

Low back pain resulting in temporary incapacity leave among South African nurses in the public health sector

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ABSTRACT

Background: Low back pain (LBP) is a common work-related condition worldwide, with nurses being particularly susceptible. Information is limited regarding extended sick leave usage (also called temporary incapacity leave) by nurses due to LBP.

Objectives: The purpose of this study was to describe LBP that caused temporary incapacity leave among South African nurses in the public health sector, as submitted to a health risk management company from 2007 to 2009.

Methods: The nurses' temporary incapacity leave applications were reviewed, and a profile of nurses with LBP was constructed. The period prevalence and percentage of applications for ill-health retirement due to LBP were determined.

Results: The 54 nurses who applied for temporary incapacity leave were all female, with a median age of 48 years (range 26-63 years). During the study period, 29 427 nurses were employed. The period prevalence of LBP was 0.18%; the highest prevalence was in the age group 60-69 years (0.74%). Five (9.3%) of the 54 nurses also applied for ill-health retirement.

Conclusion: LBP is a cause of extended sick leave utilisation among nurses in the public health sector. Active involvement of occupational health services can help to minimise the effect of LBP on temporary incapacity leave utilisation, and prevent LBP from becoming a chronic condition. Further research should include all healthcare workers in order to get a more comprehensive view of LBP resulting in temporary incapacity leave utilisation. By identifying risk factors, corrective actions can be implemented to reduce the prevalence of acute and chronic LBP.

Keywords: healthcare workers, musculoskeletal disease, work absenteeism, extended sick leave, occupational health services, low back pain

INTRODUCTION

The prevalence of conditions such as musculoskeletal diseases (MSDs), which can be disabling, is high worldwide. MSDs are major contributors to the utilisation of sick leave.^{1,2} The lower back is the region most commonly affected; approximately 85% of the adult population suffers from low back pain (LBP) at some point.³ LBP has a global lifetime prevalence of approximately 39%⁴ but, more importantly, LBP can be classified as an activity-limiting condition because of its impact on the productivity of employees which includes employee absenteeism and the extensive utilisation of sick leave.² A better understanding of the complexity around LBP and sick leave utilisation is needed, especially in the healthcare sector.

Ghilan et al.⁵ recently described a higher prevalence of LBP among healthcare personnel compared to other workers. Nurses are particularly susceptible to developing LBP during the course of their careers due to the necessity of moving patients and equipment.^{6,7-10} Researchers have concluded that nurses in African countries are at a higher risk of developing acute LBP compared to those in other countries.^{9,11} For example, a study published in 2010 showed a 12-month LBP prevalence of 75.5% among nurses working at a Nigerian hospital.¹¹ In comparison, a study investigating nurses in Canadian intensive care and orthopaedic units estimated the point prevalence of acute LBP as 30.0%.¹²

Closer to home, in 2009, Naudé et al.¹³ reported a point prevalence of LBP (not specified as acute or chronic) of 58.7% for nursing staff at a

Gauteng district hospital. In contrast, however, in the same year, Uebel et al.¹⁴ reported an acute LBP incidence of 13.0% over a 12-month period in a prospective study conducted at a district hospital in KwaZulu-Natal.

It is evident that acute LBP related to occupational exposure places a significant burden on worker populations.¹⁵ Most cases of acute LBP resolve after seven to 12 weeks, as normal connective tissues usually heal within this timeframe.¹⁶ Even though acute LBP usually resolves with treatment, it can have a 90% recurrence rate.¹⁷ Another important factor to consider when dealing with LBP is the possibility of the condition becoming chronic. Researchers found that 2-27% of acute cases develop into chronic LBP, defined as back pain that lasts longer than 12 weeks.^{3,18,19} The development of chronic LBP has serious implications since there is no effective long-term medical treatment,²⁰ and many of the established interventions demonstrate limited efficacy.²¹ The costs of such interventions can be substantial, as can the indirect costs of time away from work for these treatments.²² In addition, the possibility that chronic LBP can result in progressive debilitation, depression and decreased quality of life should not be disregarded.³ The prevention of chronic LBP is the major goal in the management of acute/sub-acute LBP, but there is uncertainty with regard to the best practice for chronic LBP prevention.²³

LBP has a major impact on productivity of employees,²⁴ including sick leave utilisation and presenteeism.^{25,26} In South Africa, the Basic Conditions of Employment Act²⁷ stipulates that employees are entitled to 36 workdays of sick leave in a three-year period. Any additional sick leave of 30 or more

continuous workdays is classified as temporary incapacity leave.

