

A STUDY TO ASSESS PREVALENCE AND ITS MANAGEMENT REGARDING LOW BACK PAIN AMONG NURSES IN SELECTED HOSPITAL, BUTWAL.

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Abstract:

BACKGROUND

Low back pain (LBP) is a public health problem worldwide and is a common cause of work-related disorder among health care workers, especially in the nursing profession. It is estimated that in the United Kingdom, each year 12% of nursing personnel will consider a job transfer to reduce their LBP and another 12% – 18% will actually leave the nursing profession because of chronic back pain. LBP among nurses has become global problem these days. Nurses have six times higher prevalence of back trouble in comparison with other health professionals. There are very limited studies conducted on LBP among nurses of Nepal. So this study was conducted to identify the prevalence and perceived causes of low back and its impact among nurses working in national heart centres.

METHODOLOGY:

A descriptive research design; non-probability sampling technique was conducted on January 2022 on 60 nurses of Lumbini zonal hospital and Gautam Buddha Community Heart Hospital, Butwal. The data was collected through self administered questionnaire technique. The analysis was done using SPSS version.

Keywords: Prevalence of low back pain, management of low back pain, staff nurses of I.C.U, C.C.U, N.I.C.U and emergency.

1. INTRODUCTION:

1. Low back pain (LBP) is a public health problem worldwide and is a common cause of work-related disorder among health care workers, especially in the nursing profession. Various studies have shown that the main occupational risk factors associated with LBP in nurses are lifting and moving patients, sustained postures, job organization, poor ergonomic structures, improper work design, low social support, poor job satisfaction, staff shortages and poor working conditions. Consequently, LBP is associated with absenteeism and decreased productivity.

2. It is estimated that in the United Kingdom, each year 12% of nursing personnel will consider a job transfer to reduce their LBP and another 12% – 18% will actually leave the nursing profession because of chronic back pain. Low back pain (LBP) is one of the most common causes of musculoskeletal disorders. It is a neglected health problem responsible for serious suffering and disability among nurse professionals. LBP accounted for an average number of disability-adjusted life years (DALYs) higher than different infectious diseases, non-communicable diseases, and road traffic injuries. According to the Global Burden of Disease (GBD) 2010, LBP was reported among the top ten high burden diseases and injuries.

3. However, the prevalence of reported low back pain among hospital workers varies between different countries. The lifetime prevalence of low back pain is reported as 76% in the Netherlands⁸, 70.9% in Kuwait⁹, 57.7% in Tunisia¹⁰, 46% in Ireland and Nigeria¹¹ and 39% in Hong Kong.

Besides individual factors, work activities involving joint loading, extreme flexion of the trunk, frequent heavy lifting, maintaining an awkward or static posture, bending, twisting, hard physical work and psychological stress are reported as causal factors for back injuries in a number of studies.

