecturer, Fatima Memorial Hospital College of Medicine & Dentistry Lahore, Department of Physical Therapy, Main Raiwind Road, Lahore

[2]Demonstrator, The University of Lahore, Department of Physical Therapy, Main Raiwind Road, Lahore

Abstract: ***Lumbago (LBP) is the most common spinal column problem worldwide. According to some roughly calculation almost 60-80% of the common population was suffer from LBP in their lifetime and 20-30% affected from LBP at any specific time. It is cross sectional descriptive study in which 225 Medical students of Fatima Memorial Hospital College of Medicine & Dentistry Lahore participated, the overall population was 995. Visual analogue scale and self administerd questionare were used as tool to collect the data in the duration of 3 months. It is calculated the data and observed that the male persons are (43.8%) and females are (56.2%). It is observed that the Lumbago is most common in females (33.5%) as compared to males so result shows that Lumbago occurs mostly in the females of age 20 Years. This study was conducted to report the evidence on risk factors for Lumbago, particularly at the university level where these injuries are most common. In particular, gender difference, siting chair, family history, poor posture,wearing high heels, travelling on public transport, shoulder bag and prolonged sitting were important risk factors for Lumbago.***

Keywords: Lumbago, Risk factors, physical features, Medicals, physical activities

1. Introduction

1.1 Overview

Lumbago (LBP) is the most common spinal column problem worldwide. According to some roughly calculation almost 60-80% of the common population was suffer from LBP in their lifetime and 20-30% affected from LBP at any specific time. Cross-sectional data manifestation that early inception of Lumbago frequently appeared around the age of 20 to 60 years. LBP is not the disease of geriatrics. Unusually, 39.8% of the young community is also get experienced from LBP. It obstructs activates of routine life in young persons. LBP had been revealed as the dominant cause for specifying community actions.(1)

One sided LBP was a general issue among Youngsters seen by Therapists. As physical therapy cured of LBP is often conducted forward the vertebral facet joints or trunk curvature, neglected port ion of the disorder may involve joint problem within1 or both of the lower extremities. a general follow up is seen involve excessive 1 sided hip rotation and exaggerated subtler joint pronation on the equaling side as the one sided Lumbago.(2)

Causes for Lumbago had not been properly demonstrate. The major cause for Lumbago is vigorous physical work like move up, bad posture, and full body waving. Reason of LBP also Bad Life habits like Smoking, less physical b warm up and disturbed sleep enhance LBP. Relationship among LBP social and cognitive aspects included..(3)

Lumbago was very common in students,literature showed us many studied concluded all over the World on student had Lumbago.Inaisa this study was conducted in our nehibour country but never conducted in Pakistan.

1.2 Objectives

The objective of this study is to determine the prevalence and risk factors of Lumbago among the under graduates students of Fatima Memorial Hospital College of Medicine & Dentistry Lahore.

1.3 Rationale

The rationale of the study is to avoid the risk factors assoicated with Lumbago hence improving quality of student life.

1.4 Operational Definitions

Visual Analogue scale
The visual analog scale (VAS) is a scale used in surveys with a 9.3 Reliability and 9.4 Validity**.** It is a measurement instrument for particular features or approaches that cannot be directly measured. When responding to a VAS item, defendants identify their level of bargain to a statement by indicating a position between two end-points.

1.5 Materials and methods

1.5.1 Study Design
The present study is a cross sectional

1.5.2 Setting
The study was conducted in Fatima Memorial Hospital College of Medicine & Dentistry Lahore.

1.5.3 Study Population
Male and Female students of Fatima Memorial Hospital College of Medicine & Dentistry Lahore

1.5.4 Duration of Study

The study took 4 months from November 2015 to February 2016 after approval from advance research committee

1.5.5 Sample size

The sample size was calculated by the following formula keeping the Margin of error is 5%, Confidence level is 95%, Total population size is 995, Response distribution is 75% and Sample size is 224.

$$x = Z(^{c}/_{100})^{2} r(100-r)$$

$$n = {}^{Nx}/_{((N-1)E^{2} + x)}$$

$$E = \text{Sqrt}[{}^{(N-n)x}/_{n(N-1)}]$$

Where N is the population size, r is the fraction of responses that you are interested in, and Z(c/100) is the critical value for the confidence level c.

1.5.6 Eligibility

Inclusion Criteria

- Only medical students were selected in our sample.
- Students of age between 20-30 years.

E Exclusion Criteria

- Students having any past medical history or injury
- Students having any congenital disease.
- Students having any musculoskeletal injury during last 6 months

1.5.7 Data collection

The study was conducted in Fatima Memorial Hospital College of Medicine & Dentistry Lahore which has about 224 students enrolled in MBBS at the start of study. 19 students refused to participate in the study and 13 were not available during study duration. Remaining 192 students were surveyed for VAS. 188 students were found to have Lumbago and remaining 36 were normal selected by simple random sampling using random number table who were matched in gender sitting chair, family history, poor posture, wearing high heels, travelling on public transport, shoulder bag and prolonged sitting. Visual Analogue Scale was used questionnaire with a reliability 9.3 and Validity 9.4.

