Original Article

The Epidemiology of Acute Low Back Pain Patients

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Abstract

Objective: To assess the epidemiology of acute low back pain patients in Dhaka.

Methodology: This observational study was carried out at the Department of Physical Medicine and Rehabilitation, Dhaka Medical College Hospital (DMCH), Dhaka from November 2021 - May 2022. A total of 90 patients of acute low back pain attending the Physical Medicine and Rehabilitation Department, Dhaka Medical college Hospital during study period were the study population. Purposive sampling was done according to availability of the patients. All the data were compiled and sorted properly and the quantitative data was analyzed statistically by using Statistical Package for Social Science.

Result: The mean (±SD) age of the patients was 33.72 ± 10.55 years. Out of total 90 patients, male was predominant than female, which was 57(63.3%) cases and 33(36.7%) cases respectively.

Maximum number of cases (n=17, 18.9%) were housewives followed by garment workers (n=15, 16.7%). Out of 90 patients, majority had shown that, prolonged sitting was the aggravating factor which was 42(46.7%) cases followed by prolonged standing, leaning forwards and prolonged walking which was 23(25.6%), 13(14.4%) and 12(13.3%) cases respectively. Among the total 90 patients, depression was found in 31(34.4%) cases and absent in 59(65.6%) cases.

Conclusion: Socio-demographic profile was characterized by male patients, as from the 16-45 years of life and housewives followed by garments workers. Early identification of patients at risk for developing persistent disabling pain may be helpful in order to reduce long-term problems.

Keywords: Epidemiology, Low back pain.

Introduction

Low back pain is defined as an uncomfortable sensation in the lumbar and buttock region originating from neurons near or around the spinal canal that are injured or irritated by one or more pathologic processes.[1] Low back pain is a symptom complex if persists for more than three months is called chronic low back pain[2] and affects the area between the lower rib cage and gluteal folds. Low back pain is the most common reason that patients' seek physical therapy.[3] It is estimated that 80%-90% of all people experiences at least one episode of back pain in their lifetime.[4] Additionally it causes work losses, which in recent years have increased more rapidly than any other common form of incapacity.[5] In United State approximately 90% of persons in the working population have back pain every year. In United Kingdom back pain is the second common cause of physical disability after cardiovascular disease.[6]

Materials & Method

An observational study was conducted from November 2021 - May 2022 among 90 patients attending at Physical Medicine and Rehabilitation Outpatient Department of the Dhaka Medical College and Hospital after obtaining requisite consent from the patients. Data were collected through interviewing of the patients. The collected data were entered into the

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computer and analyzed by using SPSS (version 20.1) to assess the profile of individuals with low back pain patients. The study was approved by the institutional ethical committee. The interviews were held directly in the corridor just outside the Outpatient Department.

Results

The age range of the patients in this study was 16-60 years. The mean (±SD) age of the

patients was 33.72 ± 10.55 years. Among the total number of 90 patients, 78(86.7%) cases

were of age group 16-45 years and 12(13.3%) cases were >45 years age group. Out of total 90 patients, male was predominant than female, which was 57(63.3%) cases and 33(36.7%) cases respectively. Among the total 90 patients, 29(32.2%) cases were illiterate, majority had completed the primary educational level which was 42(46.7%) cases followed by secondary, higher secondary and diploma level which were 9(10%), 7(7.8%) and 3(3.3%) cases respectively. Out of total 90 patients, maximum number of cases were housewives which is 17(18.9%) cases followed by 15(16.7%) cases were garment workers. (Table-I)

Table-I: Socio-demographic charateristics of the study subjects (n=90)

Parameter	Number	percentage
Age (years)		
16-45	78	86.7%
>45	12	13.3%
Sex		
Male	57	63.7%
Female	33	36.7%
Level of education		
Illiterate	29	32.2%
Primary	42	46.7%
Secondary	09	10%
Higher Secondary	07	7.8%
Graduate and above	03	3.3%
Occupation		
Housewife	17	18.9%
Garments worker	15	16.7%
Service holder	08	8.9%
Driver	08	8.9%
Others	42	46.6%

Among the total 90 patients, previous episode of LBP

was found in 46 (51.1%) cases and

44(48.9%) case had newer onset. The mean (±SD) duration was 6.89 ± 3.61 days. Out of 90 patients, duration was 4-12 days in majority 59(65.6%) cases followed by up to 3 days in 19 (21.1%) cases and 13-14 days in 12 (13.3%) cases. Among the total 90 patients, 67(74.4%) cases had sudden onset which is majority in number and 23(25.8%) cases had gradual onset.

