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EFFECTIVENESS OF INTERVENTION STRATEGIES ON KNOWLEDGE AND PRACTICE REGARDING BODYMECHANICS IN PATIENT CARE AMONG PRIMARY CARE GIVERS.

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ABSTRACT The care giver must know and practice proper body mechanics to reduce the risk of musculoskeletal injuries to the care givers. This study investigated the effectiveness of intervention strategies on knowledge and practice regarding body mechanics in patient care among primary care givers. Research design of this study was one group pre-test - post-test quasi experimental design. After selecting Palliative care centres, Thiruvanandhapuram as the setting, 60 care givers were selected by stratified random sampling. Tools used were questionnaire to assess knowledge regarding body mechanics and practice assessment scale to assess the practice of body mechanics in patient care procedures. After pre-test, intervention strategies on body mechanics (theory teaching, demonstration and return demonstration) were administered to the care givers. Findings revealed that 61.7% had average, 30% had poor knowledge regarding body mechanics, 41.7% had average, 58.3% had poor practice during bed making, 43.3% had average, 56.7% had poor practice during bath and 43.3% had average, 56.7% had poor practice while lifting and transferring patient regarding body mechanics. The intervention strategies given to the care givers had significantly increased their knowledge ($P < 0.01$) and there was no significant association of selected demographic variables with knowledge and practice.

KEYWORDS : Intervention strategies; Body mechanics; Patient care procedures

INTRODUCTION

Work related (occupational) musculoskeletal disorders and in particular low back pain (LBP), pose a major health and socioeconomic problem in modern society. Occupational diseases are the diseases arising out of or in the course of employment. Back pain is the most common work-related health problem among Primary care givers.

The World Health Organization defines musculoskeletal disorder as "a disorder of the muscles, tendons, joints, intervertebral discs, peripheral nerves and vascular system, not directly resulting from an acute or instantaneous event but installing gradually and chronically". There are many types of factors responsible for musculoskeletal disorder: occupational factors, medical factors (physical disorders, genetic predisposition, and age) and life style factors.

Jobs of health care team members require pushing, pulling, carrying and lifting during patient care activities. Prolonged performance of these actions and utilization of incorrect muscles in completing a task can cause severe musculoskeletal strains and fatigue. Because of exposure to work-related health hazards, nurses have been at a higher risk of back pain.

The ability to perform complex and precise movements permits human beings to take interest and adapt to the environment. Proper functioning of the musculoskeletal system makes such movement possible.

Body mechanics is the efficient use of the body as a machine and as a means of locomotion. Body mechanics is directly related to the effective functioning of the body.The correct use of body mechanics should be evident in every activity and even during rest periods.

The coordinated efforts of musculoskeletal and nervous system to maintain balance, posture, and body alignment during lifting, bending, moving and performing activities of daily living provide the foundation for body mechanics. The proper implementation of these activities reduces the risk of injury to the musculoskeletal system and facilitates body movements, allowing physical mobility without muscle strain and excessive use of muscle energy. Correct body mechanics are essential and help to avoid work-related musculoskeletal injuries, diminish excessive strain and fatigue.

Materials and Methods

Research Approach: Experimental approach.
Research Design: One group pre-test - post-test quasi experimental design.
Setting: -
Selected palliative care centres, Thiruvananthapuram.

Population: -
Population comprised of all primary care givers staying in selected palliative care centres of Thiruvananthapuram District

Sample: -
60 Primary care givers

Sampling technique: -
Stratified random sampling

Tool: -
Questionnaire (demographic data, knowledge) and Practice assessment scale

Data analysis: -
Descriptive and Inferential statistics
Description of the tool

Tool 1: Questionnaire
A questionnaire regarding body mechanics was prepared by the investigator. The two sections in the tool were:

Section A: Demographic Data It is designed to elicit general information of the respondents and it consists of four items related to demographic characteristics such as age, gender, height, weight.

Section B: Questionnaire to assess the knowledge of primary care givers regarding body mechanics.

This tool consisted of 30 items which covered the following aspects of body mechanics- general information related to body mechanics (8 questions), risk factors of musculoskeletal problems among care givers (4 questions), principles, importance and proper use of body mechanics (14 questions), complications of improper body mechanics (4 questions). Each question had only one correct answer. Correct answers were given one score and incorrect answers zero. The maximum total score of the questionnaire was 30

Tool 2: Practice assessment scale
Practice assessment scale consisted of 12 items related to the body mechanics to be followed while doing patient care (bed making, bath and lifting and transferring the patient); each item is graded as exactly (precisely following according to the principles of body mechanics while doing patient care), partially (following the principles of body mechanics in some degree but not completely while doing patient care), not at all (hardly following the principles of body mechanics). The scores given for exactly, partially, not at all are as 2, 1, and 0 respectively. The maximum total score of the practice assessment scale was 24.