2. LITERATURE REVIEW:

- A cross-sectional study was done on prevalence of low back pain and knowledge on body mechanics among 384 staff nurses in a tertiary care hospital using convenience sampling technique. Self-administered questionnaire and interview were used for data collection. The result revealed that 74.2% nurses had low back pain. Among the low back pain cases, 4.7% cases were diagnosed by health care professionals and 3.9% cases were on regular treatment. Severe pain was found among 4.2% samples and 42.2% staff nurses experienced pain on lumbar region.
- A cross-sectional study was conducted on frequency and severity of Low Back Pain in Nurses working in Intensive Care Units and its influential factors among 114 nurses using random sampling technique. Data were collected using a questionnaire form and visual analogue scale. It was found that 84.2% of the nurses experienced low back pain, and 66.7% of the nurses evaluated this pain as “a pain with moderate severity”. It was determined that nurses who had not received any education on low back pain, who remained standing for long periods of time, who performed interventions that required bending forward, who lifted and repositioned patients, and who did not use any aiding equipment during interventions, experienced more pain and had higher average pain scores.
- A cross-sectional descriptive study was done on assess’ knowledge and practices of body mechanic technique among 216 nurses at Punjab institute of cardiology Lahore using convenient sampling method. Data were collected using structured questionnaire. The demographic data revealed that all of the nurses were female and 41.3% belong to the age group of 26-30 years. Majority were from the ICU/CCU and having job experience of 0-5 years. 65% of nurses had fair knowledge about the body mechanic technique and 35% with poor knowledge. In term of practices, 60% nurses were practicing body mechanic techniques while the rest of 40% were not practicing. However, back pain is prevalent problem among nurses. Majority of the nurses was having knowledge about body mechanic technique but less was practicing it. Nurses need to be more educated about body mechanic technique and they should be emphasized to practice it in performing nursing procedure as well as in routine life.
- A cross-sectional study was done on prevalent causes of Low Back Pain and its impact among 50 Nurses working in Sahid Gangalal National Heart Centre using purposive sampling technique. A semi structured self-administered questionnaires with single and multiple response items were used to collect data. Among 50 nurses, 78% of nurses were suffering from LBP. Study found that LBP was predominant among married nurses (88%) compared to unmarried (69%). Prolonged standing (82%), heavy physical workload and frequent bending & twisting (51% each) were some perceived causes of low back pain. Due to LBP, 44% were not able to perform their job properly, 33% became less productive, 28% had restriction in work and 26% could not provide quality care to the patient.

3. METHOD:

RESEARCH DESIGN:

Descriptive research design.

STUDY POPULATION:

It refers to the nurses those who are working at ICU, CCU, NICU and Emergency of Lumbini and GBC hospital, Butwal.

STUDY SETTING/AREA:

Study will be conducted in selected Lumbini provincial and GBC hospital.

SAMPLE SIZE:

Sample size of the study will be 60 nurses of selected hospital.

SAMPLING TECHNIQUE:

In this study non –probability purposive sampling technique will be used for selecting the participants.

RESEARCH INSTRUMENT:

Structured questionnaire and checklist used for data collection.

4. DATA ANALYSIS PROCEDURE:

- The collected data checked, review and organized for the completeness. Data analyzed with the use of descriptive statistics and inferential statistics. The finding of the study is presented in tables.

5. DISCUSSION:

This study revealed that among 60 respondent majority 63% were according to age 20-30 years, 20% were by the age 30-40 years, 12% were age group of less than 20 years and 5% were age group of above 40 years. According to the level of education of respondent majority of respondents were 52% who had PCL Nursing. Likewise, 33% respondents had done Bachelor's level, 10% respondents had ANM and 5% of respondents had M.Sc. Nursing/MN level of education. According to the work experience 40% of respondent had work experience of 4-6 years, 38% of respondents had work experience of 1-3 year followed by 15% having below 1 year and 7% having 7 years and above work experience respectively. According to the designation majorities of nurses were in position of staff nurse having 47% followed by senior staff nurse having 43%. Rest 5% were incharge and auxiliary nurse respectively.

According to working areas majorities of nurses worked in ICU having 32% followed by NICU, emergency ward and CCU having 28%, 17% and 23% respectively. According to working hospital 67% of nurses were from Lumbini Provincial Hospital and 33% of nurses were from Gautam Buddha Community Heart Hospital. According to training received on management of Low Back Pain majorities of nurses i.e., 83% had not received training on management of Low Back Pain and 17% only had received training in management of Low Back Pain. This study also reveals that there were total of 60 respondents. According to age less than 20 years of respondents 1 of them had prevalence of low back pain and 6 had no prevalence of low back pain. Among 20-30 years of respondents 24 had prevalence of low back pain and 14 had no prevalence. Among 30-40 years of respondents 11 had prevalence and 1 had no prevalence. Above 40 years of respondents all had prevalence of low back pain.

According to level of education among 6 ANM 3 had prevalence of low back pain and 3 had no prevalence of low back pain. Among 31 PCL nurses 22 had prevalence of low back pain and 9 had no prevalence. Likewise, 20 nurses were bachelor graduates and among them 12 had prevalence and 8 had no prevalence. Total of 3 nurses had education level of M.Sc. Nursing/MN were 2 had prevalence of low back pain and 1 had no prevalence.

