

Disability associated with low back pain in Mulago Hospital, Kampala Uganda

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Abstract

Background: Low back pain is sufficiently disabling and a common cause of disability particularly during the productive middle years of adult life. Disability implies interference with daily activities.

Objective: To assess and document the disability associated with low back pain in terms of sick leave days, interference with daily activities and some pain characteristics.

Methods: This study was carried out in the Orthopaedic out patient clinic of Mulago Hospital, a tertiary national referral hospital in Kampala, Uganda. It was a descriptive cross sectional study over a period of seven months. 204 patients with mechanical back pain were enrolled in the study, after screening all consecutive new adult patients referred with low back pain as the major complaint.

A validated modified Oswestry instrument was used to collect data. Nine daily activities: sleep, sex, lifting, traveling, social and recreational activities, dressing, sitting, walking and running activities were investigated.

Data was analyzed using SPSS for windows version 10. Mean and Standard deviations were used to summarize continuous variables. P value was considered statistically significant if it was equal or less than 0.05.

Results: 87% of the respondents reported a mean of 14 days off work during the 4 weeks prior to the interview because of back problems. The mean duration of a current low back pain episode was 5 months. All activities were interfered with; with lifting as the most affected with a mean score of 4.5, walking and running was 3.6, standing was 3.3, sex life was 2.9, traveling was 2.9, sitting was 2.7, social and recreational activities was 2.7, getting dressed was 2.1 and sleeping was 1.8.

Conclusion: Our results confirm that low back pain is a significant cause of disability affecting the productive middle years of adult life and causes significant disruption of daily activities including sleep and sex. The cost of lost work time, compensation and treatment for our setting is a knowledge gap that should be filled by further study. There is need for a community-based study to ascertain extent of the problem in at a wider population level.

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Introduction

The WHO definition of disability is any restriction or lack (resulting from impairment) of the ability to perform in the manner or within the range considered normal.¹

Disability implies interference with daily activities and impairment implies loss of physical function². Studies done in Europe indicate that 10-56% of low back pain patients reported significant sick leave days, needed to change jobs or needed retraining on the account of low back pain^{3,4}.

This study investigated the work loss due to back pain and interference with daily activities in a developing world setting.

Patients with acute low back pain and associated disability improve rapidly within 1 month. Further improvement is apparent until about 3 months. However, pain and disability remain ongoing and recurrences are common⁵.

In the US mechanical low back pain is the most common cause of work related disability in persons aged less than 45 years⁷. While there is no mortality associated with mechanical low back pain, morbidity in terms of lost productivity, use of medical services and cost to society is staggering, total workers' compensation costs for cases occurring in 1989 in the US amounted to \$ 11.4 billion, making it the most costly ailment for working age adults⁸. This probably only true for the high-income countries where the prevalence of communicable diseases is very low. However, in Latin America it presents a serious public health problem too⁹. Work related disability due to low back pain in Uganda is not documented.

In Sweden the level of insurance benefits for disabling low back pain is 100% compared to a range of

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0 to 80% in the US.

People who are depressed, those who have poor job satisfaction and who can receive compensation as long as their backs hurt have increased incidence of mechanical low back pain that develops into chronic^{8,9,10}. In this study no single patient was planning to claim for compensation.

Methodology

Study design: It was a cross sectional descriptive study. 204 patients were enrolled out of the 1033 general Orthopaedic patients that presented to the Orthopaedic out patient clinic of Mulago Hospital. All 204 patients were subjected to the validated modified Oswestry Questionnaire. The questionnaire consisted of 9 questions each for an activity and in addition questions about how many days these were on sick leave four weeks prior to visit and demographic data questions. Two diagrams of a human body in erect position were used for the participants to indicate where they felt the pain, or where it radiated.

Study subjects: All consenting adults referred for the out patient department with low back pain as the chief complaint. Patients came mostly from Kampala, Mpigi and Mukono districts. These districts are in the central part of the country and closest to Mulago Hospital. All patients that enrolled consented by reading the consent form or being read to and signing on it. Patients with other causes of low back pain such as renal disorders or gynecological disorders were excluded from the study.

Instruments: The modified Oswestry instrument was used. It explored nine daily activities were considered: sleep, sex, lifting, traveling, social and recreational activities, sitting, walking and running.

This instrument was chosen because it is brief, minimizing response burden and the costs of data collection and management. It has been tested and found to be valid and practical¹¹.

The questions were a 6-point item with this general description:

1. doing the activity in question without any pain
2. without increase in present pain
3. activity done but pain increases
4. activity done but with significant pain
5. activity done but with very severe pain
6. activity cannot be done at all

Data processing and analysis: The closer the score to 1 the less disruption of the activity question. The

closer it is to 6, the greater the disruption or interference. Data were analysed using SPSS for windows version 10. Mean and standard deviations were used to summarize variables. P value considered statistically significant if it was equal or less than 0.05.