Out of 90 patients, majority had shown that, prolonged sitting was the aggravating factor

which was 42(46.7%) cases followed by prolonged standing, leaning forwards and prolonged

walking which was 23(25.6%), 13(14.4%) and 12(13.3%) cases respectively. Among the total 90 patients, depression was found in 31(34.4%) cases and absent in 59(65.6%) cases. (Table-II)

Table-II: Baseline charateristics of the study subjects (n=90)

Parameter	Number	percentage
Previous episode		
Yes	46	51.1%
No	44	48.9%
Pain Duration (2-14days)		
Upto 3 days	19	21.1%
4-12 days	59	65.6%
13-14 days	12	13.3%
Mode of onset		
Sudden	67	74.4%
Gradual	23	25.6%
Aggravating factor		
Prolonged walking	12	13.3%
Leaning forward	13	14.4%
Prolonged standing	23	25.6%
Prolonged sitting	42	46.7%
Depression		
Present	31	34.4%
Absent	59	65.6%

Discussion

Most of the patients in this study were in middle age group. The sample population showed, the mean (± SD) age of the patients was 33.72 ± 10.55 years, which has more or less similarity with another study done in Bangladesh, where the mean (± SD) age of the patients

was 38.5 ± 9.01.7 Among the total 90 patients, 57 (63.3%) were male and 33 (36.7%) were female. Costeaet al.[8] studied 103 patents, among them 60% were male. In this study; 32.2% were illiterate; 46.7%, 10%, 7.8% and 3.3% had completed the primary, secondary, higher secondary and diploma respectively. So, most of the patients had low educational level. Dionne et al.[9] found that, a low level of education is associated with various diseases and conditions including musculoskeletal disorders and more specifically low back pain. In the occupations of the study patients, housewives (18.9%) were on the top of the list and then garment workers (16.7%). Ahmed B et al.[7] observed 17% housewives, 16% students, 35% service holders, 19% day labourer's, 9% businessman & 4% Driver's were affected. This study showed housewives were the highest number; probably the housewives in our country perform repetitive lifting and bending in furnishing their house-hold activities like washing, mopping floors, cooking and cutting vegetables in an uncomfortable squatting position. The present study showed mean (±SD) duration of current episode was 6.89 ± 3.61 days; 74.4% had sudden onset; aggravating factors were prolonged sitting (46.7%), then prolonged standing (25.6%), leaning forwards (14.4%) and prolonged walking (13.3%). M. Grotle et al.[10] found in a study, done in Norway, mean(±SD) duration of back pain episode was 8.1 ± 6.6 days, 63% participants had sudden onset and 62% had previous episode. Nicholas Henschkeet al.[11] found that 82.2% had sudden onset, 39.3% had previous episode. The present study more or less correlates with the above international studies.

Conclusion

Socio-demographic profile was characterized by male patients, as from the 16-45 years of life and housewives followed by garments workers. Low back pain is one of the most common cause of activity limitation in people younger than 45 years. Prolonged sitting was the aggravating factor for low back pain. A larger study is needed to explore these hypotheses further.

Acknowledgements

Conflict of Interest

Authors declare no conflict of Interest.

Reference

1. Casey PJ, Weinstein JN. Low back pain. In: Kelley's textbook of rheumatology. Ruddy S, Harris ED Jr, Sledge CB (eds). 6th ed. Philadelphia, WB Saunders, 2001, pp 509-24.

2. Datta D, Mirza SK, White III AA. Low back pain. In: Kelley's textbook of rheumatology. Harris ED, Budd RC, Genoves MC, Firestein GS, Sargent JS, Sledge CB (eds). 7th ed. Philadelphia, WB Saunders, 2005, pp 588-600.

3. Frymoyer JW. Back pain and sciatica. N Engl J Med 1988; 318: 291-300.

4. Milhous RL, Hough LD, Frymoyer JW, Ruess JM, Gallagher RM, Wilder DG, Callas PW. Determinants of vocational disability in patients with low back pain. Arch Phys Med Rehabil. 1989; 70: 589-98.

5. Maniadakes N, Gray A. The economic burden of low back pain in the UK. Pain 2000; 84: 95-103.

6. Simmonds M, Harding V, Watson P, Claveau Y. Physical therapy assessment-expending the model. Pain Res Manage 2000; 16: 1013-28.

7. Ahmed B, Alom S, Rahid I, Rahman N, Rahman A, Uddin T, Azad GN. Effect of TENS on patients with acute low back pain. JAFMC Bangladesh 2007; 7(2): 29-31.

8. Coste J, Delecoevillerie G, Cohen de Lara A, Le Pare JM, Paolaggi JB. Clinical course and prognostic factors in acute low back pain: an inception cohort study in primary care practice. BMJ 1994; 308:577-80.

9. Dionne CE, Von Kroff M, Koepsell TD, Deyo RA, Barlow WE, Checkoway H.Formal education and back pain : a review. J Epidemiol Community Health. 2001 Jul; 55(7): 455-68.

10. Grottle M, Brox Jl, Glomsrod B, LOnn JH, Veierod M, Vollestad NK. Clinical course and prognostic factors in acute low back pain: patients consulting primary care for the first time. Spine 2005; 30: 976-82.

11. Nicholas Henschke, Christopher G Maher, Kathryn M Refshauge, Robert G Herbert, Robert G Gumming, Jane Bleasel, John York, Anurina Das, James H McAuley. Prognosis in patients with recent onset low back pain in Australian primary care: inception cohort study. BMJ 2008; 337: a171.