ORIGINAL ARTICLE

Prevalence of Specific Low Back Pain in A Sindh Rural Population

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ABSTRACT

Objective: To determine the prevalence of specific Low Back Pain (LBP) in rural population of Sindh.

Methods: This cross- sectional study on the prevalence of specific Low Back Pain (LBP) in the rural setting of Shaheed Benazirabad during five years in population aged 14 years to 70 years. Sample was recruited from the total number of patients during last five years who visited at Pain Center Peoples Medical Hospital Nawabshah (SBA).

Results: Outof 4,568 cases of LBP, 2,642 (57.84%) were females. The mean age was 40±15.98 in male and 35.14±17.19 years in females. Prevalence of LBP was consistently higher in females (57.84%) than in males (42.16%) in all age groups.Nonspecific low back painwas detected in 3838 (84%) cases, and 2,279 (59.4%) were female; while specific LBP was detected in 730 (16%) patients with male 363 cases (49.43%) Specific LBP diagnoses were herniated nuclei pulposi (30.14%), osteoporosis (20.65%), sprain/strain (11.09%), sacroiliaitis (10.14%), intervertebral disc degeneration (8.91%), facet arthropathy (7.94%), inflammation (6.97%), infection (2.88%). Four cases of ankylosing spondylitis were also detected and fracture (0.41%). Herniated nuclei pulposi (N=220) was top ranking disorder.

Conclusion: Prevalence of specific low back pain in Sindh rural population in females was consistently higher than in males in all age groups. Early intervention is recommended in serious condition to reduce the burden.

Key Words: Prevalence, Low Back Pain, Rural Population, Burden of Disease. Sindh.

Article Citation: Khaskheli MS, Tabbasum R, Meraj M, Irfan R, Awan AH.Prevalence of Specific Low BAck Pain in A Sindh Rural Population. J Peoples Uni Med Health Sci. 2017;7(3):124-128.

INTRODUCTION:

In this modern era, low back pain(LBP) has significant contribution worldwide in disease burden. It is a common disorder, almost everyone has it at some time point[1].According to the definition of Lower back pain, it is a pain, stiffness or muscular tension under the costal margin and above inferior region of gluteal folds. It develops after movement, weight lifting, twisting or forward bending, difficulty in moving can be serious enough to prevent walking and standing[2,3].

According to the recent prevalence rate of LBP in adults, it is categorized into point prevalence, 1-year prevalence and life time prevalence. The rate of point prevalence, 1-year prevalence and life time prevalence has 12-33%, 22-65% and 3-85% respectively[4]. LBP is most common between the ages of 35-64 years[5].It is typically categorize as being "specific LBP" or "nonspecific LBP". Specific low back pain is the pain specifically caused by pathophysiological mechanism[6,7]. The diagnosis like spondylosis, inflammation, infection, herniated disc, rheumatoid arthritis, fracture, osteoporosis, tumor, spinal stenosis and skeleton irregularities are the common causes of specific low back pain[8,9]. Non-Specific low back pain is defined as "the back pain has no specific cause" mostly LBP may occur in the lower region of vertebrae usually from L1-L5 in the lumber region. Nonspecific LBP is more common (almost 90%)

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than that of specific LBP[10].

Apart from the above mentioned pathological disorder, certain risk factors also involved to induce lower back pain. Their risk factors including age, pregnancy, fitness level, genetics, weight gain, occupational risk factor, mental health factor etc[11,12].

The aim of the current study was to determine the current rural prevalence of specific low back pain in Sindh to estimate the Global Burden of Disease (GBD).

METHODS:

This cross-sectional study on the prevalence of specific Low Back Pain in the rural setting of Shaheed Benazirabad during five years cases were recreated from the total number of patients during last five years who visited at Pain Center Peoples Medical Hospital Nawabshah (SBA) belong is to six districts. A total sample of 4568 subjects aged 14 years to 70 years (3,430 males and 3,570 females) were selected from thirty-two rural areas of six districts of Sindh, Pakistan. The sample was stratified into gender and into different age groups.The ethical approval for research work was issued by PUMHSW Shaheed Benazirabad. Data was analyzed statistically.

