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Assessment of knowledge and practice regarding principles of body mechanics among the staff nurses working in Dispur Hospitals Private Limited Ganeshguri, Guwahati, Assam

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Abstract
Background: Nurses are backbone of the hospitals. They play a crucial role in providing continuous services to the patients in various sectors and are vulnerable to lower back pain, body pain and musculoskeletal disorders.
Objective: To assess the knowledge and practice regarding principles of body mechanics among the staff nurses.
Methodology: Descriptive research approach is used. 100 numbers of samples were selected by non probability convenient sampling technique. Self structured interview schedule was administered to collect the data as per inclusion and exclusion criteria.
Result: The result shows that 60% had average knowledge score, 23% had good knowledge score and 17% had poor knowledge score. 70% had good practice and 30% had poor practice. Age of the staff nurses is significantly associated with knowledge and practice. Qualification, duty in clinical department and year of services are significantly associated with the knowledge only regarding principles of body mechanics.
Conclusion: The study concluded that the staff nurses with adequate knowledge can follow and practiced the principles of body mechanics in their daily activities. Information booklet is developed for awareness and improvement of knowledge.

Keywords: Principles of body mechanics, knowledge, practice, staff nurses

Introduction

Nurses play various roles in providing their services to the patients in different health sectors. While serving the patients such as care of unconscious patient, ventilated patients, assisting surgeries in operation theatre room etc and involving in the various activities like shifting the patients, they are vulnerable of musculoskeletal disorders. Nurses and other health care workers following the basic principles of body mechanics can avoid the musculoskeletal disorders. The meaning of body mechanics is coordinated utilization of body parts to produce movement and maintain balance in association to both internal and external forces. Maintaining correct body alignment and muscle tone of the patient while positioning, shifting or transferring is important as it provide proper position and support the body in order to reduce strain and sprain[1]. It also concern with the efficient utilization of body such as sitting, standing, lifting heavy object or person, bending, stretching or lying down for performing various activities. Proper body mechanics is important to maintain correct body posture [2].

Musculoskeletal disorder is an important public health problem. Back pain is considering as major complaint among the nursing professionals as they are continuously involving in providing services to the patients. The proper alignment enhances lung expansion and promotes efficient circulatory, renal and GI function [3]. The use of correct body mechanics prevents the risk of injuries and allows physical mobility without straining major muscles and also reducing excessive use of muscular energy. Nurses and other health care providers should have adequate scientific knowledge regarding body mechanics and its proper use in their daily practices and activities. Gravitational force of the earth takes an important part in body mechanics.

There is a persistent force exerted by the earth on every object towards its center, which helps to maintain the correct posture and balance the body [4].

A study conducted in the rural hospital of Maharashtra among 250 nurses to assess the work load musculoskeletal disorder. 212 nurses were responded to the complete questionnaire. The findings of the study reveals that 89.1% nurses had experienced work related musculoskeletal pain or discomfort [5].

Thus the researcher felt the need for assessing the knowledge and practice of staff nurses working in Dispur Hospitals Private Limited with regard to principles of body mechanics during clinical duty at hospital.

Problem Statement

"A descriptive study to assess the knowledge and practice regarding principles of body mechanics among the staff nurses working in Dispur Hospitals Private Limited Ganeshguri, Guwahati, Assam with a view to develop an information booklet."

Objectives

- To assess the knowledge regarding principles of body mechanics among the staff nurses working in Dispur Hospitals Private Limited Ganeshguri, Guwahati, Assam.
- To assess the practice regarding principles of body mechanics among the staff nurses working in Dispur Hospitals Private Limited Ganeshguri, Guwahati, Assam.
- To find out the association between knowledge of staff nurses regarding principles of body mechanics with selected demographic variables.
- To find out the association between practices of staff nurses regarding principles of body mechanics with selected demographic variables.
- To develop an information booklet on principles of body mechanics

Methodology

Research approach

In this study, a quantitative research approach was adopted to assess the knowledge and practice regarding principles of body mechanics among the staff nurses.

Research design

In the present study, descriptive research approach is used to assess the knowledge and practice regarding principles of body mechanics among the staff nurses.

Study setting

The study was conducted in Dispur Hospitals Private Limited Ganeshguri, Guwahati, Assam.