According to the work experience among 9 respondents below 1 year of experience 1 had prevalence of low back pain and 8 had no prevalence. Among 23 respondents had 1-3 years of experience with 4 had prevalence of low back pain and 19 had no prevalence. Among 24 respondents having 4-6 years of experience 13 had prevalence and 11 had no prevalence.

According to designation 3 auxiliary nurses had prevalence of low back pain. Among 28 staff nurses 16 had prevalence and 12 had no prevalence. Among 26 senior staff nurses 18 had prevalence of low back pain and 8 had no prevalence. Among 3 Incharge 2 had prevalence and 1 had no prevalence of low back pain.

Analysis of the association between the level of prevalence and the selected demographic variables exposed that there was significant association between prevalence of low back pain and age of respondent ($p < 0.05$) i.e., 0.004, work experience ($p < 0.05$) i.e., 0.007 and working area ($p < 0.05$) i.e., 0.005. There was not significant association between prevalence of low back pain with the level of education, designation and training received. ($p > 0.05$)

6. ANALYSIS:

The data analysis were presented under the following tables:

Analysis related to socio demographic information

Table 1 Distribution of respondents according to age

Age in years	Frequency	Percent
less than 20	7	12%
20-30	38	63%
30-40	12	20%
Above 40 years	3	5%
Total	60	100.0%

Table 2 Distribution of respondents according to level of education

Level of Education		Frequency	Percent
	ANM	6	10%
	PCL Nursing	31	52%
	Bachelors	20	33%
	M.Sc. Nursing/MN	3	5%
	Total	60	100.0%

Table 3 Distribution of respondents according to work experience

Work Experience		Frequency	Percent
	Below 1 year	9	15%
	1-3 year	23	38%
	4-6 year	24	40%
	7 years and above	4	7%
	Total	60	100.0%

Table 4 Distribution of respondents according to designation

Designation		Frequency	Percent
	Auxiliary nurse	3	5%
	Staff nurse	28	47%
	Senior staff nurse	26	43%
	In charge	3	5%
	Total	60	100.0%

Table 4 depicted majorities of nurses were in position of staff nurse having 47% and senior staff nurse having 43%. Rest was followed by incharge and auxiliary nurse both having 5% respectively.

Table 5 Distribution of respondents according to working areas

Working area		Frequency	Percent
	ICU (Incentive Care Unit)	19	32%
	CCU (Coronary Care Unit)	10	17%
	NICU (Neonatal Intensive Care Unit)	17	28%
	Emergency ward	14	23%
	Total	60	100.0%

Table 5 depicted majorities of nurses worked in ICU having 32% followed by NICU, emergency ward and CCU having 28%, 23% and 17% respectively.

Table 6 Distribution of respondents according to working hospital

Working area		Frequency	Percent
	Lumbini Provincial Hospital	40	67%
	Gautam Buddha Community Heart Hospital	20	33%
	Total	60	100%

Table 7 Distribution of respondents according to Training Received (On management of Low Back Pain)

Training Received (On management of Low Back Pain)		Frequency	Percent
	No	50	83%
	Yes	10	17%
	Total	60	100%

Part II

Analysis related to level of prevalence of low back pain among staff nurses

Table 8 Prevalence of low back pain according to age of respondent

		Prevalence of low back pain		Total
		Yes	No	
Age of respondent	Less than 20 years	1	6	7
	20-30 years	24	14	38
	30-40 years	11	1	12
	Above 40 years	3	0	3
Total		39	21	60

Table 9 Prevalence of low back pain according to level of education

		Prevalence of low back pain		Total
		Yes	No	
Level of education	ANM	3	3	6
	PCL Nursing	22	9	31
	Bachelor	12	8	20
	M.Sc. Nursing/MN	2	1	3
Total		39	21	60

Table 10 Prevalence of low back pain according to work experience

		Prevalence of low back pain		Total
		Yes	No	
Work experience	Below 1 year	1	8	9
	1-3 years	4	19	23
	4-6 years	13	11	24
	7 years and above	3	1	4
Total		21	39	60