RESULTS:

This was the first study designed for estimation of prevalence of SLBP in Sindh rural community Pakistan. Out of 4,568 cases of LBP,1,926 (42.16%) were males and 2,642 957.84%) females. The mean age was 40±15.98 in male and 35.14±17.19 years in females (range, 1470 years) (Table 1) with male to female ratio 1:1.4. The prevalence of LBP in age groups 15 to 24 was higher in female (n=391) with male to female ratio 1:3.5. The overall prevalence of LBP pain was 42.16% in male (n=1926) and 57.84% in female (n=2642).

The male to female ratio of LBP remained the same from 25 to 55 years age groups, but it increased in 55 to 70 age groups respectively. Prevalence of LBP was consistently higher in females (57.84%) than in males (42.16%) in all age groups. Nonspecific low back pain was detected in 3838 (84%) cases, male 1,559 (40.6%) and 2,279 (59.4%) were female; while specific LBP was detected in 730 (16%) patients with male 363 cases (49.43%) and females 367 cases (50.27%). Specific LBP diagnoses were herniated nuclei pulposi (30.14%), osteoporosis (20.65%), sprain/strain (11.09%), sacroiliaitis (10.14%), intervertebral disc degeneration (8.91%), facet arthropathy (7.94%), inflammation (6.97%), infection (2.88%), Four cases of ankylosing spondylitis were also detected. (Table 2) and fracture (0.41%) in descending order. Herniated nuclei pulposi (N=220) was top ranking disorder.

DISCUSSION:

This study provides the population-based data on patients with Low Back Pain. Previous studies in Pakistan were restricted as it was limited to urban city[11]. Thisstudy results revealed a high prevalence of LBP: for rural population and dominance in females. In a previous study, the prevalence of LBP in urban cities was reported as 44%[12]. Our results were in accordance with the results found in developed countries[7,13]. In developing countries, prevalence of LBP was lower than that of developed countries, Belgium (33.0%), Canada (28.4%), Australia (25.5%), United Kingdom (14.0%), Denmark (13.7%), Sweden (12.0%) and North America (6.8%).[3,14-17] Prevalence of LBP in developing countries was 15% in Indonesia, 11.7% in Thailand, 11.4% in India and 7% in Philippines.[18,19]In this study prevalence of LBP in females were higher of all ages. The results of different studies revealed the greater prevalence of LBP in female folk as compared to male folk[17,18].The results of current study correlate the results of study which was recently conducted in Spain[3]. The greater prevalence of LBP in female gender could be highlighted on the basis of biological variations, psychological understanding and socio-cultural causes[5]. Biologically females have higher tendency of feeling pain and larger susceptibility to develop temporal summation of chemically and physically evoked pain as well as incapable to diffuse noxious inhibitory mechanism efficiently as compared to male. The genetic makeup and mechanism of estrogen fluctuation in female usually exaggerate the phenomena of LBP[5,11,13]. Along with the biological dissimilarities,

Table I: Low Back Pain Prevalence by Gender and Age Group.

Age Years	Male Mean age	Female Mean age	Male (n)	Female (n)	Total (n)	Total (%)	Male (%)	Female (%)
>14e25	19 3.28	20 1.67	111	391	502	10.99	22.11	77.89
>25e35	30 3.12	27 2.45	517	574	1091	23.88	47.39	52.61
>35e45	38 2.54	40 2.16	616	683	1299	28.45	47.42	52.58
>45e55	51 3.45	52 1.78	299	329	628	13.74	47.61	52.39
>55e70	62 4.75	67 2.41	383	665	1048	22.94	36.54	63.46
Total	40 15.98	35.14 17.19	1926	2642	4568	100	42.16	57.84

