

**“PREVALENCE OF LOW BACK PAIN AND ITS
ASSOCIATED RISK FACTORS AMONG STAFF NURSES
OF LUMBINI PROVINCIAL HOSPITAL NEPAL”**

By

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Submitted in Partial Fulfillment of the Requirements for the

Degree of

MSc in Rehabilitation Science

February 2021



Bangladesh Health Professions Institute (BHPI) Faculty of Medicine

University of Dhaka

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DECLARATION

- This work has not previously been accepted in substance for any degree and is not concurrently submitted in candidature for any degree.
- This dissertation is being submitted in partial fulfillment of the requirements for the degree of MSc in Rehabilitation Science.
- This dissertation is the result of my own independent work/investigation, except where otherwise stated. Other sources are acknowledged by giving explicit references. A Bibliography is appended.
- I confirm that if anything identified in my work that I have done plagiarism or any form of cheating that will directly awarded me fail and I am subject to disciplinary actions of authority.
- I confirm that the electronic copy is identical to the bound copy of the Thesis.

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ACKNOWLEDGEMENT

I would like to express my deep gratitude to almighty god and Dhaka University, Bangladesh Health Professions Institute and Lumbini Provincial Hospital to carry out study as requirement for the partial fulfillment of M.Sc.in Rehabilitation Science.

I am very much grateful to my honorable teacher and supervisor Dr. Kamal Ahmed, Former Associate Professor, IHT, Mohakali for giving me his valuable time, his thoughtful supervision and excellent guidance, without which I could not be able to complete this thesis. Beside my Supervisor, my heartiest gratitude is offered to Dr. Bas en Dorine (Visiting Lecturer, M.Sc. in Rehabilitation Science) for helping me to choose the topic and providing continuous support and constructive feedback regarding my study.

It is my great pleasure to express my sincere thanks and profound sense of gratitude to Dr. Rajendra Prasad Khanal (Medical Superintendent, Lumbini Provincial Hospital) and Mrs. Durga Poudel (Matron, Lumbini Provincial Hospital) and all the nursing incharge of different wards of Lumbini Provincial Hospital, Butwal, Nepal for continuous guidance, constant inspiration, support and encouragement during the period of data collection .

It gives me immense pleasure to acknowledge and to express profound sense of gratitude to the Programme Co-ordinator M.Sc. in Rehabilitation Science Mr. Millat Hussain (Assistant Professor) and Mrs. Shamima Islam Nipa (Lecturer) and Mrs. Ummul Ambia (Lecturer) for providing continuous motivation and idea to conduct this study. I sincerely thanks to Mr. Fazul karim patwary (Professor), who has provided continuous help in statistical analysis.

I am deeply indebted to the all the nurses of Lumbini Provincial Hospital for providing me permission to conduct research and for their kind co-operation and help. I would not miss an opportunity to express my sincere thanks to the entire Family and my Colleagues for their valuable support and encouragement.

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Conceptual framework

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List of Abbreviations

BHPI: Bangladesh Health Professions Institute

BMI: Body Mass Index

i.e.: That is

IRC: Institutional Research Committee

MRS: Masters in Rehabilitation Science

No.: Number

SPSS: Statistical Package for Social Sciences

S.N.: Serial Number

LBP: Low Back Pain

LPH: Lumbini Provincial Hospital

ABSTRACT

Background: Low Back Pain (LBP) is defined as pain localized between the 12th rib and the inferior gluteal folds, with or without leg pain. Low Back Pain (LBP) is the most common skeletal disorder worldwide experienced by 50% to 80% of people at least once in their lifetime. It is the third leading cause of physicians' visits.

Objective: The objectives of the study are to determine the prevalence of low back pain and its associated risk factors among nursing staffs of LPH.

Methodology: An analytical cross sectional study method was conducted to assess the prevalence and associated risk factor of low back pain among nurses of Lumbini Provincial Hospital; Butwal, Nepal.

Results: The result of this study shows that the prevalence of low back pain was found to be 28.3% in nursing staffs. The result showed that only few nurses of Lumbini Provincial Hospital had low back pain. Socio demographic variables as well as risk factors associated were analyzed using different statistical tests and result was interpreted. The prevalence of low back pain was high amongst staff nurses aged of 0-30 years, married with less than 2 childrens and non-obese respondents. Previous history of low back pain was highly significantly associated with low back pain ($P=0.000$). Risk factors such as experience in hospital ($p = 0.024$), continue work when injured or hurt ($p= 0.022$), lifting or transferring dependent patient ($p=0.007$), work schedule i.e. overtime, on call, irregular shifts ($p=0.011$) and perform same task over and over ($p=0.037$) were associated with low back pain.

Conclusion: Thus, the study concluded that LBP is a widespread disease affecting nurses. Thus, periodic screening of nurses for LBP may help to identify nurses at risk and prevent major physical injury. Regular in service education on body postures, maintenance of physical fitness and body mechanics may create awareness among nurses to take precautions.

Keywords: Risk factors, Low back Pain, Nurses.

Chapter-I

Introduction

1.1 Background of the Study

Low Back Pain (LBP) is defined as the tender, hurt or ache anywhere in the back region and from time to time all way to the buttocks and legs. Worldwide, Low back Pain is incident by 50% to 80% of people at least once in their life. It is the third main reason for Hospital visit (Deksisa Abebe, A, 2015). Nowadays, it is burning main issues among staff nurses in different hospitals with an inference of 38%-67% among American Nurses, 73%-76% among Germany nurses. Low back pain made the professional immobility, rate of care and treatment is increased, slaughter of efficiency in job, and absents in occupation (Asadi P. et al., 2015).

Low back ache becomes a burning physical condition trouble not only in elevated profit countries but in little profit countries as well, with main price propositions. Worldwide, the one year incidence of lower back ache ranges between 22% and 65% while the life span incidence of LBP ranges from 11–84%. In Africa, the one-year prevalence of LBP among young people is 33% and 50% among grown peoples. Signs of LBP were more prevalent in female (58.2%) than in male (52.7%) (Olivier et al., 2010).

The prevalence of lower back tender is different from countries to countries. The study conducted in Kanombe Hospital, Kigali in 2012 shows that 78% of participants had LBP (LelaM.,FrantzJ.M. 2012).Similarly, the study conducted in Bangladesh health Professions Institute in 2013 reveals that 66% nurses suffered from LBP (Rashid H.2013).

Another study done in Bharatpur Medical College and Teaching Hospital, Nepal shows that 75.7% nurses have back ache. Mainly between the ages cluster of 20-25 years. Majority of nurses said back pain increased because of prolonged standing for 6-8 hours (Manandhar N, Subedi S. 2016, October 16).

The incidence of LBP is linked with independent variables like: gender, age, literate, illiterate, smoking, and occupation, place of work factors are factors of low back pain.

Others are: lifting heavy loads, duty rotation, bending, twisting, pulling, and pushing
Psychological variables are: nervous tension, anxiety, anxious, mood and feeling,
tender and depression (Vingard, E. et al.2008).

A study was done in South Africa among nurses at Edendale Hospital to identify the prevalence of Low Back Pain which says that the Nurses are encountered with all the above factors that they have to move and transfer patients in ward here and there from bed to chair , chair to bed. Different actions should be done to minimize it like the use of supportive devices like; elevater, straps, and sliding sheets for transferring and moving from one side to another or from one place to another place, and provide Inservice teaching on patient lifting practices in different departments. These events improve the back ache with the nursing staffs of England. The incidence of back tenderness can be prevent by evaluating the working conditions timely, maintain good body posture, using of upright chair for good lumbar support (Mandela N. 2010, November).

