DOI Number: 10.5958/0974-9357.2019.00035.7

A Study to Assess the Effectiveness of Self-Instructional Module Regarding Knowledge of Correct Body Mechanics in Prevention of Low Back Pain among Staff Nurses Working at Tertiary Care Hospital, Bhubaneswar, Odisha

Kulumina Dash[1], Minati Das[2]

[1]Programme Coordinator, [2]Asst. Professor, Kalinga Institute of Nursing Sciences, KIIT Deemed to be University, Bhubaneswar

ABSTRACT

Low back pain is the second leading health problem concerning disability and visits to the doctors in population under 45 years of age. Musculoskeletal system disorders including LBP comprise significant occupational injuries and disability within nursing profession. LBP is reportedly the most important reason for nurses' decision to change their job. In terms of high risk groups for occupational low back pain, the, nurses and other health workers are considered to the highest incidence of low back pain requiring medical and hospital intervention. Nursing staffs have one of the highest incidences of work-related back problems of all occupations. The incidence rates continue to climb and the direct and indirect costs associated with back injuries for nurses are estimated to be $20 billion annually The objectives was to assess the knowledge of staff nurses regarding proper body mechanics in prevention of low back pain before giving the self-instructional module and to determine the effectiveness of self-instructional module regarding knowledge on proper body mechanics in prevention of low back pain among staff nurses. One group pre test- post-test research design was selected for the study. 60 samples were selected by using purposive and convenience sampling technique. Samples were selected from medicine, surgery and orthopedic ward of Pradyumna Bal memorial Hospital, Bhubaneswar Odisha. After obtaining the written consent from the 60 staff nurses to participate in this study, the knowledge was assessed using a self administered structured questionnaire. After completing the pre test, a Self Instructional Module on correct body mechanics in prevention of low back pain was given to them and the post test was done after 7 days. The data thus collected was analyzed using descriptive and inferential statistics. The study findings interpreted that in orthopedic ward out of 20 staff nurses, (45 %) have good knowledge, (5 %)have average knowledge & (50 %) have poor knowledge of prevention of low back pain, in surgery ward out of 20 staff nurses (60 %) have good knowledge,(25 %) staff nurses have average & (15 %) staff nurses have poor knowledge and in medicine ward out of 20 staff nurses, (70%) have good,(30 %) have average knowledge & none of the staff nurses have poor knowledge on prevention of low back pain. The study findings showed that self-instructional module was effective in improving knowledge of staff nurses.

Keywords: *LBP(Low back pain), Self –instructional module, Body mechanics.*

Introduction

Health care professionals should have thorough scientific knowledge of body mechanics and its proper use in their daily practices. Gravity plays an important role in body mechanics. There is a constant pull exerted by earth on every object towards its center part, which helps to maintain the good posture and balance of whole body [1]. The proper functioning of the body relates to the

Corresponding Author:
Ms Minati Das
Asst. Professor, KINS,
Kalinga Institute of Nursing Sciences(KINS), Patia
KIIT Deemed to be University, Bhubaneswar-751024
Phone: 9438526249

posture also and correct use must be implicated during shifting the bedridden or immobilized patients. Walking, moving, lifting and are some essential components needed in transferring the patients in the hospital [2] .Over three quarters of a million work days are lost annually as a result of back injuries in nursing, with an estimated 40,000 nurses reporting illnesses from back pain each year [3].Ambulation of an individual needs knowledge and implementation of proper body mechanics, so that the individual could lift or transfer the patients [4].

Nurses are among the occupational groups within the health service that are vulnerable to lower back pain. Among nurses, the prevalence of lower back pain was varying between 50% and 90%. Nurses frequently have to lift or transfer patients who may move suddenly and carry out repetitive procedure with incorrect are poor body posture, which subsequently cause lower back pain[5].

