

Occupational Lumbar Disc Herniation Among Thai Workers Claimed for Compensation

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Abstract

The study was conducted at the Medical Committee Office to the Compensation Fund, from March to August 2000, the documents and medical records of 37 claimants of Thai workers who were diagnosed with occupational lumbar disc herniation were analyzed, 78.4 per cent were male. The most common age was between 26-35 years. About half of the workers had a monthly salary of less than 6,150 baht and had worked for less than 5 years. The most common risk factor was lifting, which accounted for 64.9 per cent and the chance of severity was twice that of other types of work. Ergonomic intervention should be properly implemented.

Key word : Occupation, Lumbar Disc, Herniation, Compensation

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Occupational back pain is a worldwide problem, though information on the frequency, distribution and cause of disabling injuries is less available than fatal data⁽¹⁾. In the United States, occupational back injuries are the single most common nonfatal injuries occurring at the rate of 3.5 per 100 workers, accounting for 22 per cent of loss-work injury in 1988⁽²⁾. In Thailand, the number of employees registered with the Compensation Fund was over 5 million and about 4 per cent had occupational injuries or diseases (Table 1)⁽³⁾.

Complicated cases that the Provincial Social Security Offices consulted the Medical Committee to the Compensation Fund in 1996-1998, 62 per cent were musculoskeletal cases, occupational back pain accounted for 25 per cent and 7 per cent were occupational lumbar disc herniation. In the first half of 1999, occupational back pain increased to 41 per cent and 59 per cent were disc herniation⁽⁴⁾. These figures imply the trend of serious problems among Thai workers and that intervention should be properly implemented. The objective of this study was to find

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Table 1. Number and percentage distribution of occupational injuries and diseased employees in Thailand, 1996-1999.

| Year | Number of registered employees | Number of injuries and diseases | Per cent of injuries and diseases |
|------|--------------------------------|---------------------------------|-----------------------------------|
| 1996 | 5,524,422 | 245,616 | 4.53 |
| 1997 | 5,825,821 | 230,376 | 3.95 |
| 1998 | 5,145,835 | 186,498 | 3.62 |
| 1999 | 5,321,872 | 171,997 | 3.23 |

Table 2. Percentage distribution of some selected general characteristics of HNP claimants (n = 37).

| Variables | Number | Percentage |
|---|--------|------------|
| Gender | | |
| Male | 29 | 78.4 |
| Female | 8 | 21.6 |
| Age (years) | | |
| 21 - 25 | 4 | 10.8 |
| 26 - 30 | 11 | 29.7 |
| 31 - 35 | 9 | 24.3 |
| 36 - 40 | 5 | 13.5 |
| 41 - 45 | 6 | 16.2 |
| 46 - 50 | 2 | 5.4 |
| $\bar{x} \pm S.D = 33.54 \pm 7.06$, min = 22, max = 47 | | |
| Length of employment (years) | | |
| < 5 | 28 | 75.7 |
| ≥ 5 | 9 | 24.3 |
| $\bar{x} \pm S.D = 4.30 \pm 5.62$, median = 2.0, min = 4 mo., max = 19 | | |
| Salary (bath/month) | | |
| $\leq 5,000$ | 20 | 54.1 |
| $> 5,000$ | 17 | 45.9 |
| median = 6,150 | | |

Table 3. Percentage distribution of job characteristics (n = 37).

| Job characteristics | Number | Percentage |
|---------------------|--------|------------|
| Lifting | 24 | 64.9 |
| Push/pull | 1 | 2.7 |
| Driving | 1 | 2.7 |
| Awkward posture | 9 | 24.3 |
| Fall | 2 | 5.4 |
| Total | 37 | 100 |

the risk factors related to the occurrence of occupational lumbar disc herniation among Thai workers.

MATERIAL AND METHOD

The study was conducted at the Medical Committee Office to the Compensation Fund from March to August 2000. The documents, including medical records of employees diagnosed with occupational lumbar disc herniation who claimed compensation, were analyzed for all 37 cases. The variables in the study included gender, age, length of employment, risk factors especially job characteristics and severity. Severity was defined as a case that had pain with positive straight leg raising test and one or more signs of neurological alteration. The statistics for data analysis were frequency, percentage distribution and Chi-square test.

RESULTS

Some general characteristics of the 37 claimants are shown in Table 2. Most of them were male and accounted for 78.4 per cent. The average age of the claimants was 33.54 years and 54 per cent were between 26-35 years old. About 75 per cent had worked for less than 5 years. Half of the employees had worked for less than 2 years with a monthly salary less than 6,150 baht. The average medical cost was 10,387.24 baht and the average number of days lost was 17.3 days.

Considering working conditions or job characteristics, lifting accounted for two-thirds of the cases (64.9%), and the second most common was awkward posture (24.3%) (Table 3).

