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A Study on Chronic Backache at a Primary Health care Centre of Bangladesh

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Abstract

Introduction: *This study was carried out on chronic back ache cases to have a look into the presenting age, predisposing factors or causes and level of nerve root involvement.*

Methods: *Cases were collected from October 2010 to March 2011 by purposive sampling technique. Patients of either sex with age range of 15 - 65 years were included. Findings of the cases were recorded with a predesigned data sheet. Results were expressed as actual number as well as percentage of total involved.*

Results: *Total 112 cases were included in this study - 44% were male and 56% were female. Age range was 15 - 65 years; maximum age incidence was observed around 45 years. Regarding predisposing factors, heavy weight lifting or pulling was 21%, maintaining bending posture for long time was 25% and fall from height, injury or RTA was15%; non-spinal as gynaecological and renal cases were also seen. Maximum number of level of involvement was L_5-S_1 (54%) and next was L_4-L_5 (37%).*

Conclusion: *In conclusion, we may say, if we can develop public awareness regarding the use of a heavy waist-belt/lumbosacral corset (which can reduce the pressure or torsion in the waist) during occupational or personal activities; it may reduce huge amount of man-power loss due to back ache in those persons who are at risk.*

Key words*: Backache, Weight lifting, Prolapsed lumbar intervertebral disc*

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Introduction

Chronic low back pain is a common cause of long term disability in middle age in many countries.[1] This sort of pain is sometimes resistant to treatment and patients are often referred for multidisciplinary consultation.[2]

The lifetime prevalence of low back pain has been reported at between 60 to 80 %. By contrast, the lifetime prevalence of true sciatica is between 2 to 4%. It is generally accepted that 90% of acute low back pain episodes settle, allowing return to work within 6 weeks. However, some 5-7% of the population aged between 45 to 64 years will report back problems as a chronic sickness. Up to 70% of acute episodes of sciatica resolve within 3 months.[3]

The usual symptoms of back disorders are pain, stiffness, and deformity in the back and pain, paresthesia or weakness in the lower limbs. The mode of onset may be sudden, perhaps after a lifting strain or may be gradually without any antecedent event as in case of excess body weight. The symptoms may be constant, or there may be periods of remission. It may be related to some particular posture. Vertebral Tuberculosis or secondary deposits are associated with spine unrelated symptoms too. Pain, either sharp and localized or chronic and diffuse, is the commonest presenting symptom. Backache is usually felt low down and or either side of the midline, often extending into the upper part of the buttock and even into the lower limbs. Back pain made worse by rest would suggest pain arising from the facet joints. Pain made worse by activity probably comes from any of the soft tissue supports of the spine (muscles or ligaments) including the annulus of the intervertebral disc.[4]

Sciatica is the term originally used to describe intense pain radiating from the buttock into the thigh and calf more or less following the distribution of sciatic nerve and therefore suggestive of nerve root compression or irritation. Kellgren 1977, in a classic experiment, showed that almost any structure in a spinal segment can, if irritated sufficiently, give rise to referred pain radiating into the lower limbs. Unfortunately, with the passes of time, many clinicians have taken to describe all types of pain extending from the lumbar region into the lower limbs as sciatica. This is at best confusing an at worst a preparation for misdiagnosis. True sciatica, most commonly due to a prolapsed intervertebral disc pressing on a nerve root, is characteristically more instance than referred to back pain, is aggravated by coughing and straining and is often accompanied by symptoms of root pressure such as numbness and paraesthesia, is especially in the foot.[4]

Other causes of backache- tumours of the spinal column, TB spine, osteoarthritis, spondylolisthesis, prolapsed intervertebral disc, ankylosing spondylitis, vascular occlusion, intrapelvic mass, Arthritis of the hip, tumours of the ilium or sacrum etc.[5]

Non spinal causes of pain must also be considered–respiratory (mesothelioma), vascular (abdominal aortic aneurysm), renal (pyelonephritis), gastrointestinal (peptic ulcer, pancreatitis) and urogenital (testicular, ovarian or prostatic carcinoma).[3] In female, genital prolapse, chronic cervicitis (PID), pedunculated sub-endometrial uterine polyps or complications of gynaecological surgery may also produce chronic backache.[6]

