OPENING MINDS:
RESEARCH FOR SUSTAINABLE
DEVELOPMENT

Factors Related for Low Back Pain among Nurses at Teaching Hospital, Karapitiya

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1 INTRODUCTION

Low back pain (LBP) is known as the pain between the last rib and the pelvic bone with or without radiation to the buttock, back and front of the legs. It also defines as the pain which is not associated with menstruation, gynecological or genitor-urinary problems. Low back pain is a common cause of morbidity in healthcare workers, and nurses are the most vulnerable amongst (Cunninham *et al.*, 2006). Individuals who suffer from LBP may develop major disruptions in their physical, social and mental well-being, which could affect their quality of life. Among these influences, physical impact including loss of physical function and deterioration of general health, social impact including lack of participation in social activities are more common. Besides, psychosocial impacts which manifests through insomnia, anxiety and depression are required more consideration. Low back pain is reduced the quality of nursing care provides for the client and reduce their job satisfaction. Despite of that, LBP can cause occupational disabilities, increased cost of care and treatment while decreasing productivity and absence from work (Asadi *et al.*, 2016).

Low back pain is a multifactorial condition. Thus, understanding the related factors for LBP is essential for prevention. Although various studies have been carried out to determine the risk factors for LBP and on strategies to control them in internationally and locally, this area was not yet studied at Teaching Hospital Karapitiya (THK). Therefore this study was carried out to examine demographic, physical and work related factors for LBP among nurses at THK.

2 METHODOLOGY

This was a quantitative descriptive cross sectional study conducted at THK located in the Southern province in Sri Lanka. A total of 350 nurses in both gender suffering from low back pain, those were permanently employed for more than two years in the service and those who had more than six months of experience in general surgical and medical wards were purposively recruited for the study. Data were collected using content validated, pre-tested self-administered questionnaire which was developed by reviewing literature and considering the researchers experiences in clinical setting. The questionnaire consists of questions focusing on demographic information such as age, gender, civil status, weight and height, education qualifications, physical activities and work-related

factors which could affect for low back pain of participants. Data were collected throughout in the month of March 2017 after obtained the ethical approval from the Ethics Review Committee, Faculty of Medicine, University of Ruhuna and permission from the hospital authorities. Nurses were volunteered for the study and signed written informed consent prior to participation. Completed questionnaire were collected in the same day of distribution to improve the quality of data collection.

Data were analyzed on Statistical Package for Social Sciences (SPSS) version 21 using both descriptive statistics including frequencies and percentages, and inferential statics including chi-square test. Level of significant was accepted at alpha <0.05.

3 RESULTS AND DISCUSSION

Of the total of 350 nurses invited, 297 nurses participate in the study, yielding a response rate of 84.9%. The majority of participants were females (n=252, 84.8%) and were 36-50 years (n=173, 58.2%) of age. Most of nurses were married (n=263, 88.6%) and had children (n=248, 85.5%). Most of the participants were overweight (BMI 25-29.9, n=125) or obese (BMI>30, n=145).

3.1 Demographic factors related for LBP

There was a significant associations between nurses' LBP and their age (p=0.011), gender (p=0.011), having children (p=0.010), and BMI (p<0.0001). However, there was no association between LBP and civil status and whether they smoke (Table 1).

Table 1: Demographic factors related for LBP

Characteristics	Category	Minor (n)	Moderate (n)	Severe (n)	Total (n)	p-value
Gender	Female	75	87	90	252	0.011
	Male	22	16	7	45	
Age (years)	20-35	42	29	8	79	<0.0001
	36-50	49	64	60	173	
	>50	6	10	29	45	
Civil status	Married	81	90	92	263	0.184
	Single	13	10	2	25	
	Widow	1	2	2	3	
	Divorced	1	1	1	5	
Children	Yes	72	85	91	248	0.01
	No	23	16	2	41	
BMI (Kg/m^2)	<18.5	7	0	0	7	
	18.5-24.9	61	59	25	145	<0.0001
	25-29.9	26	39	60	125	
	>30	2	5	12	19	
Smoking	Yes	5	4	1	10	0.263
	No	91	97	95	283	

Significance p<0.05

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Low back pain was significantly higher among nurses between 36-50 years of age. Consistent with present finding, several studies have shown significant association between nurses' age and LBP (Abou El-Soud *et al.*, 2014; Al-Samawi and Higazi, 2015). This is possibly due to degeneration of vertebral discs and accumulative effects of prolonged exposure to strenuous works. As well musculoskeletal symptoms begin early in life and reached the peak between 35-55 years may be another reason. However, findings of Sudan study have not revealed any significant association between nurses' age and LBP (Al-Samawi and Higazi, 2015). In the present study female gender was significantly associated with LBP, perhaps it may be due to the majority of the sample represented by females. In light of the previous findings, LBP is higher among female nurses than male nurses (Al-Samawi and Higazi, 2015) and this is possibly be due to anatomical, physiological and structural difference of human body between the gender, in addition, strain is common in female than males.