The Study done in Edendale Hospital shows that the presence of LBP is linked with numerous socio-demographic issues, Such as gender, age, level of education, habit of smoking, and type of profession. Severity of LBP also increased by the working environment which includes physical and Psychological factors. Other risk factors like: lifting weighty physical effort, night shift duty, bending, twisting, pulling, pushing. Nurses frequently have to do such activities which cause back pain among them (Mandela N. 2010, November).

The measures and procedures done to decrease lower back ache among nursing staffs include make use of mechanical aids similar to; hoists, belts, and sliding sheets for moving and lifting patients, and also proving training of patient handling techniques . study of England shows that this actions help to improve lower back ache among nursing staffs. Timely evaluate the work place also prevent lower back ache among nursing staffs. However, occurrence of lower back ache also prevented by using upright chair which provide good lumbar support to maintain an erect spine, always maintain good posture while sitting also prevent from low back pain (Mandela N. 2010, November).

The study revealed that protective policies should be used to decrease the frequency of Back Pain. Back pain should not be only managed by treatment and medical facilities, Nurses are backbone for quality health delivery system so the cause should be identified. Therefore, within this study, we identified the occurrence of low back ache also its linked risk features and its increasing along with hospital staffs.

1.2 Justification of the study

Nurses are in very high hazard used for addressing Low Back ache. In 2010 worldwide trouble of illness revealed that the Low Back tenderness is in high top 10 rank in Disability Adjusted Life Year (DALYs).. Globally, a lifetime incidence of LBP is 40%, affecting as much as 80% of people in the developed countries. This common health complaint usually begins at age 20-40 years but is mostly noticed in individuals aged 40-80 years (Awosank ,Yikawe s, Oche M,. 2017, December).

The importance of recognizing the nursing staffs at hazard to occupational low back ache therefore, lies mainly in the need of prevention. The beginning of occupational low back ache in nurses make negative implications for the delivery of qualitative health care system within conditions of severe occupational back ache causing hospital staff nurses to leave the profession or change area of expertise. It will also have suggestions for the patients because if nurse is suffering from low back pain personally it could adversely affect the efficiency of the service that he / she can provide to patients. Without recognizing the risk factors affecting them it will not easy to develop preventative programs and strategies to defeat these risks safely and securely.

In Nepal, low back pain is the main issue faced by many adults including nurses. One study was conducted in Shahid Gangalal National Heart Center Nepal among nurses in which prevalence was found to be very high i.e. 78% (Adhikari S and Dhakal G. 2014, September 12). Also, I have unofficially dealt with the nurses suffering from back ache in many hospitals. Seeing that there was no any previous study conducted in Lumbini Zonal Hospital regarding low back pain. I developed keen interest to perform research regarding this topic in order to establish the occurrence as well as

hazard issues associated to it. By identifying the risk factors, it will be easy to develop preventive programs and strategies to overcome these risks safely.

1.3 Research questions

What is the prevalence of Lower Back Pain and its associated risk factors among nursing staffs of Lumbini Zonal Hospital?

1.4 Operational definition

Prevalence: denotes the old and new cases of low back pain among nursing staffs.

Low back pain: pain localized between the 12th rib and the inferior gluteal folds, with or without leg pain.

Nursing staffs: nursing staffs refer to nursing officers, staff nurses and ANMs of different wards and OPDs.

Chapter-II

2.1 Literature review

Lower Back Ache is a general musculoskeletal problem that affects nursing staffs in hospital. Different studies identified that bodily and psychosocial are hazardous feature of Lower Back Ache. On the Cross-Sectional study done on Lower Back Ache and its risk features within nursing staffs in Sarawak Hospital, Malaysia on 2016 among 141 nurses using self-administered, validated questionnaire. The study revealed that LBP was extensively related with age, working experience and also showed that there was independency among lower back ache and other bodily and psychosocial threat causes. During 12 month of study time rate of lower back tender was high between nursing staffs and it should be prevented from the beginning of nursing career and it is related to age and working (Chang Chin Thona, Philumena Kueh Jing Fenga, Cheah Whye Lianb, 2016).

In 2015 a study was conducted among nursing staffs of AL-MakNimer University Hospital at Shendi City Sudan. A self prepared questionnaire was applied for collecting information and the composed information were evaluated by SPSS Software. The study showed that the frequency of Lower Back ache was high in female nursing staffs as compared to male nursing staffs. There were dependent relationship between age and working hours. The study showed that in that hospital 40% of nurses experience back pain at least in a week. Nurses said moderate pain occurred in 52.9% of nurses. Hazardous features of Lower Back Ache is lifting of heavy loads, work load, duty shift, and restricting activities which cause low back pain respectively 35.7%, 28.6%, 52.9%, and 64.3% (Muaadh Abdulghani Ghaithan Al-samawil, Higazi Mohammed Ahmed Abdallah Awad, 2015).

A transverse study was done in 2009 with variety of Turkish Hospital workers on incidence and hazardous features of lower back ache among 1600 employees in six hospitals. 44 item self prepared questionnaire was used for data collection for 9 months. The high pace of Lower Back Ache was showed between nursing staffs 77.1%. Through this study, 78.3% respondents said that pain start after working in hospital. Age, gender, smoking, profession, job anxiety and weight lifting were the

dependent risk features of Lower Back Ache (Karahan, Kay, Abbasoglu, & Dogan, 2009).

A prevalence study was done among nursing staffs on Nigerian Hospitals using self-structured reliable questionnaire among 408 participants in which male nurses are 148 and female were 208. The outcome of study illustrated that the greater part of having back ache were female nursing staffs i.e. 68% as compared to male nurses 32%. Thus, this study concluded that the source of this back ache is poor knowledge about self care to resolve back Pain (Sikiru & Shmaila, 2009).

A cross-sectional study on incidence of Lower back ache was conducted among nursing staffs functioning in hospitals of Bahrain among 215 nurses which showed that 73.5% nurses reported of having Back ache. The result identified that the 52.5% of nurses experience some restrictions in doing work whereas 43.75 of nursing staffs visited physiotherapist and 39% of nurses were absent in their employment because of having Back tender (Qareeballa et al., 2018).

In 2015, a study was done in Nigeria among nurses of Ahmadu Bello University Teaching Hospital, Shika-Zaria to assess the risk factors of Lower back Pain related to work. A descriptive survey design was used to collect data with self-structured questionnaire. With the use of Multi-stage sampling method data was collected from different departments of hospital among the nursing staffs. In a study, 120 nurses were sampled of which only 98 nurses were completely take part and completed the questionnaire. The results of Study are: the occurrence of Lower Back ache among nursing staffs was 82.7%. The duration of ache was highest between those having Pain for within 3weeks i.e.69.1% this is followed by having pain more than 12weeks i.e. 12.3%. Whereas, hazard issues linked to lower back ache were maximum in lifting of patients or things (90%), Prolong Standing on duty (88.9%), moving of equipment or object (81.5%). Moreover, there was considerable association among Low back pain and gender. As a result, this study suggested that different work should be done to prevent lower back ache among nursing staffs working in Ahmadu Bello University Teaching Hospital by applying Preventive measures and safe patient handling technique at the workplace using different postures, pamphlets, workshop, training

and giving manual for transferring, lifting and handling patient (Farooq, Awwal and Musa, 2015).