A study conducted in the rural hospital of Maharashtra on 25 nurses to assess the work load musculoskeletal disorder. Result showed that 84.1% nurses had experienced work related musculoskeletal pain or discomfort. [7] Harbor in his study revealed that work related back injury among hospital nurses were because of lifting and helping the client in and out of bed is78%. Some health care workers used improper body mechanics while handling and transferring the immobilized patients due to lack of knowledge and its can leads complications [6].

LBP continues to be a common occupational disease for nurses. However, taking precautions for prevention of LBP in nurses is important in order for nurses to exercise their fundamental right to work under healthy and safe conditions, to maintain their professions and to provide better support for their patients [7]. Most often, nurses hurt their backs while turning bed-ridden patients or transferring them among stretchers, beds and chairs, adding that orthopedic and intensive care unit (ICU) nurses have the highest rates of low back pain among all nurses The use of proper body mechanics is an effective way to prevent further injury to back and when it is incorporated into activities of daily living, body mechanics help decrease the amount of stress on the spine. Education in body mechanics is therefore, essential in prevention of back pain [8].

Method

The objective of this study was to assess the knowledge of staff nurses regarding proper body mechanics in prevention of low back pain before giving the self-instructional module and to determine the effectiveness of self-instructional module regarding knowledge on proper body mechanics in prevention of low back pain among staff nurses. One group pre test- post-test research design in PBMH,KIMS, Bhubaneswar,Odisha, was conducted among staff nurses by using purposive and convenience sampling technique.60 staff nurses were selected from medicine, surgery and orthopedic ward of PBMH, KIMS, Bhubaneswar. The data was collected by using a self structured questionnaire focusing on knowledge on proper body mechanics in prevention of low back pain among staff nurses. The first part of questionnaire consist of demographical data such as age, gender, marital status, educational qualification, professional qualification, place of posting, year of experience, any type of past history of illness. The second part asks questions about knowledge upon proper body mechanics in prevention of low back pain among staff nurses. After completing the pre test a Self Instructional Module on correct body mechanics in prevention of low back pain was given to them and the post test was done after 7 days. The data thus collected was analyzed using descriptive and inferential statistics.

Result and Discussion

The socio demographic characteristics of study participants (n=60) in this present study were recruited from the PBMH, KIMS, Bhubaneswar. From the total study participants, 50% of the staff nurses were below 25 yrs of age,33% were 26 to 30 yrs of age and 13% were 31 to 33 yrs of age. Most of the staff nurses of the total were female that is 51(85%).Out of total staff nurses 19(32%) of the respondents reported attended higher secondary education followed by 32 (53%) were graduate, 9 (15%) were post graduate. And it is reported that the 50(83%) of participants attended GNM followed by 10 (17%) were completed B.SC(nursing).About place of posting, the researcher found that twenty participants (33.3%) of the total were working in orthopaedic ward, followed by (33.3%) were working in surgery ward and (33.3%) were working in medicine ward. Of total 60 staff nurses, 40 (67%) were having less than 5 yrs of working exerience, following 11(18%) were having 6 to 10 yrs of experience, and 9 (15%) were having 11 to 15 yrs of experience. And the researcher found that 24(40%) were married, 36 (60%) were unmarried. Most of the study participants 57(95%)reported that they were not having any past history of illness.

Section-A

Table 1: Pre-test assessment of knowledge regarding proper body mechanics in prevention of low back pain among staff nurses (n = 60)

Knowledge assessment	Criteria	Frequency	Percentage (%)
Adequate/good	>75%	30	50%
Average	51-75%	15	25%
Poor/Inadequate	<50%	15	25%

Table 2: Post-test assessment of knowledge regarding proper body mechanics in prevention of low back pain among staff nurses (n = 60)

Knowledge assessment	Criteria	Frequency	Percentage (%)
Adequate/good	>75%	35	59%
Average	51-75%	12	20%
Poor/Inadequate	<50%	13	21%

Section-B

Table 3: Pre-test: Knowledge score of the nursing staffs with types of wards (n = 60)

Type of ward	Knowledge score					
	Good (76-100)%	%	Average (36-75)%	%	Poor (0-35)%	%
Orthopedic	6	30%	1	20%	10	50%
Surgery	10	50%	5	25%	4	20%
Medicine	14	70%	6	30%	1	5%