Table II: General Characteristics of the LBP Study Population

Characteristics	Total (n)	N (%)	Male n=1926	Female n=2642
Nonspecific LBP	3838	84.02	1,559 (40.62%)	2,279 (59.38%)
Specific LBP	730	15.98	363 (49.73%)	367 (50.27%)
Hernia nuclei pulposi	220	30.14	89 (12.19%)	131 (17.94%)
Osteoporosis	147	20.15	93 (12.74%)	54 (7.40%)
Sprain/strain	81	11.09	39 (53.42%)	42 (5.75%)
Sacroiliatis	74	10.14	36 (4.93%)	38 (5.20%)
Intervertebral disc degeneration	65	8.91	33 (4.52%)	32 (4.38%)
Facet arthropathy	58	7.94	27 (3.40%)	31 (4.25%)
Inflammation	51	6.97	29 (3.97%)	22 (3.01%)
Infection	21	2.88	10 (1.37%)	11 (1.51%)
Rheumatoid arthritis	4	0.55	3 (0.41%)	1 (0.14%)
Ankylosing spondylitis	4	0.55	2 (0.27%)	2 (0.27%)
Fracture	3	0.41	1 (0.14%)	2 (0.27%
Tumor	2	0.27	1 (0.14%)	1 (0.14%)

other possible factors like physical work at homes and farms are also considerable[6]. The female gender prone to get greater psychological distress as compared to male and obviously it leads to pain. Most of the time female segment of our society experiencing number of concomitant chronic disease, which leads to psychological distress. Due to the bias attitude of healthcare provider, the diagnosis and treatment of female handled less effectively or aggressively than males[5, 20,21]. The results of this study resemble with others, in which the prevalence of LBP in females will increase with the increase of their ages[5, 19].The results of studies disclosed that the prevalence of degenerative spinal disorder are exactly as same as in western countries[6,9,11]. A recent retrospective study reported that 1.5% (or 434) of the 29,620 patients younger than 16 years admitted to two Togolese hospitals suffered from musculoskeletal disorders. The most frequent disorders were osteomyelitis and limb deformities. Spinal "degenerative" disorders were uncommon: 38 subjects were diagnosed as having Scheuermann's disease (17 of them presenting with thoracic kyphosis) and 6 other patients presented with radiculalgia[22,23]. Kelle et al showed

a similar prevalence of rheumatoid arthritis (RA) and ankylosing spondylitis (AS).[9]

CONCLUSION:

Specific LBP in Sindh rural population in females was consistently higher than in males in all age groups. Early intervention is recommended in serious condition to reduce the burden. feasibility randomized clinical trial (PEN-LBP Trial). BMJ open. 2018 Aug;8(8):e022423.

REFERENCES:

1. Meucci RD, Fassa AG, Faria NM. Prevalence of chronic low back pain: systematic review. Revista de saude publica. 2015 Oct 20;49:73.
2. Cooper NA, Scavo KM, Strickland KJ, Tipayamongkol N, Nicholson JD, Bewyer DC, Sluka KA. Prevalence of gluteus medius weakness in people with chronic low back pain compared to healthy controls. European Spine Journal. 2016 Apr 1;25(4):1258-65.
3. Palacios-Cena D, Alonso-Blanco C, Hernández-Barrera V, Carrasco-Garrido P, Jiménez-García R, Fernández-de-las-Peñas C. Prevalence of neck and low back pain in community-dwelling adults in Spain: an updated population-based national study (2009/102011/12). European Spine Journal. 2015 Mar 1;24(3):482-92.
4. Foster NE, Anema JR, Cherkin D, Chou R, Cohen SP, Gross DP, Ferreira PH, Fritz JM, Koes BW, Peul W, Turner JA. Prevention and treatmalest of low back pain: evidence, challenges, and promising directions. The Lancet. 2018 Mar 21.
5. Wáng YX, Wáng JQ, Káplár Z. Increased low back pain prevalence in females than in males after malesopause age: evidences based on synthetic literature review. Quantitative imaging in medicine and surgery. 2016 Apr;6(2):199.
6. Maher C, Underwood M, Buchbinder R. Non-specific low back pain. The Lancet. 2017 Feb 18;389(10070):736-47.
7. Chiarotto A, Deyo RA, Terwee CB, Boers M, Buchbinder R, Corbin TP, Costa LO, Foster NE, Grotle M, Koes BW, Kovacs FM. Core outcome domains for clinical trials in non-specific low back pain. European Spine Journal. 2015 Jun 1;24(6):1127-42.
8. Macedo LG, Saragiotto BT, Yamato TP, Costa LO, Malesezes Costa LC, Ostelo RW, Maher CG. Motor control exercise for acute non-specific low back pain. The Cochrane Library. 2016 Jan 1.
9. Kelle B, Güzel R, Sakallı H. The effect of Kinesio taping application for acute non-specific low back pain: A randomized controlled clinical trial. Clinical rehabilitation. 2016 Oct;30(10):997-1003.
10. Mok FP, Samartzis D, Karppinen J, Fong DY, Luk KD, Cheung KM. Modic changes of the lumbar spine: prevalence, risk factors, and association with disc degeneration and low back pain in a large-scale population-based cohort. The Spine Journal. 2016 Jan 1;16(1):32-41.
11. Arslan SA, Hadian MR, Olyaei G, Bagheri H, Yekaninejad MS, Ijaz S, Kheradmand AA. Prevalence and risk factors of low back pain among the office workers of King Edward Medical University Lahore, Pakistan. Physical Treatmalests-Specific Physical Therapy Journal. 2016 Oct 15;6(3):161-8.
12. Waqas M, Ghaffar T, Javed H, Siddique S, Javed A. Study to Find Out the Frequency of Low Back Pain and Its Associated Factors among Boys College Teachers of Twin Cities (Rawalpindi and Islamabad), Pakistan. Physiother Rehabil. 2017;2(130):2573-0312.
13. Tauqeer S, Amjad F, Ahmed A, Gillani SA. PREVALENCE OF LOW BACK PAIN AMONG BANKERS OF LAHORE, PAKISTAN. Khyber Medical University Journal. 2018 Jun 30;10(2).
14. Mogard E, Bremander A, Lindqvist E, Bergman S. Prevalence of chronic widespread pain in a population-based cohort of patients with spondyloarthritisa cross-sectional study. BMC Rheumatology. 2018 Dec;2(1):11.
15. Abbott A, Schröder K, Enthoven P, Nilsen P, Öberg B. Effectiveness of implemalesting a best practice primary healthcare model for low back pain (BetterBack) comcupared with current routine care in the Swedish context: an internal pilot study informed protocol for an effectiveness-implemalestation hybrid type 2 trial. BMJ open. 2018 Apr 1;8(4):e019906.