In 2011, A cross-sectional study followed by case-control study was done in Saudi Arabia on Prevalence and risk factors of Lower Back Pain among nurses of operation Theater in Taif City. Respondents i.e. nurses were divided into 2 groups i.e. with Lower back ache and without Lower back ache. A simple random sampling technique was used to collect data. A self-structured questionnaire was applied to collect information; questionnaire includes Socio-demographic data, risk factors which induce low back pain. A study includes 126 health employees in Operation theater, Out of 200 call to take part in study only 63 give a answer. In this study, 78.6% were female participants. The mean age was 34.03 ± 8.02 years. Female nurses signify 78.6% of the members. About three-quarters of participants were nursing staffs (74.6%) although the left behind 25.4% were technicians. Nearly, half of the respondents in study have low back pain. Female respondents complain the Lower back pain is upper as contrasted to male Participants. In this study, there was no arithmetic significant relationships among severity of ache and variables like: age, sex, type of employment, habit of smoke, body Mass Index, period of employment and length of pain (Bin Homaid et al., 2016)

In 2010, A cross-sectional study was done in a Sibuh Hospital, Malaysia on Prevalence and Risk Factors Associated with Low Back pain among health care workers of sibuh hospital. A study was done among 931 health workers using self-structured questionnaire. This study shows that the prevalence of Low back pain was 72.5%. 5.1% of participants revealed chronic pain. This study showed that 7.3% of health workers needs sick leave of absence because of low back pain and treatment also required along with 34.1% of respondents associated with lower back ache. In this research, the hazard issues related to Lower back Pain were bad body posture, lifting or transferring patient and object, level of job satisfaction. Hence, this study concluded that risk factors were recognized which requires multidisciplinary teams involvement to decrease the Low back pain incidence (Wong, Teo, & Kyaw, 2010).

In 2017, a cross-sectional study was done among health workers of Kibuli Muslim Hospital Kampala, Uganda on the topic of Occurrence and hazard Features associated with Low Back pain. A self-structured questionnaire was distributed among 150 health employees. The outcome of study shows that the majority of respondents were from the age group of 20-39 years, 57% of respondents were female. The prevalence of study shows that 31% of health workers go away from work for some days they take leave because of lower back ache. There reveals a significant relationship between respondents occupation and daily time spend during the work and the study also shows that there was no any significant relationship with socio-demographic variables (Abdulmujeeb and Olaniyan, 2017).

In 2015, a cross-sectional survey was done in tertiary Hospital of South Asia on the topic to assess the prevalence of Low back Pain among nursing staffs. A demographic proforma and a standardized screening tool was applied to collect records from the nursing staffs from the age group of 20-60 years of age. The result of this study shows that the 53.4% of nurses revealed Low back pain. It shows that there was a significant relationship among Low back pain and age, BMI, Years of practice and position of job. Hence, the study concluded that the safety measures should be used to avoid from Lower Back Ache and also providing education or teaching regarding good body mechanics, good body posture while handling, shifting and transferring patients which results on avoidance of Lower Back Ache among nursing staffs (M Emmanuel & Ezhilarasu, 2016).

In 2013, a cross-sectional study was conducted in Iran i.e. 2 hospitals of kermanshah (Taleghani and Imam Reza), on the topic to identify the Low Back Pain and its risk factors. A study was done among 348 nurses with random selection from two hospitals. The result of this study shows that there were 54.3% of nursing staffs revealed of lower back ache. Along with all participants female nurses were more common to have lower back ache as contrasted to male i.e. 56.6%. it illustrates that the Lower back ache is common between the age group of 30-35 years . The occurrence of Lower back ache was 71% among night shift duty nursing staffs. Matrimonial female nursing staffs were at risk of having the low back pain i.e.64%. 93.6% of nurses make knowned that the pain is due to duty shift, inappropriate

handling of patient, heavy work schedule with more patient and shortage of standard equipments or articles (Vaisi Raiegani, Mohammadi, Jalali, Ghobadi, & Salari, 2019).

In 2017, a cross-sectional study was done in west Ethiopia among 422 nurses on the topic of examine the work associated factors connected with lower back ache among nursing staffs. A standardized Nordic Musculoskeletal survey was done with the random selection of nurses. The result of this shows that the 99% i.e. 418 participants give response. The incidence in previous 12 months of Low back pain was 63.6% . Almost 34.2% of nurses sought for medical care due to low back pain. The study revealed that the working experience, duty shift and safety training were highly significantly related with low back pain. Thus, the study concluded that the practices and implementation should be done to manage and avoid the lower back ache by doing proper management of work place like duty shift and provision of safety training (Mekonnen TH, 2019).

Studies conducted globally and regionally on the study subject indicate that low back pain is one of the most common problems among nurses and the prevalence is also high. Most of the countries have realized that back pain among nurses is due to intensive shift schedule, improper handling of patients, and large number of patient and lack of access to standard equipment. Many countries have suggested that hard work should be made to stop lower back pain among nurses by applying protective procedures by means of a variety of different advanced approaches like as Sensitizing and motivating nurses about with the use of harmless using the daily practices in nursing skills while at work throughout workshops and use of posters, Training and providing instruction booklet laborers for transferring and lifting of patients, among others. However, many studies so far have been done on the prevalence and risk factors of lower back pain and mostly studies support to assess the prevalence and risk factors of low back pain among nurses (Ghilan et al., 2013).

An analytical cross sectional study was conducted on Prevalence of Low Back Pain Among Nurses and Predisposing Factors and Role of work place violence in Baqiyatallah University of Medical Sciences, Tehran, and IR Iran in 2014.

The rate of acute and chronic LBP and contributing factors were investigated among 1246 nurses using a validated questionnaire. Statistical analysis was performed by chi square, student t-test and logistic regression, to determine the association

between independent variables and LBP. In total, 1246 nurses, consisting of 576 (46.23%) males and 670 (53.77%) females, were included. The mean age and the mean years of employment were 31.23 ± 5.33 and 16.18 ± 7.05 , respectively. Both acute low back pain and chronic low back pain were associated with physical violence experience. Moreover, acute and chronic LBP were predicted by positive past history of LBP as well as two ergonomic factors, frequent bending and frequent carrying of patients (Rezaee & Ghasemi, 2014).

A cross-sectional study based on a self-administered questionnaire destined for all nurses working in Farhat Hached Teaching hospital of Sousse (Tunisia) included 203 nurses with an average age of 39.8 years. The prevalence of low back pain over the last twelve months was 58.1%. The factors that are significantly associated to low back pain were: high BMI, number of pregnancies, arthritis, poor physical condition, daily frequency of inappropriate posture for the activity being performed, and the layout of materials in the workplace (Boughattas et al., 2017).