Back pain is a common reason for patient visit to primary care clinics. Despite a large differential diagnosis, the precise aetiology is rarely identified, although musculo-ligamentous processes are usually suspected. Episodes of acute, non-specific low back pain are usually self limiting and so many patients treat themselves without contacting their primary care clinicians. When patients visit clinicians, they require proper evaluation. The history and physical examination usually provide clue to the potentially serious causes of low back pain as well as identify patients at risk of prolonged morbidity.[7]

Taking this matter into consideration, this study was done to have a look into present age, causes and level of spinal involvement of the patients with backache – a knowledge that may help us in further planning for management of backache cases in a primary health centre (ie, Upozilla Health complex) of our country.

Materials and Methods

This cross sectional descriptive type of study was conducted at Sariakandi Upozilla Health Complex, Bogra. Cases of this study were collected from October 2010 to March 2011 randomly and conveniently by purposive sampling technique from the patients came to the Out Patients Department (OPD) of that health complex. Patients with persistent or intermittent back pain, lasting for more than 6 weeks, of either sex with age range of 15 to 65 years were included in this study. To maintain proper randomness only the first case of a day with the complaint of backache was included in sample and was examined thoroughly and recorded in data sheet. For time and manpower constrain, i.e., for maintenance of proper OPD service side by side, rest of the OPD patients with backache were excluded. History was taken, patients were examined properly and necessary investigations were done and then findings were recorded with the help of a predesigned data sheet.

To determine the level of involvement following examinations were done: (i) Posture, kyphosis, scoliosis, muscular spasm, (ii) Gait, +ve heel walking, toe walking, (iii) Straight Leg Raising test (>70^0 was considered normal), (iv) Reverse SLR (femoral nerve stress test), (v) Well leg raising test (Cross sciatic tension test), (vi)- Lasegue's test, (vii) Knee and ankle jerks, and (viii) Extensor halucis longus tendon power.

To determine the cause of backache, cases with clinical examination positive for spondylosis were investigated for X-ray spine ± CT scan or MRI as needed. Cases with clinical examination negative for spondylosis were investigated for ultrasonography of abdomen, CBC, urine R/E, serum creatinine, PSA or chest X-ray etc. as per requirement. In addition, cases seemed to be non-orthopaedic were referred to respective physician for proper evaluation. Findings were expressed as actual number as well as percentage of total involved.

Results

A total of 112 cases were included in this study. Out of them 49 (44%) were male and 63 (56%) were female with a male to female ratio is 1:1.28.

Age range was 15 to 65 years with a mean (± SD) and 45.9 (±9.71) years. Mean (± SD) age of the male patients was 46.5 (± 9.47) and of female patients was 45.5 (± 9.96) years. The difference of age between male and female was insignificant (t = 0.543, p > 0.10). (Table I).

Table I: Mean age of male and female cases

Sex	Age mean (±SD)	*t* value & *p* value
Male (n-49)	46.5 (± 9.47)	t = 0.543
Female (n-63)	45.5 (± 9.96)	p = 0.10

Among all the cases, 2 cases were in the age group of 15 - <25 years, 10 cases in 25 - <35 years, 42 cases in 35 - <45 years, 35 cases in 45 - <55 years & 23 cases were in 55 - <65 years. Male to female proportion in different age groups are demonstrated in Figure-1 below:

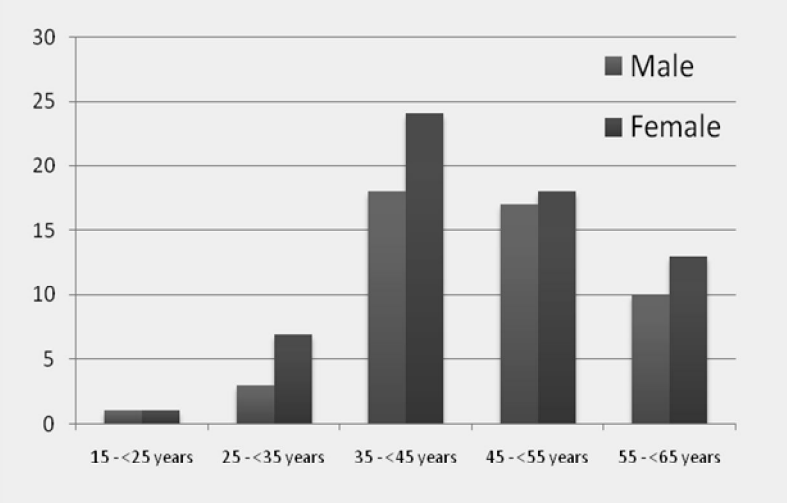

Figure 1: Distribution of cases in different age group among male and female

As per clinical examinations and investigation findings, the major predisposing factors of back pain was shown in (Table II).

Table II: Predisposing factors of backache among all the cases

Predisposing factors /or cause of backache	Number of cases		
	Male (n_1-49)	Female (n_2-63)	Total (n-112)
1. Heavy weight lifting or pulling	14 (29%)	10 (16%)	24 (21%)
2. Maintaining bending posture for long time	8 (16%)	17 (27%)	25 (22%)
3. Trauma (Fall from height, injury or RTA)	8 (16%)	7 (11%)	15 (13%)
4. Excessive traveling	2 (4%)	1 (2%)	3 (3%)
5. Excess body weight	3 (6%)	8(13%)	11 (10%)
6. Spina Bifida / deformity	2 (4%)	2(3%)	4 (4%)
7. TB spine	0	1 (2%)	1 (1%)
8. Osteoarthritis	5 (10%)	7 (11%)	12 (11%)
9. Inflammatory arthritis	2 (4%)	1 (2%)	3 (3%)
10. Malignancy / secondary deposits	2 (4%)	2 (3%)	4 (4%)
11. Gynaecology	--	7 (11%)	7 (6%)
12. Kidney	1 (2%)	0	1 (1%)
13. COPD	2 (4%)	0	2 (2%)

Out of total 112 cases 98 were confirmed by X-ray, CT scan and / or MRI.

The highest level of spinal involvement was at the level L5 - S1 (Table III).

Table III: Shows the level of involvement of all the cases

Spinal nerve root involved	Number of cases (Total-98)
T_{12}-L_1	1 (1%)
L_2-L_3	2 (2%)
L_3-L_4	5 (5%)
L_4-L_5	36 (37%)
L_5-S_1	53 (54%)

Discussion

In this study number of female cases were higher than male. Shakoor et al. also found similarly higher female number than male.[8] In a different study, males were found more in number than the females.[9] Mean age of all cases was 45.9 years with male patients mean age was 46.5 years and of female patients mean was 45.5 years and the difference was insignificant; maximum incidence was also observed around the age of 45 years. Shakoor et al. found mean age to be 42.2 years with the maximum incidence was around 42 years; which is also, more or less, similar to our study.[8] The predisposing factors of backache found in this study represents, more or less, to the causes of back ache mentioned earlier.[3-6]

In this study, highest frequency of spinal nerve root involvement was observed in L_5-S_1 segment (54%) and next to that was L_4-L_5 segment (37%); and, these two segments together makes 91%. In a study Wheeler et al. mentioned that over 90 percent are L_5 and S_1 radiculopathies and most sciatica is attributable to radiculopathy at the L_5 or S_1 level from a disc disorder.[10] It is to mention that in western countries, back pain is the most common cause of sickness related work absence and in UK 7% of adults consult their General Physicians each year with back pain.[11]

In our study, we found high number of cases related to heavy weight lifting or pulling and maintaining bending posture for long time in their occupational or personal lives. So, in conclusion, we may say, if we can develop public awareness regarding the use of heavy waist-belt/lumbosacral corset (which can reduce the pressure or torsion in the waist) during their occupational or personal activities, it will reduce huge amount of man-power loss due to back ache.

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