Twenty seven of 37 claimants (73%) were defined as severe cases, and the ratio of men to women was about 1.2. There was no difference between age group and length of employment among the severe cases. There was no significant association between gender, age, length of

Table 4. Association between some selected general characteristics of HNP claimants and severity.

| Variables | Total | Severity | | P-value* |
|------------------------------|-------|----------|------------|----------|
| | | Number | Percentage | |
| Total | 37 | 27 | 73.0 | |
| Gender | | | | 0.655 |
| Male | 29 | 22 | 75.9 | |
| Female | 8 | 5 | 62.5 | |
| Age (years) | | | | 1.000 |
| ≤ 40 | 29 | 22 | 72.4 | |
| 41 – 50 | 8 | 6 | 75.0 | |
| Length of employment (years) | | | | 1.000 |
| ≤ 5 | 28 | 20 | 71.4 | |
| > 5 | 9 | 7 | 77.8 | |

* Fischer Exact's test

Table 5. Association between job characteristics and severity.

| Job characteristics | Total | Severity | | P-value* |
|---------------------|-------|----------|------------|----------|
| | | Number | Percentage | |
| Lifting | 24 | 18 | 48.6 | |
| Others | 13 | 9 | 24.3 | |

* Fischer Exact's test

employment and severity of HNP, which might be due to limitation of sample size (Table 4).

Regarding working conditions or job characteristics attributed to severity of HNP, lifting accounted for half of the cases (48.6%). The severity risk from lifting was twice that of other working conditions (Table 5).

DISCUSSION

Occupational back pain is a major problem in many aspects of socioeconomic loss, but it is difficult to decide whether it is work-related or from other causes. The prevalence rate of low back pain in the general population is similar for men and women⁽⁵⁾. Men are more likely to attribute back pain to their job⁽⁶⁾, with more disabling occupational back injuries⁽⁷⁾ and compensable low back pain is more common in men^(8,9). The age of onset of low back pain is generally between 20-40 years⁽⁹⁾. The peak onset of occupational back injury occurs in the third decade of life, in the first year of employment⁽¹⁰⁾

and especially at high risk in the first 5 years on the job⁽⁹⁾. There is some relationship between low back disorders and physical workplace factors. Lifting is an important occupational risk factor for back injury^(9,12,13) and the risk increases with the increasing weight of the object or with heavy objects^(14,15). Awkward postures such as bending and twisting are also risk factors in the workplace^(9,11,15,16). Occupational groups exposed to whole-body vibration also have increased risk of back injury such as driving a motor vehicle^(9,11,16-18). Pushing, pulling and falls are also cited as the cause of occupational back injuries^(9,19). From this study, we found the major group with occupational lumbar disc herniation who claimed compensation were men, and the age of onset was in the third decade. Half of the claimants had worked for less than 2 years, mostly less than 5 years with an income of less than 6,150 baht. Lifting was the main risk factor in two-thirds of the cases, and was twice more likely to attribute to severity than other working conditions.

SUMMARY

Occupational back pain is still a worldwide problem especially disc herniation. Difficulties arise in the decisions for compensation as to whether it is work-related or not. From March to August 2000, documents including the medical records of 37 employees diagnosed with occupa-

tional lumbar disc herniation who claimed compensation were studied. Most were male in the third decade of their life, who had worked for less than 5 years. The severity risk from lifting is about twice that of other groups. Ergonomic intervention should be properly implemented to lower the risk.

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ปัจจัยที่เกี่ยวข้องกับการเกิดหมอนรวงกระดูกสันหลังส่วนเอวเคลื่อนจากการทำงานในคนงานไทย

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จากการศึกษาแฟ้มประวัติลูกจ้างที่ได้รับการวินิจฉัยว่าเกิดภาวะหนرونงกระดูกสันหลังส่วนเอวเคลื่อนจากการทำงานที่ถูกส่งเข้าห้องหรือคณะกรรมการการแพทย์ กองทุนเงินทดแทนระหว่างเดือนมีนาคม ถึงเดือนสิงหาคม พ.ศ.2543 จำนวน 37 ราย เพื่อศึกษาปัจจัยที่เกี่ยวข้อง พบว่า ร้อยละ 78.4 เป็นเพศชาย กลุ่มอายุที่พบมากที่สุดอยู่ระหว่าง 26 – 35 ปี พนักงานร้อยละ 54 ครึ่งหนึ่งของลูกจ้างมีเงินเดือนน้อยกว่า 6,150 บาท และร้อยละ 75.7 ทำงานไม่ถึง 5 ปี ปัจจัยเสี่ยงในการทำงานที่พบมากที่สุดคือการยกของหนัก ร้อยละ 64.9 และมีอุบัติเหตุทำให้อาการรุนแรงกว่าปัจจัยอื่นถึง 2 เท่า ผู้เกี่ยวข้องควรน่าหลักการยกสารให้ในสถานประกอบการเพื่อลดภาวะเสี่ยงลูกจ้าง

คำสำคัญ : หมอนรองกระดูกกลันหลังส่วนเอวเคลื่อน, เหตุจากงาน, การทำงาน, อาชีววิทยาศาสตร์

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