A structured, self-administered questionnaire was used to collect information on the prevalence of LBP and its associated factors from 788 registered nurses from a medical center in Taiwan. Among all nurses with eligible questionnaires, 567 (72.0%) had LBP. Mean daily hours of working, standing, and walking were persistently longer in the LBP group. Results from multivariate logistic regression analysis showed that daily working for 1 hour longer is linked to a 35% (95% confidence interval (CI) ¼ 2e78%) greater risk of LBP. Compared with <2 years of service as nurse, nurses with 25 years of service had the highest risk (odds ratio (OR) ¼ 2.11, 95% CI ¼ 1.07e4.18). LBP risk was also higher for nurses with chore duty responsibilities (OR ¼ 1.99, 95% CI ¼ 1.12e3.53) and other back related disorders (OR ¼ 4.43, 95% CI ¼ 1.99e9.86) (Shieh, Sung, Su, Tsai, & Hsieh, 2016).

2.2 Summary of Literature Review

Studies conducted globally and regionally on the study subject indicate that low back pain is one of the most common problems among nurses and the prevalence is

also high. Most of the countries have realized that back pain among nurses is due to intensive shift schedule, improper handling of patients, and large number of patient and lack of access to standard equipment. Many countries have recommended that efforts should be made to prevent lower back pain among nurses by implementing preventive measures using a multi-dimensional approach such as Sensitizing and encouraging nurses about using safe handling techniques while at work through workshops and use of posters, Training and providing manual laborers for transferring and lifting of patients, among others. However, many studies so far have been done on the prevalence and risk factors of low back pain and mostly studies support to assess the prevalence and risk factors of low back pain among nurses.

CHAPTER III

RESEARCH METHODOLOGY

This chapter deals with the research objectives, framework, design, population of the study (target population, sample size, sampling technique, inclusion and exclusion criteria), development of instruments, data collection, analysis and ethical consideration.

3.1 Study Objectives

General objectives:

- To assess the rate and risk factor of Low Back pain among nursing Staffs.

Specific objectives:

- To determine rate and severity of low back pain among nursing staffs.
- To examine the relationship between demographic characteristics and back Pain.
- To identify the risk factors (modifiable) associated among lower back Pain (work-related, lifestyle and comorbid factors) in groups of low back pain.

3.2 Conceptual framework

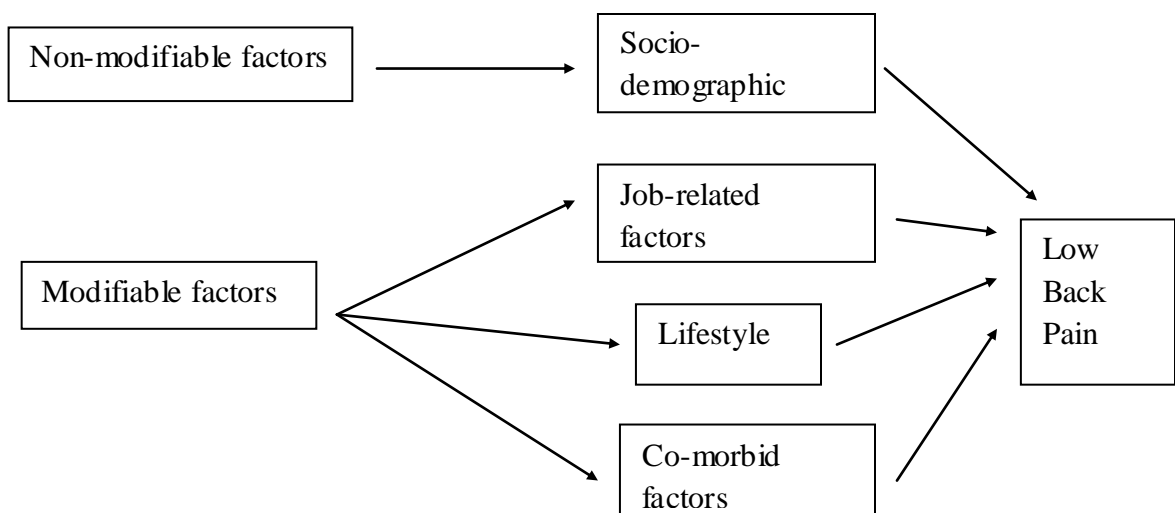


Fig: Multifactorial Model of Low Back Pain

3.3 Study Design

- Cross sectional research design was used.

3.4 Study population

- **Target population-** Study population was nursing staffs working at Lumbini Provincial Hospital.

3.5 Study Area/Site

- Study was conducted in Lumbini Provincial Hospital Butwal, Nepal.

3.6 Study Period

- Study period was from June 2019 to June 2020.

3.7 Sample size

$$n = \frac{Z^2 P (1-P)}{d^2}$$

where, P = 78% or 0.78

$$Z = 1.96, d = 0.05$$

By calculating this formula, sample size was 264.

I collected the data with all respondents present over there during the period of data collection i.e. 102 nurses.

3.8 Eligibility criteria

Inclusion Criteria

- Nursing staffs working in wards and OPDs of Lumbini Provincial Hospital.

Exclusion Criteria

- Staff members who do not give consent.

3.9 Sampling technique:

- Sampling is a process of selecting of the population in which entire population is represented. Purposively Convenient Sampling was used to collect data.

3.10 Data Collecting Tools:

On the basis of literature review, consultation with the research advisor expertise, a self-administered structured questionnaire was used to find out low back pain. Questionnaire has three sections.

Section 1: Question related to Socio-demographic variables.

Section 2: Question related to Risk factors of low back pain.

Section: Question related to rating scale of Current Low back Pain.

3.11 Data collection method and procedure

The study was conducted after the approval from IRC of BHPI and from Lumbini Provincial Hospital after submitting the letter from BHPI. Good rapport was established with the respondents. Verbal approval was taken from the illegible participants regarding the data collection procedure. Clear clarification of the reason of the study to respondent was done. Simple random sampling method was used for sampling. The self prepared questionnaire was used to collect data. Questionnaires was distributed to approximate 5-6 respondents and asked to fill up the questionnaire within 15-20 minutes. All the questionnaires was collected after respondents fill up the questionnaires. Data collection was done in different wards and OPDs of Lumbini Provincial Hospital. Privacy of the respondent was maintained.

3.12 Data management and analysis

Data was processed using SPSS Version 21. All the data was kept in order for coding and editing. The result was presented on the basis of research objectives and research question. Data was arranged, entered and tabulated in computer to present the findings of the study.

3.13 Quality control and quality assurance

Questionnaire was to assess the prevalence of Low back Pain among nursing staffs of Lumbini Provincial Hospital. To ensure the validity of the questionnaire, the pilot study had been conducted. After piloting, the unmet and required changes can be made and rearrange the questionnaire to make it clear, understandable, and easy to the respondents. Data were kept safely in order to maintain confidentiality of participants. Collected data had been reviewed several times before entering into SPSS program to reduce the errors that possibly to come while entering and analyzing of the data. The sociodemographic data were being re-coded in the required variables and analysis was done from the computer to minimize the errors.

3.14 Ethical consideration

The study was conducted after the approval taken from the research committee of BHPI. Written and Verbal permission was taken from the hospital authority of Lumbini Zonal Hospital by submitting the letter from BHPI. Verbal informed consent was taken from the respondents. Principle of self-respect and justice was maintained. The purpose of study was clearly explained in understandable language to the respondents. Participants were not forced for the study. Confidentiality was maintained throughout the study. Information obtained was used only for research purpose.