Results

The results displayed in table 1, indicate that all the nine activities, were interfered with to varying degrees with lifting as the most affected activity with a mean score of 4.5. Walking and running mean was 3.0, standing was 3.6, sex life was 2.9, it was worth noting that when it came to the questions about sex life, the majority (114/204) opted not to answer them either because of embarrassment or may be it was indeed affected and they would rather not talk about it. The other reasons for no response were not established apart from traveling and recreational activities the respondents indicated that they don't travel much or do recreational activities and thought it was inappropriate for them to answer the question. Traveling mean score was 2.9, sitting was 2.7, social and recreational activities was 2.7, Getting dressed was 2.1 and sleeping was 1.8.

87% of the study population reported a mean of 14 days off work during the four weeks prior to the interview as displayed in table 2. The mean duration of an episode (time when patient experiences pain) of low back pain was 5 months.

The pain characteristics investigated were site of pain and radiation. Pain population was all the number of patients enrolled N = 204. For low back pain, the pain was expected to be reported in the lumbar region, however the thoracic and cervical areas or combinations of them were sited. The largest groups were those with pain in the lumbar area. The combination of cervico-thoraco-lumbar was rare with 1.5%. The frequency of pain with radiation to the thigh, knees, legs or foot or sole was 52.5%. The pain curiously radiated nearly equally to either side.

Table 1 Disability scores

Activity	Number of patients	No of non-respondents	Mean	Std deviation
Getting dressed	196	8	2.1020	1.1367
Lifting	192	12	4.5052	1.3263
Walking and Running	194	10	3.3557	1.1482
Sitting	195	9	2.7333	1.0207
Standing	196	8	3.3316	1.1173
Sleeping	194	10	1.8711	1.0525
Social and Recreation	162	38	2.7222	1.1861
Sex life	80	114	2.8625	1.5073
Traveling	166	36	2.9096	0.9712

Table 2 Days off work among age groups

Age	Number of patients	Mean	Std deviation
11-20	2	28.0000	.0000
21-30	27	13.4815	13.1130
31-40	35	14.1714	12.2029
41-50	45	12.1111	11.4717
51-60	34	13.2941	12.8806
61-70	23	17.3478	12.9426
71+	10	18.7000	12.5614
Total	176	14.1989	12.4106

Figure 1 Distribution of pain

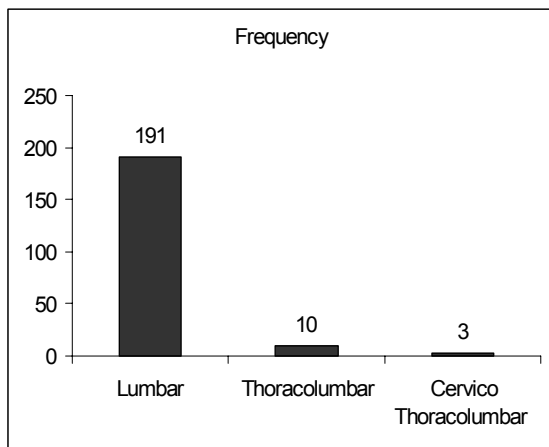
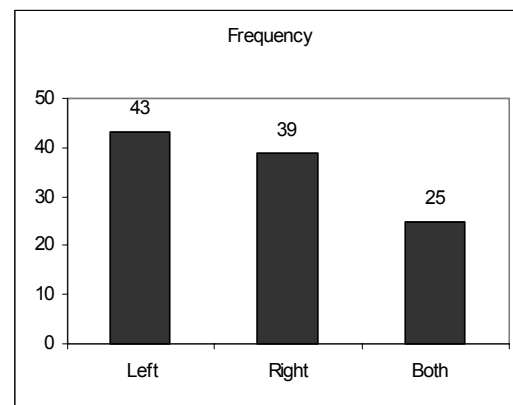


Figure 2: Frequency of radiation to lower limbs, 7 of the respondents had no pain radiation.



Discussion

All population pain studies are based entirely on the subjects' self report and there is no objective or pathological information for comparison.

In this study back pain was a significant cause of disability particularly affecting the productive middle

years of adult life. There was significant disruption of daily activities including sex and sleep. This has social economic implications, economic loss to the worker, employer and society. Although this single parameter (days lost) demonstrated short-term disability (14 days off work) patients on average had had the current episode going for 5 months. This is comparable to findings from a review of 15 studies⁵ that revealed that patients with

acute low back pain and associated disability improve rapidly within 1 month and further improvement is apparent until about 3 months. The participants were only asked about days off work for only the past 4 weeks to avoid recall bias, the longer the period of time they are required to remember the more likely to be co-founded by recall bias.

The ultimate effects of low back pain are that the individual's ability for competitive employment and opportunity are lessened. The cost of lost work time⁵, compensation and treatment should be an area for research.

The frequency of radiating pain was 52.5% which is up to twice as high as that quoted in other studies⁴, the implications of radiating pain are not very clear, though for nerve root pain the overall prognosis is poorer⁶. Radiating pain, as a predictor for chronicity and long-term disability ought to be studied in our setting too.

Conclusion

Low back pain is a significant cause of disability and a cause of time off work not only in the western world but also in the developing world. The cost of lost wages and productivity should be studied further, and for clinical practice to further examine the diagnostic value of radiating pain.

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