1.5.8 Ethical consideration

The ethical committee and Department of Medical Education of Fatima Memorial Hospital College of Medicine & Dentistry Lahore approved to conduct the study in College. Only those students were included in the study who signed the written consent. All the personal information of participants were kept hidden

1.5.9 Statistical Procedure

The Data was analyzed using SPSS v20.Mean±SD was calculated for numeric variables i.e. age and frequency and percentage was shown with categorical variables e.g. gender difference, sitting chair, family history, poor posture, wearing high heels, travelling on public transport, shoulder bag and prolonged sitting.

2. Results

Variable	Construct	Frequency	Valid Percentage
Frequency of pain	Pain	188	84
	No pain	36	16
Gender with Pain	Male	78	66
	Female	110	93
Age in Years	20	1	0.4
	21	75	33.5
	22	47	21.0
	23	31	13.8
	24	27	12.1
	25	24	10.7
	26	14	6.3
	27	2	0.9
visual scale respondent	Valid - very mild pain	36	16.1
	Normal mild pain	10	4.5
	extreme mild pain	53	23.7
	minor moderate pain	48	21.4
	mild moderate pain	12	5.4
	increasing moderate pain	21	9.4
	high moderate pain	1	.4
	severe pain	3	1.3
	worst pain possible	5	2.2
place of sitting in class	chair with back support	146	77.7
	chair without back support	26	13.8
	any other	14	7.4
lowback pain in parents	Father	17	9.0
	Mother	63	33.5
	Valid both	30	16.0
	None	78	41.5
Type of shoes	Heel	63	33.5
	flat shoes	46	24.5
	Joggers	10	5.3
	Pump	8	4.3

	any other	61	32.4
mode of transport from home to college	public transport	78	41.5
	Bike	34	18.1
	Cycle	12	6.4
	Valid car	25	13.3
	Walking	39	20.7
load carry in shoulder bag	3kg	23	11.2
	less than 3 kg	130	32.1
	greater then 3 kg	35	55.6
when pain increase	prolong sitting	72	38.3
	prolong standing	65	34.6
	Walking	28	14.9
	no change	23	12.2
types of bag use in daily routine	one shoulder bag	92	48.9
	two shoulder bag	17	9.0
	hand carry bag	30	16.0
	no bag	49	26.1
how you study	sitting with back support	103	54.8
	sitting without back support	43	22.9
	Valid sitting on ground	18	9.6
	Laying	24	12.8

There were majority of 188(84%) students which had a back pain and 36(16%) had no complain of back pain. The data was collected from 224 students in which 98 were males and 126 were females and it was observed that 78 males had back pain from 98 and 110 females respectively from 126. There were a majority of 126(56.3%) females and 98 (43.8 %) males respectively. A majority of 75(33.5%) students were of age 20 years, there were 47(21%) students of age 21 years, there were 31(13.8%) students of age 22,there were 27(12%) students of age 23,a lot of 24((10%). The people of age 20 to 30 mostly have normal mild pain and then minor moderate pain. The percentage of normal mild pain is 23.7 and minor moderate pain is 21.4. The percentage of high moderate pain, severe pain and worst pain is less seen in this age group. A Majority of the people sit on chair with back support and its percentage is 77.7, so result shows that maybe people sit in bad posture with back support that cause back pain. Observation shows that family history does not matter in Lumbago because in most cases almost 41% people have back pain but their parents does not have back pain. But in most cases round about 33% people it is observed that their mothers have back pain and they are also a patient of back pain.

Results shows that the females having back pain after wearing heels are 33.5% but there are some cases in which individuals wearing flat shoes also have back pain and the percentage is 24.5. The percentage of Lumbago in people wearing joggers and pump is less. It is observed that 41.5% people have back pain while travelling in public transport and then 18.1% people who rides bike have back pain. Result shows that 55.6 % people who carries greater than 3 kg of shoulder bag have back pain but few cases also observed that individuals caries lesser than 3 kg of shoulder bag also have Lumbago but less in greater weight carries. Results shows that 38.3% people in prolong sitting it showed that it is also a causing factor of back pain but 34.6 % individuals also have a complain of back pain so it means that both prolong sitting and standing is the causing factor of back pain. Results shows that almost 48.9 % individuals use one shoulder back having a complaint of back pain so it may be the causing factor of Lumbago. But there are many cases in which individual doesn't uses shoulder bags but also have a complaint of back pain.

Result shows that majority of the students who study sitting with back support have a complain of back pain and they are 54.8 percent. The people having back pain who study without back support have are less in percentage. It is observed that the Lumbago increases when you sit on chair and the percentage is 44.7.the persons having back pain who walk are less in number and the percentage is 21.3.