Chapter IV

Part I

Result

Analysis of Socio-demographic Information

**Table 1: Distribution of respondents according to socio-demographic variables;
Age, Marital status and Number of Children**

N= 106

Variable	Frequency	Percent
Age		
0-30years	68	64.2
30-60years	38	35.8
Marital Status		
Married	75	70.8
Unmarried	31	29.2
Number of children		
0	29	27.4
<2	71	67.0
>2	6	5.7

Table 1 show that most of the respondents i.e. 64.2% were of 0-30 years whereas 35.8% of the respondents were 30-60 years. 29.2% of the respondents were unmarried while 70. 8% were married. Most of respondents (67%) have less than 2 children whereas 27.4% have no children and 5.7% have more than 2 children.

Part II

Analysis of Risk factors related to low back pain

Table 2: Distribution of Respondents according to Nutritional Status and perform Exercise.

N=106

Variable	Frequency	Percent
Nutritional Status		
Non Obese	98	92.5
Obese	8	7.5
Exercise		
Yes	30	28.3
No	76	71.7

Table 2 shows that the majority of respondents i.e.92.5% were non obese whereas only 7.5% were obese. 71.7% of respondents do not perform any exercise whereas 28.3% of respondents perform an exercise.

Table 3: Distribution of respondents according to Work Related Factors; Years of experience and Working Area

Variable	Frequency	Percent
Practicing as a nurse		
1-5 years	54	50.9
6-10 years	18	17
11-15 years	16	15.1
16-20 years	18	17
Experience in Zonal Hospital		
1-5 years	75	70.8
6-10years	18	17
11-15years	9	8.5

16-20years	4	3.8
Working Area		
General	37	34.9
ICU/NICU	21	19.8
OPD	1	0.9
OT	19	17.9
Gynae and Paediatric	28	26.4

Table 3 shows that 50.9% of respondents had experience in nursing for 1-5years while 17% of them had experience for 6-10years and 16-20years while only 15.1% had experience of 11-15years. Most of respondents are employed in zonal hospital for 1-5years i.e. 70.8% while 17% have worked for 6-10years and 8.5% have worked for 11-15years and only 3.8% have worked for 16-20years.. Most of them i.e. 34.9% are working in general ward and 26.4% in Gynae and pediatric ward while rest of them are working in different departments such as ICU/NICUward (19.8%), OT (17.9%) and OPD (0.9%) respectively.

Table 4: Distribution of respondents according to Work related factors; length of duty hour

Variable	Frequency	Percent
Length of duty hour		
Morning Shift	34	32.1
Evening Shift	31	29.2
Day Shift	12	11.3
Night Shift	29	27.4

Table 4 shows that most of the respondents i.e. 32.1% of respondents do morning shift duty whereas 29.2% do evening shift duty and 27.4% do night shift duty and only 11.3% do day shift duty.

Table 5: Distribution of respondents according to Lifting of heavy materials, Bending or twisting your back and maintenance of same position for long time.

Risk Factor	Frequency	Percent
Lifting or moving heavy materials or equipments		
Not at all	5	4.7
Rarely	25	23.6
Sometimes	64	60.4
Frequently	12	11.3
Bending or twisting your back in an awkward way		
Not at all	12	11.3
Rarely	19	17.9
Sometimes	53	50
Frequently	22	20.8
Maintaining a same position for long period of time		
Not at all	1	0.9
Rarely	15	14.2
Sometimes	48	45.3
Frequently	42	39.6

Table 5 shows that majority of respondents i.e.60.4% sometimes lift or move the heavy materials and equipments whereas minority of respondents i.e.4.7% not at all lift or move the heavy materials. Similarly, 50% of respondents sometimes and 11.3% not at all bend or twist their back in an awkward way. Majority of respondents 45.3% sometimes and only 0.9% of respondents not at all maintain a same position for long period of time.

Table 6: Distribution of respondents according to Lifting or transferring dependent patients, Performing same task over and over and continuing the work.

Risk factor	Frequency	Percent
Lifting or transferring dependent Patients		
Not at all	3	2.8
Rarely	38	35.8
Sometimes	52	49.1
Frequently	13	12.3
Performing same task over and over		
Not at all	0	0
Rarely	14	13.2
Sometimes	39	36.8
Frequently	53	50
Continuing to work when you are injured or hurt		
Not at all	7	6.6
Rarely	45	42.5
Sometimes	49	46.2
Frequently	5	4.7

Table 6 shows that the majority of respondents i.e. 49.1% sometimes lift or transfer dependent patient whereas 2.8% of respondents not at all lift or transfer dependent patient. 50% of respondents frequently and 13.2% of respondents rarely perform same task over and over. Similarly, 46.2% of respondents sometimes and only 4.7% of respondents frequently continue to work when they are injured or hurt.

Table 7: Distribution of respondents according to reaching or working away from body, assist patient during gait activities and working with few staffs.

Risk Factor	Frequency	Percent
Reaching or working away from body		
Not at all	6	5.7
Rarely	29	27.4
Sometimes	58	54.7
Frequently	13	12.3
Assisting patient during gait activities		
Not at all	3	2.8
Rarely	28	26.4
Sometimes	62	58.5
Frequently	13	12.3
Working a shift with few staffs on duty		
Not at all	1	0.9
Rarely	21	19.8
Sometimes	53	50
Frequently	31	29.2

Table 7 shows that the 54.7% of respondents sometimes and 5.7% of respondents not at all reach or work away from body. Likewise, majority of respondents i.e. 58.5% sometimes and minority i.e. 2.8% of respondents not at all assist patient during gait activities. Similarly, 50% of respondents sometimes and 0.9% of respondents not at all worked a shift duty with few staffs on duty.

Table 8: Distribution of respondents according to Not enough rest during the day, Unanticipated sudden movement and work schedule.

Risk Factor	Frequency	Percent
Not enough rest breaks during the day		
Not at all	2	1.9
Rarely	26	24.5
Sometimes	55	51.9
Frequently	23	21.7
Unanticipated Sudden Movement		
Not at all	4	3.8
Rarely	39	36.8
Sometimes	58	54.7
Frequently	5	4.7
Work Schedule e.g. Overtime, On-call, Irregular shift.		
Not at all	4	3.8
Rarely	40	37.7
Sometimes	53	50
Frequently	9	8.5

Table 8 shows that the 51.9% of respondents sometimes and only 1.9% of respondents not at all get not enough rest breaks during the day. Similarly, 54.7% of respondents sometimes and 3.8% of respondents not at all do unanticipated sudden movement. 50% of respondents sometimes and 3.8% of respondents not at all do work schedule i.e. overtime, On-call and irregular duty shift.

Table 9: Distribution of respondents according to Satisfaction with job.

Risk factor	Frequency	Percent
Satisfied with job		
Very satisfied	2	1.9
Satisfied	78	73.6
Less satisfied	24	22.6
Unsatisfied	2	1.9

Table 9 shows that the majority of respondents i.e. 73.6% were satisfied whereas 22.6% were less satisfied and 1.9% of respondents were very satisfied and unsatisfied respectively.

Table 10: Distribution of respondents according to Co-morbid factors ; Physical illness, Previous history of Low Back Pain, Prevalence of Low back pain and the Duration of pain.

Variable	Frequency	Percent
Physical illness		
Yes	15	14.2
No	91	85.8
Previous history of Low Back Pain		
Yes	14	13.2
No	92	86.8
Prevalence of low Back Pain		
Yes	30	28.3
No	76	71.7
Duration of Low Back Pain		
<12months	18	17
>12months	12	11.3

Table 10 Shows that 85.8% of respondents have no any physical illness. 86.8% of respondents have no any history of previous low back pain. Majority of respondents i.e.71.7% of respondents have no any prevalence of Low back pain whereas only 28.3% of respondents have prevalence of having Low back pain. Among them, 17% of respondents have pain duration of <12months and 11.3% have pain duration of >12months.