Limited information is available on the burden that LBP places on employees, and on the utilisation of temporary incapacity leave. Belgian researchers found that, over a 12-month period, 2.0% of nurses from a tertiary hospital requested sick leave of more than 28 days due to chronic LBP.²⁸ In contrast, it was reported in a South African study that no participants required sick leave for acute LBP that extended beyond 25 days.¹⁴ However, no studies describing the impact of LBP on nurses' temporary incapacity leave usage in South Africa appear to have been conducted. Describing LBP and temporary incapacity leave utilisation among nurses could provide the occupational health practitioner with information to attend more urgently to nurses experiencing LBP, to limit the amount of temporary incapacity leave taken.

The aim of the study was to describe LBP in South African public sector nurses that resulted in them taking temporary incapacity leave during the 2007-2009 sick leave period.

METHODS

This descriptive study involved a record review of temporary incapacity leave applications submitted by nurses working in the public sector to a contracted healthcare risk management (HRM) company for recommendation to the employer, for a three-year sick leave cycle (2007-2009).

All applications for temporary incapacity leave and ill-health retirement contain the employee's occupation, age, gender, last date of work and diagnosis. The HRM company also assesses employees' applications for ill-health retirement.

Applications that met the following criteria were included in the group:

- Applications submitted for the 2007-2009 sick leave period from nursing personnel, including student nurses, nursing assistants, staff nurses, professional nurses, clinical nurse practitioners and chief professional nurses, and
- Applications for ≥ 30 continuous workdays based on a diagnosis of LBP.

Both approved and rejected applications were included. Only the first application of each applicant was noted, with subsequent applications excluded in order to prevent duplication that could result in an overestimation of the prevalence.

Pilot study

A pilot study was performed on applications for 2006. Based on the findings, the job titles listed on the original data sheet were changed to match those used by the healthcare provider. The variable indicating whether the applicant underwent surgery was removed as this information was not consistently recorded.

Data collection

The applications were screened using an electronic database to identify participants that met the inclusion criteria, after which the individual files were retrieved from the HRM company's archives. Information on the applicant's gender, age, job title, diagnosis and whether the applicant had applied for permanent ill-health retirement was captured on a data sheet.

Data analysis

Data were analysed descriptively using SAS Version 9.1. Results were summarised using frequencies and percentages.

Ethical considerations

The study (ECUFS 190/2011) was approved by the Ethics Committee of

the Faculty of Health at the University of the Free State. Permission to collect the relevant data and conduct the research was obtained from the Chief Executive Officer of the HRM company.

RESULTS

Prevalence

Fifty-four temporary incapacity leave applications received during the 2007-2009 sick leave period met the inclusion criteria. The healthcare provider indicated that an average of 29 427 nurses were employed during this period. Thus the three-year period prevalence of LBP in public sector nurses that resulted in temporary incapacity leave applications was calculated as 1.8 per 1 000 nurses, or 0.18%.

The applications included in this study were received exclusively from female nurses. Of the nurses employed by the healthcare provider during 2007-2009, 21 158 (72%) were female. The prevalence of gender-specific LBP, leading to temporary incapacity leave, for female nurses during the three-year sick leave period was 2.6 per 1 000 nurses, or 0.26%.

Profile of applicants

The median age of the applicants was 48 years, ranging from 26-63 years. The age group-specific period prevalence of LBP is depicted in Table 1, with the highest prevalence in the age group 60-69 years (0.74%).