Table 4: Post test Knowledge score of the nursing staffs with types of wards (n = 60)

Types of ward	Knowledge score					
	Good (76-100)%	%	Average (36-75)%	%	Poor (0-35)%	%
Orthopedic	9	45%	1	5%	10	50%
Surgery	12	60%	5	25%	13	15%
Medicine	14	70%	6	30%	0	0

Table 5: Mean & S. D. of knowledge score of staff nurses of medicine, surgery, orthopedic ward

Pre Test:

Types of ward	No. of items	No. of sample	Mean	S. D.
Orthopaedic	37	20	19.4	7.26
Surgery	37	20	23.45	5.68
Medicine	37	20	27.8	1.24

Post Test:

Type of wards	No. of items	No. of sample	Mean	S.D.
Orthopedic	37	20	21.65	9.65
Surgery	37	20	27.25	7.43
Medicine	37	20	30.1	2.66

After completing the pre test, a Self Instructional Module on correct body mechanics in prevention of low back pain was given to them and the post test was done after 7 days. The data thus collected was analyzed using descriptive and inferential statistics. The study findings interpreted that in orthopedic ward out of 20 staff nurses, (45 %) have good knowledge, (5 %)have average knowledge & (50 %) have poor knowledge of prevention of low back pain, in surgery ward out of 20 staff nurses (60 %) have good knowledge,(25 %) staff nurses have average & (15 %) staff nurses have poor knowledge and in medicine ward out of 20 staff nurses, (70%) have good,(30 %) have average knowledge & none of the staff nurses have poor knowledge on prevention of low back pain.

Conclusion

The study findings showed that self-instructional module was effective in improving knowledge of staff nurses. We want to highlight to potential need to improve

the level of knowledge among staff nurse on proper body mechanics in prevention of low back pain. Prevention of low back pain is very essential for every staff nurses, because low back pain is very common problem among staff nurses. Most of the staff nurses gain knowledge from self Instructional Module but proper body mechanics practice is very important for the staff nurses

Implication: Exploring of knowledge and encourage on proper body mechanics in prevention of low back pain among staff nurses. Management of low back pain by maintaining various types of body mechanics and how these are helpful in prevention of low back pain. The study will provide the basis for improving knowledge on proper body mechanics in prevention of low back pain.

Recommendation: The study can be replicated on large number of samples in a different setting to have wider generalization of findings. Similar study can be conducted in all wards among all staff nurses, and health care workers.

Ethical Clearance: Taken from Institutional ethics committee.

Source of Funding: Self

Conflict of Interest: Nil

REFERENCES

1. Barbara C. Long, Wilma J. Phipps,Virginia L. Cassmeyer, Medical Surgical Nursing; A Nursing Process Approach; 3rd Edition 1993; ISBN-0801674174; Mosby. 164.
2. Galatia Tina **I**akovou,Implementation of an evidence-based safe patient handling and movement curriculum in an associate degree nursing program, April 2008; vol-3; 48-52
3. Bashir, Munira. "Low back pain caused by muscular skeletal disorder" health care industry. Nursing journal of India, April 2002.
4. BT Basavanthappa; Fundamentals of nursing; published by Jaypee Brothers; edition- 2004 (2); ISBN- 8171799701; 254,258.
5. Fatma Abdel Moneim Al Tawil; low back pain and patients lifting behavior among nurses; international journal of advanced research; 2015; vol-3; issue (11); ISSN- 23205407; p- 1211-1223
6. Kozier Barbara, Erb Glenora; Fundamentals of nursing; 1063
7. Roberto, "occupational musculoskeletal injuries in nurses" journal of orthopedics sports physical therapy: 30(1) A: 7-8.
8. Annalee Yassi, Karen Lockhart, Work- relatedness of low back pain in nursing personnel:a Systematic review, International Journal of Occupational and Environmental Health 2013Jul-Sep;19(3):223-44.