Table 11: Distribution of respondents according to Intensity of Pain.

Variable	Frequency	Percent
Low back pain is due to your occupation		
Yes	15	14.2
No	15	14.2
Symptoms exacerbated by nursing activities		
Yes	29	27.4
No	1	0.9
Intensity of Pain		
No pain at the moment	3	2.7
Mild	19	17.9
Moderate	7	6.6
Severe	1	0.9

Table 11 shows that the equally i.e.15% of respondents have said yes and no that the pain is due to their occupation and majority tells that 27.4% that symptoms is exacerbated by nursing activities. Most of the respondents have mild pain while 6.6% have moderate pain and 2.7% have no pain at the moment.

Part III

Analysis of the association between Low Back Pain and Socio-demographic variables and Risk factors related to Low Back Pain.

Table 12: Association of Low Back Pain and Socio-demographic variables

Demographic Variables	Back		Pain		Total	Df	X ²	p-value
	Yes	No	Yes	No				
	N	%	N	%				
Age in years								
0-30yrs	15	50	53	69.7	68	1	3.64	0.056
30-60yrs	15	50	23	30.3	38			
Marital Status								
Married	23	30.7	52	69.3	75	1	0.70	0.401
Unmarried	7	22.6	24	77.4	31			
No. of Children								
<2	21	29.6	50	70.4	71	1	0.037	0.84
>2	2	33.3	4	66.7	6			

Table 12 represent the different socio-demographic variables and their association with low back pain. Chi square test was used to find the association between age, marital status and number of children and prevalence of low back pain and there was not a significant relationship with Age Marital status and No. of children as p value was greater than 0.05.

Table 13: Analysis of association between Low Back Pain and its risk factors.

Variables	Low		Pain	Total	df	X ²	p-value
	Back	Yes	No				
	N		N				
	%		%				
BMI							
Non-obese	26		72	98	1	2.008	0.157
	26.5		73.5				
Obese	4		4	8			
	50		50				
Exercise							
Yes	10		20	30	1	0.522	0.470
	33.3		66.7				
No	20		56	76			
	26.3		73.7				

Table 13 represent the association between low back pain and its risk factors which shows that the Chi square is used to find the association between BMI and Exercise and prevalence of Low back pain and there was not a significant association with BMI and Exercise as p value was greater than 0.05.

Table 14: Analysis of association between Low back pain and its risk factors

Variables	Back Pain		Total	df	X ²	P-value
	Yes	No				
	N %	N %				
Practising as a nurse						
1-5years	11 20.4	43 79.6	54			
6-10years	5 27.8	13 72.2	18	3	4.55	0.208
11-15years	7 43.8	9 56.2	16			
16-20years	7 38.9	11 61.1	18			
Experience in Zonal Hospital						
1-5years	16 21.3	59 78.7	75			
6-10years	10 55.6	8 44.4	18	3	9.47	0.024
11-15years	2 22.2	7 77.8	9			
16-20years	2 50	2 50	4			
Working Area						
General	9 24.3	28 75.7	37			
ICU/NICU	5 23.8	16 76.2	21			
OPD	0 0	1 100	1	4	1.75	0.78
OT	6	13	19			

	31.6	68.4	
Gynae and	10	18	28
Paediatric	35.7	64.3	

Table 14 revealed that the association between low back pain and its risk factors. Chi square is used to find the relationship between low back pain and Practising as a nurse, Experienced in Zonal hospital and working area which shows that experienced in zonal hospital is highly significant as p value is less than 0.05 whereas practicing as a nurse and working area is not significant as p value is more than 0.05.

Table 15: Analysis of association between Low Back Pain and its risk factors

Variables	Back Pain		Total	Df	X ²	p-value
	Yes	No				
	N	N				
	%	%				
Lifting or moving heavy materials or equipments						
Not at all	1	4	5			
	3.3	5.3				
Rarely	4	21	25	3	7.36	0.061
	13.3	27.6				
Sometimes	18	46	64			
	60	60.5				
Frequently	7	5	12			
	23.3	6.6				
Lifting or transferring dependent patients						
Not at all	1	2	3			
	3.3	2.6				
Rarely	3	35	38	3	12.23	0.007
	10	46.1				
Sometimes	21	31	52			
	70	40.8				
Frequently	5	8	13			
	16.7	10.5				
Performing Same task over and over						
Rarely	1	13	14			

	3.3	17.1				
Sometimes	16	23	39	2	6.57	0.037
	53.3	30.3				
Frequently	13	40	53			
	43.3	52.6				

Table 15 shows the association of low back pain with its risk factors. Chi square is used to show the association in which there shows a highly significantly association with low back pain and lifting or transferring dependent patients and performing same task over and over as p value is less than 0.05 whereas lifting and moving heavy materials and equipments shows a non significant relation with low back pain as p value is greater than 0.05.

Table 16: Association of Low Back Pain with its risk factors

Variables	Back Pain		Total	df	X ²	p-value
	Yes	No				
	N	N				
	%	%				
Continuing to work when you are injured or hurt						
Not at all	3	4	7			
	10	5.3				
Rarely	6	39	45	3	9.65	0.022
	20	51.3				
Sometimes	20	29	49			
	66.7	38.2				
Frequently	1	4	5			
	3.3	5.3				
Working shift						

with few staffs						
on duty						
Not at all	0	0	1	1		
			1.3			
Rarely	1		20	21	7.75	0.051
	3.3		26.3	3		
Sometimes	18		35	53		
	60		46.1			
Frequently	11		20	31		
	36.7		26.3			
Work Schedule						
(e.g. Overtime,						
On-call,						
irregular shift)						
Not at all	1		3	4		
	3.3		3.9			
Rarely	4		36	40	11.12	0.011
	13.3		47.4	3		
Sometimes	21	70	32	53		
			42.1			
Frequently	4		5	9		
	13.3		6.6			

Table 16 represent the association of low back pain with its risk factors. Chi square is used to show the association in which it shows the highly significantly associate with low back pain and continuing to work when you are injured or hurt and with work schedule (e.g. overtime, on-call, irregular shift) as p value is less than 0.05 whereas, there shows a insignificant association with low back pain and working with few staffs on duty as p value is greater than 0.05 i.e. 0.051. it is said that marginally accepted but it is closely rejected.

Table 17; Analysis of association between Low Back Pain and History of Previous low back pain.

Variables	Back Pain		Total	df	X ²	p-value
	Yes	No				
	N	N				
	%	%				
History of Previous low back pain						
Yes	14	16	30	1	40.86	0.000
	46.7	53.3				
No	0	76	76			
	0	100				

In table no 17, chi square test is used to find association between history of previous low back pain and prevalence of low back pain which shows highly significant association between them as p value is 0.000.