Table 11 Prevalence of low back pain according to Designation

		Prevalence of low back pain		Total
		Yes	No	
Designation	Auxiliary nurse	3	0	3
	Staff nurse	16	12	28
	Senior staff nurse	18	8	26
	Incharge	2	1	3
Total		39	21	60

Table 12 Prevalence of low back pain according to working area

		Prevalence of low back pain		Total
		Yes	No	
Working area	ICU (Intensive Care Unit)	17	2	19
	CCU (Coronary Care Unit)	8	2	10
	NICU (Neonatal Intensive Care Unit)	15	2	17
	Emergency ward	7	7	14
Total		11	49	60

Table 13 Prevalence of low back pain according to working hospital

		Prevalence of low back pain		Total
		Yes	No	
Working Hospital	Lumbini Provincial Hospital	26	14	40
	Gautam Buddha Community Heart Hospital	13	7	20
Total		39	21	60

Table 14 Prevalence of low back pain according to training received (On management of Low Back Pain)

		Prevalence of low back pain		Total
		Yes	No	
Training received (On management of Low Back Pain)	Yes	4	6	10
	No	35	15	50
Total		39	21	60

Table 15 Relationship between the levels of prevalence of low back pain with their selected demographic variables

Variables	Calculated square	chi-	Degree of freedom	Inference
Age	0.004		3	P<0.05(S)
Level of Education	0.729		3	P>0.05(NS)
Work Experience	0.007		3	P<0.05(S)
Designation	0.460		3	P>0.05(NS)
Working Area	0.005		3	P<0.05(S)
Training Received	0.069		1	P>0.05(NS)

Key,

S=Significant

NS= Non significant

Analysis of the association between the level of prevalence and the selected demographic variables exposed that there was significant association between prevalence of low back pain and age of respondent ($p<0.05$) i.e., 0.004, work experience ($p<0.05$) i.e., 0.007 and working area ($p<0.05$) i.e., 0.005. There was not significant association between prevalence of low back pain with the level of education, designation and training received. ($p>0.05$)

Part III

Analysis related to management of low back pain among staff nurses

Table 16 Management practice of respondent on type of pain occur in low back pain

		Frequency	Percent
	Correct	30	50.0
	Incorrect	30	50.0
	Total	60	100.0

Table 17 Management practice of respondent on the recommended first line treatment for low back pain

		Frequency	Percent
	Correct	33	55.0
	Incorrect	27	45.0
	Total	60	100.0

Table 18 Management practice of respondent on therapy best for low back pain

		Frequency	Percent
	Correct	27	45.0
	Incorrect	33	55.0
	Total	60	100.0

Table 19 Management practice of respondent on type of physiotherapy is generally used in low back pain

		Frequency	Percent
	Correct	25	42
	Incorrect	35	58
	Total	60	100.0

Table 20 Management practice of respondent on type of surgery is recommended in chronic low back pain

		Frequency	Percent
	Correct	38	63
	Incorrect	22	37
	Total	60	100.0

Table 21 Management practice of respondent on self-management of low back pain

		Frequency	Percent
	Correct	33	55.0
	Incorrect	27	45.0
	Total	60	100.0

Table 22 Management practice of respondent on fastest way to relief from low back pain

		Frequency	Percent
	Correct	21	35.0
	Incorrect	39	65.0
	Total	60	100.0

Table 23 Management practice of respondent on drink that help to reduce low back pain

		Frequency	Percent
	Correct	26	43

Incorrect	34	57
Total	60	100.0

7. RECOMMENDATIONS:

On the basis of study findings, the following recommendations are made:

This study was conducted in small scale i.e., Lumbini zonal Hospital Gautam Buddha Community Heart Hospital, Butwal.

It is recommended in large scale in a large group. This type of study could be studied in large scale samples in different hospitals so findings could be generalized.

8. CONCLUSION:

The major conclusion was drawn on the basis of objective and study findings. Concerning the socio- demographic variables, the majority respondents were of the age group 20-30 years i.e., 38. Majority of respondents were PCL nurses i.e., 31. Majority of respondents had 4-6 years of work experience i.e., 24 and majority of respondents were staff nurses i.e., 28. Also, majority of respondents working area was ICU (Intensive Care Unit) i.e., 19. Likewise, 50 respondents had not received training on management of low back pain.