Results

Section I: Sample characteristics

1. Among the samples majority of the primary care givers (78.3%) were between the age group of above 30 years, 16.7% and 5% belonged to the age group of 26-30 years and 20- 25 years respectively.

2. Majority of the care givers 55(91.7%) in the present study were females.

3. In the present study 63.3 % of care givers had height between 151-160 cm, 25% had height between 161- 170 cm, 6.7% and 5% had the height of ≤150 cm and >170 cm respectively.

4. Half of the care givers in the study had weight between 51- 60 kg, 35%, 8.3% and 6.7% had weight between 41- 50 kg, ≤40 kg and >60 kg respectively.

Section II: Level of knowledge regarding body mechanics in patient care among Primary care givers

Table 1: Knowledge regarding body mechanics in patient care

Distribution of primary care givers according to level of knowledge regarding body mechanics in patient care				
(N=60)				
Know edge	Pre-Test		Post-Test	
	f	%	f	%
Poor	18	30.0	3	05.0
Average	37	61.7	15	25.0
Good	05	08.3	42	70.0

Section III: Level of practice regarding body mechanics in patient care among Primary care givers

The study revealed that during pre-test about 58.3% of primary care givers had poor practice and 41. 7% of care givers had average practice regarding body mechanics while doing bed making. During post-test 63.3% had good level of practice and 36.7% had average level of practice regarding body mechanics while doing bed making after administration of intervention strategies.

During pre-test about 56.7% of primary care givers had poor practice and 43.3% of primary care givers had average practice regarding body mechanics while doing bath. About 66.7% had good level of practice and 33.3% had average level of practice regarding body mechanics while doing bath after administration of intervention strategies.

Table 2: Level of practice regarding body mechanics while lifting and transferring the patient

Distribution of primary care givers according level of practice regarding body mechanics while lifting and transferring the patient				
(N=60)				
Level of practice	Pre-Test		Post-Test	
	f	%	f	%
Poor	34	56.7	0	0
Average	26	43.3	20	33.3
Good	0	0	40	66.7

Section IV: Effectiveness of intervention strategies on knowledge regarding body mechanics in patient care among Primary care givers

In the study group the mean score of knowledge regarding body mechanics in patient care among Primary care givers was 12.4 in the pre-test and 21. 5 in the post test, the differing score is 9.2. Decrease in the mean score of pre-test and post-test indicate that intervention strategies were found to be effective and statistically significant. t= 25.45, p value

Section V: Effectiveness of intervention strategies on practice regarding body mechanics in patient care among Primary care givers.

Effectiveness of intervention strategies on practice regarding body mechanics while doing bed making

In the study group the mean score of practice regarding body mechanics while doing bed making was 8.7 in the pre-test and 18.3 in the post test, the differing score is 85 9.6. Decrease in the mean score of pre-test and post-test indicate that intervention strategies were found to be effective and statistically significant. t= 48.67, p value < 0.01.

Effectiveness of intervention on practice regarding body mechanics while doing bath

In the study group the mean score of practice regarding body mechanics while doing bath was 9.0 in the pre test and 18.6 in the post test, the differing score is 9.6. Decrease in the mean score of pre test and post test indicate that intervention strategies were found to be effective and statistically significant. t= 53.23, p value <0.01.

Effectiveness of intervention on practice regarding body mechanics while lifting and transferring the patient

In the study group the mean score of practice regarding body mechanics while lifting and transferring the patient was 8.9 in the pre-test and 18.6 in the post test, the differing score is 18.6. Decrease in the mean score of pre-test and post- test indicate that intervention strategies were found to be effective and significant, t= 51.37, p value <0.01.

Section VI: Association of selected demographic variables with knowledge and practice

Chi- square test was done to find out the association of selected demographic variables with knowledge and practice The study showed there was no significant association of demographic variables with knowledge and practice regarding body mechanics in patient care since the p value >0.05

Limitations

The limitations of the present study are

1. As the study was conducted in small number of samples generalization of findings remain restricted.
2. One observation for each procedure was done in pre test as well as in post test due to the limited time duration.

Recommendations

1. The study can be replicated with a large number of samples for generalizations
2. The same study can be done with an experimental research approach having a control group
3. Time series studies can be conducted to evaluate the long-term effect of the intervention strategies on body mechanics to assess the skill and practice.
4. Different teaching strategies can be used educate the care givers regarding body mechanics.
5. Multiple observations for each procedure can be done for body mechanics practice assessment.

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