Chapter V

Discussion

A Cross-sectional study was conducted to find out the prevalence of low back pain and associated risk factors among nursing staffs of Lumbini Zonal Hospital. The result of this study showed that 28.3 % nurses suffered from LBP during the course of the study. The findings of this study do not match with another study conducted in Nepal among the nurses of Bharatpur medical college where the prevalence of LBP was 75.7% . This may be due to difference in the government job and private job. As the bharatpur medical college is a private hospital most of the facilities were not given as compared to government hospital like: infrastructure facilities, satisfaction with salary etc. which leads to low back pain. Demographic findings of this study revealed that majority of study population was 0-30 years which was somehow analogous with the study done by S.subedi at a medical college in Bharatpur, Nepal, showed that 20-25 years was majority of study population.

Similarly, in the same study done by S. Subedi, all study population were female nurses and most of them i.e. 70.8% of them were married where as 29.2% were unmarried whereas more married nurses were suffering from low back pain than unmarried nurses. More to the point, married nurses were also involved in house activities besides their nursing task as well as they has to take care of their child and family members. which was consistent with this study done by Adhikari S, Dhakal G. (2014) in Shahid gangalal national heart center Nepal that study population were female nurses and most of population were married i.e.88% .

Similarly, in the current study, population were categorized into obese and non-obese having BMI >30 and < 30 respectively and majority of them i.e. 92.5% were non obese having BMI <30 and 7.5% were obese which is consistent with the study done by AlemDeksisaAbebe at 2015 in Adama Hospital Medical College that had categorized BMI < 25 and > = 25 in which majority of them had BMI<25 i.e. 75.3%.

Regarding the working experience, most of respondents had experience in nursing for 1-5years i.e. 50.1% while few of them had experience of 11-15years whereas study

done in Bangladesh BHPI, CRP in 2008 by HM Harun-Ar-Rashid revealed that majority of population had working experience of 1-5years who have low back pain which is parallel with the present study.

Among 30 respondents with low back pain majority of respondents i.e. 17.9% have mild pain, 6.6% have moderate pain, 2.7% have no pain at the moment whereas only 0.9% have severe pain while study conducted in sudan at 2015 by Al-Samawi et.al revealed that 21.43 had mild pain, 52.9 had moderate pain and 15.7 had severe pain.

In the study done by Abdulmujeeb A Olaniyan I at Muslim Hospital kampala, Uganda in 2017 there was no significant difference in prevalence of low back pain and factors associated with low back pain according to age and marital status since the p-value was more than 0.05 which is support with this study as there shows a non significant relationship with age and marital status as p value was more than 0.05.

Correspondingly, in this study, chi square test were used to find significant association with age, marital status which we find that there was no association with low back pain as p value is more than 0.05 which was supported by the study done by Gautam et al. in 2019 in tertiary level hospital of Nepal as this study shows that there was no any association with age and marital status and BMI as p value is more than 0.05.

Similarly, in this study again chi square test were used to find significant association and the result revealed that there is significant association of low back pain with years of experience in this zonal hospital in which $p= 0.024$ for $x^2 = 9.47$ for 3 df which is supported by the study done by Yosra Azizpour, ali Delpisheh, Zahra Montazeri and Kourosh sayehmiri among Iranian nurses in 2017 as this study shows a highly significant association with low back pain and years of experience as p value is less than 0.05 as it is 0.009.

This study shows a highly significant relationship with low back pain and lifting or transferring dependent patients and performing same task over and over as p value is less than 0.05 which is again supported by the study done by Gautam et al. in 2019 in tertiary level hospital of Nepal i.e. Gandaki Hospital which showed that prolonged

standing, frequent bending and twisting, working in same position for long period of time are the contributing factors for low back pain among nurses.

According to this study, BMI was not associated with low back pain since p value= 0.15 for $\chi^2 = 2.008$ at 1 df which is in opposition to the data of the journal of Tunisia in 2017 by Boughattas Wided in which p val= 0.004. The respondents having higher BMI have more prevalence of low back pain.

In this study, there is significant relationship of low back pain and history of previous low back pain in which p= 0.000 for $\chi^2 = 40.86$ at 1 df which cannot be found in other studies.

Our study revealed that certain risk factors that may be highly significant in the development of low back such as working with few staffs on duty (p=0.051 for $X^2 = 7.75$ at 3df), work schedule i.e. overtime, on call, irregular shifts(p=0.011 for $\chi^2 = 11.12$ at 3 df) and continue to work when you are injured or hurt (p=0.022 for $X^2 = 9.65$ at 3df). Which is contradictory with the study done by Frooq Awwal Muhammed at teaching Hospital in Nigeria in 2015 that revealed that factors which predispose nurses to lower back pain in their working condition include lifting of patient (90%) which has highest rate, standing on duty (88.9%) and moving heavy equipment (81.5%), carryout bedside procedure (75.3%) and rolling changing patients' position (72.8%). Sitting on duty was shown to have very low chance of causing LBP (16%).

5.1 Limitations of the study

- The sample was collected only from the Lumbini Provincial Hospital and the sample size was too small, so the result of the study could not be generalized to the whole population of nurses.

Chapter VI

Conclusion

Analytical study entitled “Low back pain and its associated risk factors among nursing staffs of a Lumbini Zonal Hospital Nepal” was conducted. The objectives of the study were to ascertain the prevalence of low back pain amongst nurses at Lumbini Zonal Hospital and the risk factors associated with low back pain. Simple Random sampling method was used as a sampling method. 104 respondents participated in the study. Data collection was done among eligible respondents by using self-structured questionnaire in different wards and OPDs of Lumbini Zonal Hospital.

The prevalence of low back pain was found to be 28.3% in nursing staffs. The result showed that only few nurses of Lumbini Zonal Hospital had low back pain. Socio demographic variables as well as risk factors associated were analyzed using different statistical tests and result was interpreted. The prevalence of low back pain was high amongst staff nurses aged of 0-30 years, married with less than 2 childrens and non-obese respondents. Respondents having 1-5 years of work experience had more prevalence of low back pain. Respondents who work in Gynae and Paediatric nurses have more low back pain as compared to other wards. Low back pain was statistically significant with certain risk factors such as experience in hospital ($p=0.024$), lifting or transferring dependent patients ($p=0.007$), performing same task over and over ($p=0.037$) and history of previous low back pain ($p=0.000$). Hence, the Null Hypothesis was rejected and alternative hypothesis was accepted.

6.1 Recommendation

Based on the findings following things are recommended.

- It is recommended to conduct similar study in larger group so that the results could be generalized.
- Purposive sampling can be done in another study to assess the risk factors of low back pain.
- This study can be conducted among all the hospital staffs as well as in community setting.
- A comparative study can be done between different hospitals on prevalence of low back pain and associated risk factors.

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Annexes

Annex-I

Informed Consent

Namaste! I am Rama Pandey, a student of MRS 5th batch, studying at Bangladesh Health Profession Institute under Dhaka University.

I am here to carry out a study on “Prevalence of Low back pain and its associated risk factors among nursing staffs of LMCTH”.

The valuable information you provide will assist me on this project to assess the prevalence of low back pain and its associated risk factors among nursing staffs.

If you are Staff nurse working in different wards and OPDs of Lumbini Zonal Hospital you are humbly invited for the participation in the study.

Be assured that all your responses are confidential and no information about the research will be published in any form that would allow any individual to be recognized. All information is coded so that you will remain anonymous. Your participation is voluntary. And you can always quit from the study if you wish. The structured questionnaire will be used to collect the information and it takes about 15 minutes for the completion. So, are you willing to participate?

a) Yes

b) No

I hope you will kindly provide the correct responses and help me to complete the study. Thank you for your co-operation.