The maximum respondents had prevalence of low back pain. While analyzing the data using SPSS version, p value i.e., $0.004 < 0.05$. So, the test was significant. As well as when associating the relationship between prevalence of low back pain and socio-demographic variables, the variable age, work experience and working areas was significant whereas the variable level of education, designation, and training received on low back pain was not significant.

The management practices of low back pain were concluded that 50% of respondent responded correct on type of pain occur in low back pain. 55% of respondent responded correct on the recommended first line treatment for low back pain. 45% of respondent responded correct on therapy best for low back pain. 41.7% of respondent responded on the type of physiotherapy generally used in low back pain. 63% of respondent responded correct on type of surgery recommended in chronic low back pain. 55% of respondent responded correct on self-management of low back pain. 35% of respondent responded correct on fastest way to relief from low back pain. 43% of respondent responded correct on drink that help to reduce low back pain.

The study proved that there is significant association between prevalence of low back pain and age of respondent ($p<0.05$) i.e., 0.004, work experience ($p<0.05$) i.e., 0.007 and working area ($p<0.05$) i.e., 0.005.

REFERENCES:

1. Kasa AS, Workineh Y, Ayalew E, Temesgen WA. Low back pain among nurses working in clinical settings of Africa: Systematic review and meta-analysis of 19 years of studies. *BMC Musculoskelet Disord*. 2020;21(1):1–11.
2. Manandhar N, Subedi S. Prevalence and Risk factors of Low back pain among nurses of a Medical College at Bharatpur, Nepal. 2016;1(October):1–10.
3. Ehrlich GE. Low back pain. *Bull World Health Organ*. 2003;81(9):671–6.
4. Adhikari S, Dhakal G. Prevalent Causes of Low Back Pain and its Impact among Nurses Working in Sahid Gangalal National Heart Centre. *J Nepal Health Res Counc*. 2014;12(28):167–71.
5. Ovayolu O, Ovayolu N, Genc M, Col-Araz N. Frequency and severity of low back pain in nurses working in intensive care units and influential factors. *Pakistan J Med Sci*. 2014;30(1):70–6.

Web References:

- Dlungwane T, Voce A, Knight S. Health SA Gesondheid. 2018; <https://doi.org/10.29197/2424-4467/201821311>
- The problem of lower back pain in nursing staff and its effect on human activity.
- <http://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=2010151311&lang=es&site=ehost-liv>
- An owas-based analysis of nurses' working postures.

<https://www.tandfonline.com/doi/abs/10.1080/00140139408963700>

- Diagnosis and treatment of low back pain . <https://www.bmj.com/content/332/7555/1430>
- Nice Clinical Guideline. Introduction - Low Back Pain <https://www.ncbi.nlm.nih.gov/books/NBK11709/>
- Prevalence of low back pain and knowledge on body mechanics among the staff nurses in a tertiary care hospital. http://www.journalijar.com/uploads/244_IJAR-7156.pdf
- Asses knowledge and practices of body mechanic technique among nurses at Punjab institute of cardiology Lahore.
https://www.researchgate.net/publication/318793237_Asses_knowledge_and_practices_of_body_mechanic_technique_among_nurses_at_Punjab_institute_of_cardiology_Lahore
- Prevalence and Contributing Factors of Low Back Pain among Nurses in Tertiary Level Hospital.
<https://www.nepjol.info/index.php/JGMCN/article/view/27172>
- Prevalence of Low Back Pain among Nursing Staff in Najran, Saudi Arabia: <https://www.mdpi.com/2076-3271/8/4/45/htm>
- Low Back Pain among Nurses: Prevalence, and Occupational Risk Factors.
<http://www.scirp.org/journal/PaperInformation.aspx?PaperID=74288>
- The prevalence of musculoskeletal disorders and low back pain among Italian nurses:
<https://www.mattioli1885journals.com/index.php/actabiomedica/article/view/10306>