According to the Egyptian study, LBP was significantly higher among married individuals (El-Najar and El-Fattah, 2014). Though expected, present findings have not shown any association between civil status of the individual and LBP similar to the findings of Burdorf and Shorock (1997), Perhaps it may be due to disproportionate representation of individuals in the variable of civil status in the present sample. In accordance with findings of Bejja *et al.* (2005), present findings have shown an association between increased BMI and LBP. Increased weight over the spine is lead to structural compromise and damage especially to the lower back or lumber region, therefore obesity may aggravate the existing LBP or contribute to recurrence of the condition (Naidoo and Coopoo, 2007). However, findings of several studies have not shown an association between BMI and LBP (Aljeesh and Nawajha, 2011; Homaid *et al.*, 2016). The association between LBP and females with having children is consistent with findings of another Sri Lankan study (Warnakulasooriya *et al.*, 2011). However, Yip (2001) failed to show any relationship between LBP and females with having children.

3.2 Physical factors related for LBP

Table 2 shows the physical factors related for LBP. There was significant relationship between LBP and physical exercises (p= 0.001) and traveling mode (p=0.031). However findings of Saudi Arabian study has not shown any relationship between low back pain and regular exercises. Present findings have not shown any relationship with nurses working place and LBP (p=0.686).

Table 2: Physical factors related for LBP

Factor	Category	Minor (n)	Moderate (n)	Severe (n)	p-value
Doing exercise	Yes	63	13	7	0.0001
	No	34	89	90	
Travelling mode	Motor bike	43	48	40	0.031
	Car or Van	5	8	4	
	Bus	32	48	40	
	Foot	17	26	22	

3.3 Work related factors causes for LBP

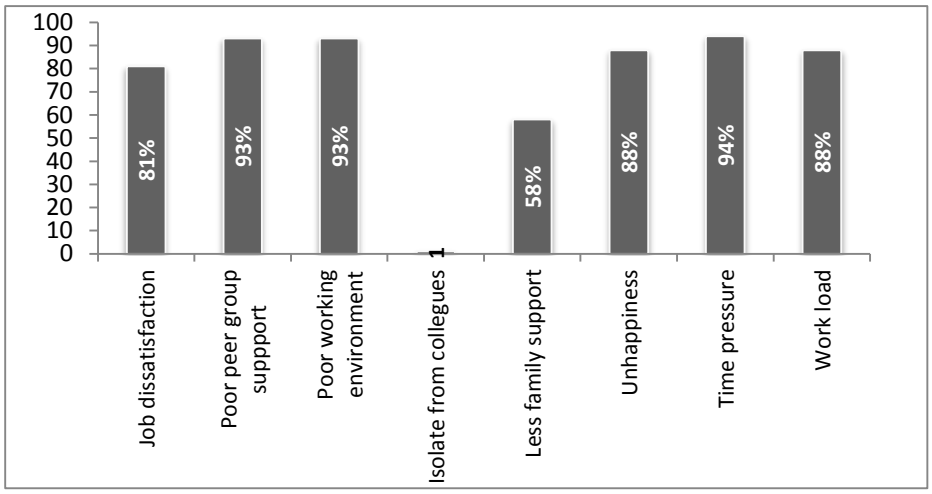

Figure 1: Work related factors causes for LBP

The present findings were revealed several work related causes for LBP (Figure 1). Particularly LBP was high among nurses who had time pressure (94%), poor working environment (93%), and less peer group support (93%). A previous study in Sri Lanka conducted among nurses has shown association between LBP and time pressure, job satisfaction (Warnakulasooriya *et al.,* 2011). In another recent study, Al-Samawi (2015) has shown significant association between

LBP and work load and poor working environment. Also findings of present study indicated that lack of support from immediate supervisor as a significant factor for LBP.

4 CONCLUSIONS AND RECOMMENDATIONS

The demographic factors of LBP among nurses in THK were found to be nurses' age, female gender, increased BMI and having children. Travelling mode and whether nurses engage in physical exercises were seems to be influenced for LBP. Further, several works related causes were shown to be affected for LBP include time pressure, poor working environment, poor peer support, increasing workload, job dissatisfaction and unhappiness.

The results indicate a message to the nursing personals about the predisposing factors for LBP. It is needed to create a safe working environment and provide psychosocial supports for the nurses while conducting educational programs on prevention of LBP and coping strategies for LBP which will lead to promote efficiency in patient care and reduce the source of job stress. Since this study is limited to the general wards of the THK, further study covering with all the departments of the hospital is needed.

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