The Prevalence of Low Back Pain among Nurses in Yazd, Southeast Iran

ABOLFAZL BARKHORDARI1, GHOLAMHOSSAIN HALVANI1, and MAHDI BARKHORDARI2*

1Department of Occupational Health, School of Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran; 2Department of Information Technology, School of Engineering, University of Isfahan.

Received June 4, 2012; Revised August 27, 2012; Accepted September 19, 2012

ABSTRACT
Musculoskeletal disorders (WMSDs) are of serious concern to many organizations, including health care centres. Low back pain (LBP) with no clinical cause is common in nurses. This study aimed to assess the prevalence rate of LBP in nurses. This descriptive, cross-sectional study was carried out on a population of 351 nurses from educational hospitals of Yazd University of Medical Sciences; Yazd, Iran aged 20-45 years. Information on these potential risk factors for LBP was sought using a translated Nordic questionnaire. Two hundred sixty respondents (74.3%) reported experiencing pain at least in one of their nine body regions during last year. The highest prevalence of LBP was seen among nurses in orthopaedic surgery (80.6%), operation room (79.2%), neurology (75.3%) and general surgery (73.7%), emergency medicine (69.9%), paediatrics (59.2%), obstetrics and gynecology (54.3%), internal medicine (52.7.5%), intensive care unit (51%), ENT (50.4%), and infectious disease (48%) sections, respectively. These findings suggest that hospitals should focus and attempt to improve the ergonomics of nursing activities. In addition, effective methods of implementing changes in work systems are needed.

Keywords: Low back pain, Prevalence, Nurses, Hospital, Musculoskeletal disorders, Iran

INTRODUCTION
Work-related musculoskeletal disorders (WMSDs) are of serious concern to many organizations, including industry and health care workers in which account for over two-thirds of all occupational disorders. It is understood that low back pain with no clinical cause is common in nurses, but the aetiology of this pain is mainly unclear [1].

A focus on back pain among nurses is consistent with expectation of prevalence of symptoms among health care workers. It is reported that the 80% of individuals, at least once, experienced low back pain (LBP) in their lifetime [2]. The epidemiological studies provide evidence that the prevalence of LBP and disability has increased and account for approximately 29-70% in nurses and other health care workers [3-16]. A study showed a 91% prevalence of work related low back pain among physiotherapist [17].

Low back pain is considered as the most common cause of limitation of activity in people less than 45 years old, however, with unknown cause in the majority of cases. It is also reported that nursing is the third leading occupation in the prevalence of LBP and injury [4]. Estimates of MSDs and in particular LBP prevalence in nurses vary widely among studies depending on the study participants, methodological differences and different term of LBP definition.

Since the first World Health Assembly in 1948 which occupational health term used in place of the older term industrial health, there has been increasing interest in occupational health issues relating to the musculoskeletal disorders. In Iran, recently, attention...
Our data also showed that the prevalence rate of LBP in this study was 76.6% (Table 1). The reported LBP in cases with weight of more than 65 kg and BMI more than 25 kg/m² was higher with comparison of others. Our data also showed that self-reported LBP in nurses with housework and/or second job was higher than others who did only this work. Among those with LBP, 34% had no treatment at all, while 66% of cases with LBP had sought medical or other health professional advice. We found that 75.5% of nurses with LBP suffer from pain 2 hours after work and 23.5% during sleep. However, about 53.9% of nurses expressed that their back pain will be improved at rest.

The comparison of annual prevalence of LBP among nurses in different wards indicated that the prevalence of LBP in orthopaedic surgery (80.6%), operation room (79.2%), neurology (75.3%) and general surgery (73.7%), was consistently higher than other wards, followed by emergency medicine (69.9%), paediatrics (59.2%), obstetrics and gynecology (54.3%), internal medicine (52/7.5%), intensive care unit (51%), ENT (50.4%), and infectious disease (48%) sections, respectively.

Among those with reported LBP, 61.83% had experienced 1-14 days of LBP, and 37.17% had experienced at least 14 days of LBP in the previous 12 months. The reported LBP in cases with weight of more than 65 kg and BMI more than 25 kg/m² was higher with comparison of others. Our data also showed that self-reported LBP in nurses with housework and/or second job was higher than others who did only this work. Among those with LBP, 34% had no treatment at all, while 66% of cases with LBP had sought medical or other health professional advice. We found that 75.5% of nurses with LBP suffer from pain 2 hours after work and 23.5% during sleep. However, about 53.9% of nurses expressed that their back pain will be improved at rest.

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### Table 1. Demographic items and some characteristics of nurses with prevalence for LBP (n=351)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yr)</td>
<td>25-29</td>
<td>137 (39)</td>
</tr>
<tr>
<td></td>
<td>30-39</td>
<td>154 (44)</td>
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<tr>
<td></td>
<td>40-49</td>
<td>49 (14)</td>
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<tr>
<td></td>
<td>&gt;50</td>
<td>1 (3)</td>
</tr>
</tbody>
</table>

DISCUSSION

The purpose of this study was to determine the annual prevalence of low back pain in 351 nurses working in educational hospital. A problem with these studies is that investigators used different definitions of back pain, different population sizes, setting, methods, and various confounding factors measured in each study and therefore limiting the opportunities for direct comparison. Because of this, the prevalence rate of LBP varied from 43.1% to 69.7% in previous studies [5, 7, 8, 16, 17, 19]. The prevalence rate of LBP in this study was 76.3% which is rather close to previous studies in different countries. Our results are in agreement with the results of Smith et al [16], and Maul et al [20], who reported 73-76% of LBP. However, our results showed higher prevalence of LBP than Yin bing (40.6%) [21], Shoko et al (54.7%) [7] and Engels et al (41%) [12, 22] which reported in previous investigations carried out in different countries.

The high rate of LBP may be related to several factors including young population, the lack of experience, and the lack of knowledge about handling...
and lifting. Another important explanation for high LBP in this study might be that the majority of nurses do extra work in private hospitals or second job or leisure activities. Less attention to health care and life style in individuals are other possible explanation for this finding [1, 3, 5, 6, 15, 21, 23, 24]. The reason of higher rates of LBP in nurses in orthopaedic, paediatric, operation room, neurology and internal wards than those in other specialties is unclear, and might be that patients in those wards are dependent and need more help from nurses [19]. In addition, in orthopaedic, patients are unable to move and handling of them, therefore, cause more pressure on nurses and are more prone to LBP than others. Since the surgery duration is long, the cumulative effect of extra work can be accounted for high prevalence of LBP and, therefore it emphasis that they suffer a higher risk of LBP. Although hospitals in Yazd allow the patient’s family to stay in the ward to take care of the patient themselves, but the possibility of family members to do this caring in other wards is high and it may be considered as one possible explanation for this discrepancy. The handling of physical loads by nurses seems to put them at risk for the occurrence of musculoskeletal disorders. Our study had some limitations. We had two separate groups of interviewer for male and female nurses which may have affected the results, although we first trained them and rechecked some of questionnaire to reduce this bias. Apart from physical stress, various aspects of work pressure may be associated with the occurrence of musculoskeletal complaints. Therefore, future research should focus on the ergonomic conditions of the ward, mental stress and job satisfaction. In addition, effective interventions are needed in work systems. These findings suggest that hospitals should focus and attempt to improve the ergonomics of nursing activities.

ACKNOWLEDGEMENT

The author would like to thank Mr Adabi for his valuable coordination and also to all nurses of the Shahid Sadoughi Hospital that participated in this study and kindly responded to the questionnaire. The authors declare that there is no conflict of interests.

REFERENCES


Published online: January 31, 2013