16. Dalager T, Justesen JB, Murray M, Sjøgaard G. Prevalence of low-back pain in Danish office workers and the effect of Intelligent Physical Exercise Training: A randomized controlled trial. In9th International Scientific Conference on the Prevention of Work-Related Musculoskeletal Disorders 2016.
17. Tant L, Delmotte N, Van den Enden M, Gangji V, Mielants H. High Prevalence of Undiagnosed Axial Spondyloarthritis in Patients with Chronic Low Back Pain Consulting Non-Rheumatologist Specialists in Belgium: SUSPECT Study. Rheumatology and therapy. 2017 Jun 1;4(1):121-32.
18. Noormohammadpour P, Mansournia MA, Asadi-Lari M, Nourian R, Rostami M, Kordi R. A subtle threat to urban populations in developing countries: low back pain and its related risk factors. Spine. 2016 Apr 1;41(7):618-27.
19. Williams JS, Ng N, Peltzer K, Yawson A, Biritwum R, Maximova T, et al. Arokiasamy P, Kowal P, Chatterji S. Risk factors and disability associated with low back pain in older adults in low-and middle-income countries. Results from the WHO study on global AGEing and adult health (SAGE). PLoS One. 2015 Jun 4;10(6):e0127880.
20. Schmelzer AC, Salt E, Wiggins A, Crofford LJ, Bush H, Mannino DM. Role of Stress and Smoking as Modifiable Risk Factors for Nonpersistent and Persistent Back Pain in Females. The Clinical journal of pain. 2016 Mar 1;32(3):232-7.
21. Shmagel A, Foley R, Ibrahim H. Epidemiology of chronic low back pain in US adults: data from the 20092010 National Health and Nutrition Examination Survey. Arthritis care & research. 2016 Nov;68(11): 1688-94.
22. Mijiyawa M, Oniankitan O, Kolani B, Koriko T. Low back pain in hospital outpatients in Lomé (Togo). Joint Bone Spine. 2000 Dec 1;67 (6):533-8.
23. Sharma S, Jensen MP, Moseley GL, Abbott JH. Pain education for patients with non-specific low back pain in Nepal: protocol of a feasibility randomized clinical trial (PEN-LBP Trial). BMJ open. 2018 Aug; 8 (8): e 022423.