A Study to Assess the use of Body Mechanics Practices among Nursing Students in Selected Colleges of Nursing in Pune City

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Abstract

Mechanics is concerned with the analysis of the action of forces on object. Body mechanics is the term used to describe the efficient, coordinated and safe use of the body to move objects and carryout the activities of daily living. The major purpose of body mechanics is to facilitate the safe and efficient use of appropriate muscle groups to maintain balance, reduce the energy required, reduce fatigue and decrease the risk of injury. Good body mechanics is very much essential for the nurses. When a person moves, the balance of that person depends on the interrelationship of the center of gravity and the base of the support. The closer the line of gravity is to the center of base of support, the greater the person's stability. Appropriate preparation prevents potential falls and injury and safeguards the person and equipment[1]. Descriptive research approach was used with Convenience sampling technique to select 300 nursing students. The results revealed that 61.52% of correct body mechanic techniques were used by study subjects. Whereas only 38.4% were using incorrect body mechanic techniques. Most of correct body mechanic practices were following by subjects who were worked in CCU/ICU.

Keywords: *Body Mechanics, Nursing Students, Practice.*

Introduction

Body mechanics is a term used to describe the ways we move as we go about our daily lives. It includes how we hold our bodies when we sit, stand, lift, carry; bend and sleep. Poor body mechanics are often the cause of back problems. When we don't move correctly and safely, the spine is subjected to abnormal stresses that overtime can lead to degeneration of spinal structures like discs and joints, injury and unnecessary wear and tear .That is why it is so important to learn the principles of proper body mechanics. Proper body mechanics are vitally important for keeping our spine healthy. And it's easy to incorporate these principles into our daily life[2].

There must be proper alignment in order to have proper movement. Some of the most common injuries sustained by members of the health care team are severe musculoskeletal strains. Many injuries can be avoided by the conscious use of proper body mechanics when performing physical labor[1].

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 of every activity and even during rest periods because correct use of body mechanics is another phase of illness prevention and health promotion. Correct body alignment reduces the strain on musculoskeletal structures. Body alignment means positioning of the joints, tendons, ligaments and muscles while in standing, sitting and lying position. Body balance is achieved when center of gravity is balanced over a wide stable of supports. The student nurse can increase body balance when working by spreading their feet apart and by flexing their hips and knees[3].

Faulty body mechanics is a contributing factor in most back disorder. Lifting with the back in a flexed posture, especially repetitive lifting is one of the leading causes of back disorders. Injury to the disc occurs gradually as a result of perhaps hundreds of thousands of repeated forward bends and lifts. This forward bending and lifting is especially stressful on the lower back when done with the legs straight. If the legs are straight the trunk acts as a lever arm and increases the compressive

load on the back by seven to ten times.

Compared to other occupations nursing personnel are among the highest at risk for musculoskeletal disorders. The bureau of Labor Statistics lists registered nurses 6th in a list of at risk occupations for strains and sprains. Research on the impact of musculoskeletal injuries among nurses in US showed that 52% of nurses complain of back pain, 12% of nurses 'leaving for good' because of back pain, 20% transferred to different unit or employment and 38% suffered occupational related back pain severe enough to require leave from work and 6%, 8% and 11% of registered nurses reported even changing jobs for neck, shoulder and back problems respectively.[4]

Objectives

To assess the use of body mechanic practices among Nursing Students.

Material & Methods

RESEARCH APPROACH: Quantitative approach (Descriptive)

RESEARCH DESIGN: Pre-experimental Research design

RESEARCH SETTING: College of Nursing in Pune city

STUDY POPULATION: All nursing students

TARGET POPULATION: Nursing students who were undergoing ANM, GNM, B.Sc. Nursing and Post Basic courses.

SAMPLE AND SAMPLING TECHNIQUE:

Size: 300 nursing students were taken as sample for the study.

Sampling Technique: Convenience sampling technique.

Criteria

Inclusion Criteria:

Nursing students who were:

} Undergoing nursing courses in the selected institute will be included.

} Nursing students who were working in selected hospitals.

} Both male and female nursing students.

Exclusion Criteria:

Nursing students who were absent during data collection.

Development and Description of tool

The tool consists of basically 2 parts:-

TOOL-1: It was comprised of five items of demographic variables for observe the body mechanic practice i.e. Gender, Grade, Working area, Working hours/day and Footwear used.

TOOL-2: It was comprised of 34 items .Each item was having two options.

Scoring Procedure: There were 34 items pertaining to the practice of body mechanic. Each item was having two options with one appropriate answer. The maximum score for correct response to each item was given '1' and for the wrong response '0'. The level of practice was categorized based on the percentage of scores obtained.

Ethical consideration:

ü IRC approval has been obtained from Symbiosis College of Nursing, Pune

ü Confidentiality and anonymity of subjects was maintained throughout study.

Results

Table 1: Distribution of Socio-demographic variables according to their mean score regarding body mechanic practices.

Socio demographic Variables	N	Mean Score	Mean %
Gender Female	300	20.92± 3.36	51.52%
Class ANM GNM B.Sc	012 159 129	19.66± 3.20 21.13± 3.82 20.78± 2.76	57.82% 62.14% 61.11%
Working History ICU CCU Emergency Unit General Ward Other	008 017 063 144 068	24.50 ± 1.06 23.00 ± 2.42 20.71 ± 3.98 20.50 ± 3.22 21.05 ± 3.11	72.05% 67.60% 60.88% 60.29% 61.91%
Working hours/Day <8hrs >8hrs	293 007	20.93± 3.41 20.57± 2.07	61.55% 60.40%
Footwear Used Flat Heel Shoes Medium Heel shoes	296 004	20.94 ± 3.39 19.00 ± 1.41	61.50% 55.80%

The above table depicts that the distribution of Socio-demographic variables according to their mean score regarding body mechanic practices.

Table 2: Mean Percentage score of subjects regarding body mechanic practices.

N= 300

N	Mean Score	Mean%
300	20.92 ± 3.36	61.52%

The above table showed that overall mean percentage score of correct body mechanic practices were used by study subjects 61.52% and mean score was 20.92 ± 3.36. Less than half 39.48% of incorrect body mechanic techniques were used by study subjects while giving care to immobilized patient, performing procedure, sitting , standing and also while moving the patient to the side of the bed without an assistant. So the result is maximum of correct body mechanic techniques were using by study subjects while only few were using less accurate technique.

Conclusion

The findings of the study revealed that 61.52% of correct body mechanic techniques were used by study subjects. Whereas only 38.4% of incorrect body mechanic techniques were used by nursing students. Most of correct body mechanic practices were following by subjects who were worked in CCU/ICU.

Source of Funding: Self

Conflict of Interest: Nil

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