3. Conclusion

This study was conducted to report the evidence on risk factors for Lumbago, particularly at the university level where Lumbago is most common. Overall, the study identified a number of potential causal relations between baseline factors and Lumbago. In particular, if we talk about gender then it is most common in females as compared to males and those students who use sitting chair with back support had a high ratio of back pain due to bad posture of sitting., Although family history matters, because mostly students had back majority had a family history. Wearing high heels was one of the most common risk factors in females ,the travelling was also risk factors of back pain and it was most commonly seen in public transport users, the weight carrying via shoulder bag and prolonged sitting were important risk factors for Lumbago., This study was help for finding the risk factors and prevalence of Lumbago in Medical students. In this the students was able to avoid those risk factors hence improving quality of student life. We can further extend this study to next level by conducting interventional studies.

References

[1] Aggarwal N, Anand T, Kishore J, Ingle GK. Lumbago and associated risk factors among Medical students of a medical college in Delhi. Education for Health. 2013;26(2):103.

[2] Cibulka MT. Lumbago and its relation to the hip and foot. Journal of Orthopaedic & Sports Physical Therapy. 1999;29(10):595-601.
[3] Tomita S, Arphorn S, Muto T, Koetkhlai K, Naing SS, Chaikittiporn C. Prevalence and risk factors of Lumbago among Thai and Myanmar migrant seafood processing factory workers in Samut Sakorn Province, Thailand. Industrial health. 2010;48(3):283-91.
[4] Jones G, Macfarlane G. Epidemiology of Lumbago in children and adolescents. Archives of disease in childhood. 2005;90(3):312-6.
[5] Wirth B, Knecht C, Humphreys K. Spine day 2012: spinal pain in Swiss school children–epidemiology and risk factors. BMC pediatrics. 2013;13(1):159.
[6] Hill JJ, Keating JL. Risk factors for the first episode of Lumbago in children are infrequently validated across samples and conditions: a systematic review. Journal of physiotherapy. 2010;56(4):237-44.
[7] Nourbakhsh MR, Arab AM. Relationship between mechanical factors and incidence of Lumbago. J. of Orthopaedic & Sports Physical Therapy. 2002;32(9):447-60.
[8] Gill C, Sanford J, Binkley J, Stratford P, Finch E. Lumbago: program description and outcome in a case series. J. of Orthopaedic & Sports Physical Therapy. 1994;20(1):11-6.
[9] Wirth B, Humphreys BK. Pain characteristics of adolescent spinal pain. BMC pediatrics. 2015;15(1):42.
[10] Leboeuf-Yde C, Fejer R, Nielsen J, Kyvik KO, Hartvigsen J. Pain in the three spinal regions: the same disorder? Data from a population-based sample of 34,902 Danish adults. Chiropractic & manual therapies. 2012;20(1):11.
[11] Clifford SN, Fritz JM. Children and adolescents with Lumbago: a descriptive study of physical examination and outcome measurement. J. of Orthopaedic & Sports Physical Therapy. 2003;33(9):513-22.
[12] Feldman DE, Shrier I, Rossignol M, Abenhaim L. Risk factors for the development of Lumbago in adolescence. American Journal of Epidemiology. 2001;154(1):30-6.
[13] Frymoyer J, Pope M, Clements JH, Wilder DG, MacPherson B, Ashikaga T. Risk factors in low-back pain. An epidemiological survey. The J. of bone and joint surgery American volume. 1983;65(2):213-8.
[14] Yue P, Liu F, Li L. Neck/shoulder pain and Lumbago among school teachers in China, prevalence and risk factors. BMC Public health. 2012;12(1):789.
[15] Heuch I, Heuch I, Hagen K, Zwart J-A. Body mass index as a risk factor for developing chronic Lumbago: a follow-up in the Nord-Trøndelag Health Study. Spine. 2013;38(2):133-9.
[16] Harreby M, Nygaard B, Jessen T, Larsen E, Storr-Paulsen A, Lindahl A, et al. Risk factors for Lumbago in a cohort of 1389 Danish school children: an epidemiologic study. European Spine Journal. 1999;8(6):444-50.
[17] Hartvigsen J, Davidsen M, Hestbaek L, Sogaard K, Roos EM. Patterns of musculoskeletal pain in the population: A latent class analysis using a nationally representative interviewer-based survey of 4817 Danes. European J. of Pain. 2013;17(3):452-60.
[18] Kim MH, Chung HY, Yoo WG, Choi BR. EMG and kinematics analysis of the trunk and lower extremity during the sit-to-stand task while wearing shoes with different heel heights in healthy young women. Human movement science. 2011;30(3):596-605.
[19] Sheir-Neiss GI, Kruse RW, Rahman T, Jacobson LP, Pelli JA. The association of backpack use and back pain in adolescents. Spine. 2003;28(9):922-30.
[20] Beach TA, Parkinson RJ, Stothart JP, Callaghan JP. Effects of prolonged sitting on the passive flexion stiffness of the in vivo lumbar spine. The Spine J. 2005;5(2):145-54.

Author Profile

Fahad Tanveer is Senior Lecturer, Azra Naheed Medical College, Department of Physical Therapy, Main Raiwind Road, Lahore

Sana Shahid is Demonstrator, The University of Lahore, Department of Physical Therapy, Main Raiwind Road, Lahore