Annex-II

QUESTIONNAIRE

Please answer the following questions. Where there is a choice of responses, please circle the correct response or tick the correct answer.

Section 1

Socio-demographic factors

- 1) What is your age? -----specify in years

- 2) What is your sex?
 - a) MALE
 - b) FEMALE

- 3)What is your marital status?
 - a) Unmarried
 - b) Married
 - c)Divorced
 - d)Widow
 - e) Separated

- 4) If married, how many children do you have? -----specify the number.

Section 2: Risk related factors for low back pain

Lifestyle

- 1) What is your height and weight?

Height	
Weight	

Exercise

2) Do you perform exercise?

- a) Yes b) No

If yes, specify what type of exercise do you perform? -----

Work related factors

3. How many years have you been practicing as a nurse?	
4. How long have you worked at Zonal Hospital?	
5. Which ward are you currently working in?	
6. How long have you worked in this ward?	
7. What other wards have you worked in the last year?	

8) What is your length of duty hour?

1) Morning shift	
2) Evening shift	
3) Day shift	
4) Night shift	

9) How much time do you involve in doing the following activities? Tick the correct that applies.

Activities	Frequently	Sometimes	Rarely	Not at all
1)lifting or moving heavy materials or equipment				
2)bending or twisting your back in an awkward way				
3)maintaining a same position for long periods of time such as standing, sitting, kneeling				
4)lifting or transferring dependent patients				
5)performing same task over and over				
6)continuing to work when you are injured or hurt				
7)reaching or working away from your body				
8)assisting patient during gait activities				
9)working a shift with few staffs on duty				
10)not enough rest breaks during the day				
11)unanticipated sudden movement				
12)work schedule (e.g. overtime, on-call, irregular shifts)				

11. Do you ask for assistance when Performing patient handling activities?	YES	NO
12.Do you use assistive devices with patient Handling activities?	YES	NO
13. Do you use height and /or angle adjustable work surfaces?	YES	NO

14) Are you satisfied with your job?

Unsatisfied	Less satisfied	Satisfied	Very satisfied

Co-morbid factors

15) Do you have any diagnosed physical illness?

- a) Yes b) No

If yes, specify the condition?.....

16) Do you have any diagnosed psychological illness?

- a) Yes b) No

If yes, specify the condition?.....

17) Do you have any history of previous low back pain?

- a) Yes b) No

18) Do you have current history of low back pain?

- a) Yes b) No

19) If yes, what is the location of your pain.....specify the area

20) If yes, what is the duration of your low back pain?..... specify in months

21) If yes, do you believe your Low back pain is due to your occupation?

- a) Yes b) No

22) Are your symptoms exacerbated by nursing activities?

- a) Yes b) No

23) Has the LBP affected you outside of work in terms of daily living and leisure activities?

- a) Yes b) No

24) What best describes the intensity of your LBP? Please tick what applies.

No pain at the moment	
Mild	
Moderate	
Severe	

Section 3: Tool for current low back pain

19) If yes, answer the following question.

On a scale of 0-5; 0 being no problem and 5 being a major problem, please indicate to what extent each risk factor may be implicated in the development of your current low back pain.

JOB RISK FACTOR	0	1	2	3	4	5
1)lifting or moving heavy materials or equipment						
2)bending or twisting your back in an awkward way						
3)maintaining a same position for long periods of time such as standing, sitting, kneeling						
4)lifting or transferring dependent patients						
5)performing same task over and over						
6)continuing to work when you are injured or hurt						
7)reaching or working away from your body						
8)assisting patient during gait activities						
9)working a shift with few staffs on duty						
10) Working in awkward or cramped positions						
11)not enough rest breaks during the day						
12)unanticipated sudden movement						
13) Working with confused or agitated patients						
14) Inadequate training in injury prevention						

15)work schedule (e.g. overtime, on-call, irregular shifts)						
16) Working near to or at your physical limits.						
17)Treating a large number of patients in 1 day						
18)others specify:						

APPROVAL LETTER



বাংলাদেশ হেল্থ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই)
Bangladesh Health Professions Institute (BHPI)
(The Academic Institute of CRP)

Ref.

Date: 16/09/19

CRP-BHPI/09/19/0308

To,
The Administrative Chief
Lumbini Provincial Hospital (Lumbini Pradeshik Aspatal)
Butwal, Rupandehi, Nepal

Sub: **Recommendation Letter for Data Collection**

Dear Sir/Madam,

This is to inform you that Ms. Rama Pandey, a student of M.Sc. in Rehabilitation science at Bangladesh Health Professions Institute (BHPI), needs to complete a thesis titled "**Prevalence of Low Back Pain among Staff nurses working at Lumbini Pradeshik Aspatal**" as per the curriculum of her study. Consequently, she requires conducting data and research related activities.

She is supposed to carry out data collection among staff nurses. The data collection is going to start **from September 16, 2019 and the duration will be of 2 weeks.**

Therefore, this is our request to help her through necessary procedures to complete data collection.


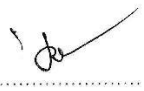
With best regards,

Dr. Kamal Ahmed
Thesis Supervisor
Former Associate Professor,
IHT, Mohakhali, Dhaka, Bangladesh

সিআরপি-চাপাইন, সাভার, ঢাকা-১৩৪৩, বাংলাদেশ, ফোন : ৭৭৪৫৪৬৪-৫, ৭৭৪১৪০৪ ফ্যাক্স : ৭৭৪৫০৬৯

CRP-Chapain, Savar, Dhaka-1343, Tel : 7745464-5, 7741404, Fax : 7745069, E-mail : contact@crp-bangladesh.org, www.crp-bangladesh.org

COMPLETION LETTER

	<p>प्रदेश सरकार प्रदेश नं.५ सामाजिक विकास मन्त्रालय स्वास्थ्य निर्देशनालय लुम्बिनी प्रादेशिक अस्पताल बुटवल, नेपाल</p>	<p>०७१-४४०२१ ०७१-४४०२२ ०७१-४४२२१ ०७१-४४१२६</p> <p>फ्याक्स ०७१-४४१२८२ email :- lzhospital@gmail.com</p>
<p>प.सं. २०७६/०७७ व.नं. ६८५</p>		<p>मिति : २०७६/०८/०४</p>
<p>श्री Bangladesh Health Professions Institute (BHPI) बंगलादेश।</p>	<p>विषय : तथ्याङ्क संकलन सम्बन्धमा।</p>	
	<p>उपरोक्त सम्बन्धमा त्‍यस Institute मा Master in Rehabilitation Science दोस्रो वर्षमा अध्ययनरत विद्यार्थी श्री रमा पाण्डेयले तोकिएको पाठ्यक्रम अनुसार यस अस्पतालमा मिति २०७६/०६/०१ देखी मिति २०७६/०६/१४ गते सम्म " Prevalence of Low Back pain among staff nurse working at Lumbini Pradeshik Aspatal " विषयमा तथ्यङ्क संकलन सम्पन्न गरेको व्यहोरा जानकारी गराइन्छ।</p>	
<p>बोधार्थ : श्री रमा पाण्डेय</p>		<p> डा. राजेन्द्र प्रसाद खनाल प्रमुख मेडिकल सुपरिटेण्डेण्ट प्रमुख मेडिकल सुपरिटेण्डेण्ट</p>