The applicants were categorised according to job titles; professional nurses and staff nurses accounted for three quarters of the applications. There were no student nurses or chief professional nurses among the applicants.

Spondylolisthesis and intervertebral disc lesions made up more than half of all diagnoses, with infective conditions being the third most commonly reported cause of LBP in this group.

The number of sick days applied for varied from 30 to 436. The median was 82.5 days, with upper and lower quartiles of 135 and 55 days, respectively. The total number of lost workdays between the 54 applications was 6 118.

Application for ill-health retirement

Of the 54 applications, five applicants between the ages of 45 and 62 years also applied for permanent ill-health retirement based on their inability to work due to LBP (9.3% of applications).

DISCUSSION

The results of this study showed that there are nurses in the public healthcare sector who make use of temporary incapacity leave for LBP. At the time of study, approximately 64 000 nurses were employed in the public sector, 72% of which were women. It should be noted that the

Table 1. Age group-specific period prevalence of female nurses with LBP resulting in temporary incapacity leave during the 2007-2009 sick leave period

Age group (years)	Number of nurses employed (n = 29 427)	Number of study participants (n = 54)	Period prevalence (%)
20-39	14 872	10	0.14
40-49	7 981	22	0.28
50-59	5 627	15	0.27
60-69	947	7	0.74

Table 2. Distribution of female nurses with LBP according to job title, diagnosis and number of sick days applied for during the 2007-2009 sick leave period (N=54)

	n	%
Job title		
Professional nurse	21	38.8
Staff nurse	20	37.0
Nursing assistant	10	18.5
Clinical nurse practitioner	3	5.5
Diagnosis		
Spondylolisthesis	16	29.6
Disc lesions	13	24.1
Infective conditions	9	16.7
Fracture/trauma	4	7.4
Malignancy	1	1.9
Other	11	20.4
Sick leave (days)		
30-59	15	27.8
60-89	16	29.6
90-119	8	14.8
120-149	4	7.4
150-179	3	5.6
>180	8	14.8

research was conducted on a specific group of nurses who experienced LBP resulting in the utilisation of temporary incapacity leave. This might limit the generalisability of the results, but the outcome cannot be ignored because using temporary incapacity leave for LBP should be a cause for concern not only for employees but also for the employers.

The prevalence of LBP causing South African public health nurses to utilise temporary incapacity leave was low compared with other developing countries. However, this study did not include an evaluation of the nurses' work environment. A study conducted among nurses in Nigeria and Ethiopia indicated that nurses in developing countries are at a high risk of developing LBP because of occupational hazards in their working environments, such as poorly developed work stations and lack of mechanical lifting aids.⁹ Similar environmental and ergonomic factors affect employees in South Africa. Therefore, a similar or even a higher rate of LBP resulting in temporary incapacity leave would be expected. A risk assessment within the workplace should be a priority to identify the hazards and risks to which employees are exposed.

LBP in nurses might be more prevalent than found in this study. Only nurses who utilised more than their allocated 36 days' sick leave were included in the study. There could be more cases of LBP that occurred during the normal sick leave period, not all of which resulted in incapacity extending beyond 30 continuous workdays. The low prevalence is merely an indication that LBP can be incapacitating enough to cause nurses to utilise temporary incapacity leave. Further research is needed to establish a more accurate prevalence among nurses in the various healthcare institutions.

The period of temporary incapacity leave needed for LBP was extensive; almost 15% of nurses applying for temporary incapacity leave had taken more than 180 sick leave days, in addition to the 36 sick leave days allocated per three-year cycle. There are different opinions about the impact of LBP on absenteeism. When looking at the general population, Genevay et al.²⁹ found that employees at university hospitals in Geneva, Switzerland, with spinal pain contributed 15.7% to absenteeism with a mean number of 21.7 days annually. More specific and relevant to this study, nursing assistants reported the highest proportion of work absenteeism (35.8%) and the longest duration of sick leave (26.0 days)

per year. In contrast, some researchers found that LBP does not cause employees to take extended sick leave. Studies in Qatar and Taiwan showed that, in most cases, back pain did not prevent nurses from going to work. When these nurses were absent due to LBP, it was for less than a week.^{6,7} Other studies have shown that LBP has a significant impact on the duration of sick leave taken.^{30,31,32} Our results show that LBP could cause nurses to use temporary incapacity leave for more than a week, contrary to what previous studies have indicated.^{6,7} The temporary incapacity leave of more than 400 days taken by one nurse highlights the treatment and total workdays lost that could represent a serious financial burden on health services,^{33,34} although it was not possible to calculate the actual cost of LBP in this study.

Almost 10% of the participants who applied for temporary incapacity leave applied for permanent ill-health retirement based on their LBP. This is in line with trends worldwide. Cougot et al.³⁵ noted that people who have been on long-term sick leave seem to have greater difficulty in returning to work. Another study established that 12.0% of nurses and nursing auxiliaries planned to leave their jobs permanently, reporting back pain as either a main or contributing factor.⁶ Lövgren et al.³⁶ mentioned the nurses' intentions to leave the nursing profession because of musculoskeletal disorders, but highlighted the negative implications regarding the possible worsening of the global shortage of nurses.

Most workers with back pain, their employers and insurers agree that the goal of managing back pain is a timely return to work, following a period of temporary work-related disability caused by back pain.³⁷ Formal risk assessments can aid in identifying employees with a high risk of developing chronic LBP. These assessments should be able to highlight appropriate preventive measures that can be introduced to reduce the risk of long treatment periods, including extended sick leave usage.³⁵

Study limitations

The study design was a review of temporary incapacity leave applications from public sector nurses. Submitted documentation was analysed; however, the accuracy of diagnosis could not be determined, and the reasons for, and the duration of the LBP, were not investigated. In addition, we were not able to assess the possibility of malingering or sick leave abuse by the nurses.

'Normal' sick leave taken by these nurses is not regulated by the HRM and the diagnoses or reasons for which sick leave is taken are not recorded in detail. Some nurses might have recovered from their LBP before using all their normal sick leave and would not have been included in this study.

According to the Human Sciences Research Council (HSRC) case study report on the shortage of nurses, there were 95 248 public sector nurses in South Africa in 2005.³⁸ Although the results cannot be generalised to all nurses in the public health sector because of the small sample size that included only nurses applying for temporary incapacity leave, and not all nurses with LBP, this study contributes towards the discussion regarding the impact that LBP has on sick leave utilisation and, more specifically, temporary incapacity leave.

CONCLUSION AND RECOMMENDATIONS

Nursing professionals in the public health sector in this study took temporary incapacity leave because of LBP, but the prevalence was low. However, the utilisation of temporary incapacity leave of some of the

nurses should be noted because related factors, such as the extent of sick leave utilisation and application for ill-health retirement, could be indications of the perceived severity of LBP. It is recommended that a system be put in place for the early identification and effective management and follow-up of employees with LBP, in order to limit temporary incapacity leave utilisation. One such system should be regular risk assessments of employees' working environment. The occupational health services should be actively involved in the follow-up of these cases to ensure that employees are participating in prevention as well as rehabilitation programmes. Furthermore, human resource management policies and practices must be reviewed to ensure that supervisors take responsibility for absenteeism management in their respective workplaces.

The results of the study might be useful in planning future research regarding LBP in South African nurses, including evaluating social and psychological aspects. It is recommended that the incidence and prevalence of LBP, as well as risk factors, be further investigated to better understand the dynamics leading to this condition. Addressing these risk factors might lead to a safer working environment for nurses while simultaneously decreasing the burden of both acute and chronic LBP.

ACKNOWLEDGEMENT

We thank Ms T Mulder, medical editor, School of Medicine, University of the Free State, for technical and editorial preparation of the manuscript.

DECLARATION

The authors declare no conflicts of interest or affiliations to commercial organisations.

Funding support: none

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