Sampling technique and sample size

The sample size was 100 staff nurses. Non probability convenient sampling technique was found to be appropriate for the present study.

Criteria for selection of sample

Inclusion criteria

- Staff nurses who had completed A.N.M, G.N.M, B.Sc or Post Basic B.Sc Nursing and working in Dispur Hospitals Private Limited Ganeshguri, Guwahati, Assam.
- Staff nurse who were willing to participate.

Exclusion criteria

- Staff nurse who were absent at the time of data collection.

Data collection process

- For the present study a formal written permission was obtained from the Medical superintendent of Dispur Hospitals Private Limited Ganeshguri, Guwahati, Assam.
- The investigator visited the hospital on designated date and brief introduction and the purpose of the study were explained to the sample.
- Samples that fulfilled the inclusion criteria were selected and written consent was obtained from each respondent.
- The confidentiality of their identity and responses were maintained. Then the self structured questionnaire was administered to collect data.
- The data has been collected from the samples that were doing duty in morning and evening shift.

Results

Data analysis was done by using descriptive and inferential statistics. The findings of the study were discussed in the following section.

- **Section I:** Frequency and percentage distribution of socio demographic variables.
- **Section II:** Frequency and percentage distribution of knowledge score.
- **Section III:** Frequency and percentage distribution of practice score.
- **Section IV:** Association between knowledge of staff nurses regarding principles of body mechanics with selected demographic variables.
- **Section V:** Association between practices of staff nurses regarding principles of body mechanics with selected demographic variables.

Table 1: Frequency and percentage distribution of socio demographic data. N= 100

Demographic variables	Frequency	Percentage
Age		
Less than 25 years	29	29%
25-35 years	58	58%
36-45 years	10	10%
46 years & above	3	3%
Gender		
Male	7	7%
Female	93	93%
Qualification		
ANM	8	8%
GNM	46	46%
B. Sc nursing	20	20%
Post Basic B. Sc nursing	26	26%
Duty in clinical ward		
ICU	28	28%
Emergency	14	14%
OT	19	19%
General ward	39	39%
Year of services		
Less than 1 year	16	16%
2-5 years	55	55%
6-10 years	18	18%
Above 10 years	11	11%
Previous knowledge regarding principles of body mechanics		
Yes	86	86%
No	14	14%

Table 1 shows that out of 100 staff nurses, majority 58% belong to the age group of 25-35 years. Majority 93% of the staff nurses are female. 46% have the qualification of GNM. Majority 39% work in general ward. Majority 55% had an experience of 2-5 years. 86% of the staff nurses had previous knowledge regarding principles of body mechanics.

Table 2: Frequency and percentage distribution of samples according to knowledge score regarding principles of body mechanics, N= 100

Category	Knowledge score	
	Frequency	Percentage
Poor	17	17%
Average	60	60%
Good	23	23%

Table 2 shows that 60% had average knowledge, 23% had good knowledge and 17% had poor knowledge regarding principles of body mechanics.

Table 3: Frequency and percentage distribution of samples according to practice score regarding principles of body mechanics, N= 100

Category	Practice score	
	Frequency	Percentage
Poor	30	30%
Good	70	70%

Table 3 shows that majority 70% had good practice and 30% of the staff nurses had poor practice regarding principles of body mechanics.

Table 4: Association between knowledge of staff nurses regarding principles of body mechanics with selected demographic variables. N= 100

S. No.	Variables	Chi square value	df	P value	Interpretation
1	**Age (in years)**	11.57	2	0.003*	Statistically significant
	Less than 24				
	25-35				
	36-45				
	Above 46				
2	**Gender**	1.67	1	0.192	Not statistically significant
	Male				
	Female				
3	**Qualification**	11.53	2	0.004*	Statistically significant
	ANM				
	GNM				
	B. Sc nursing				
	Post Basic B. Sc nursing				
4	**Duty in clinical department**	121.38	3	0.001*	Statistically significant
	ICU				
	Emergency				
	OT				
	General ward				
5	**Year of services**	127.45	3	0.001*	Statistically significant
	Less than 1 year				
	2-5 years				
	6-10 years				
	Above 10 years				
6	**Previous knowledge regarding principles of body mechanics**	1.62	1	0.190	Not statistically significant
	Yes				
	No				

*S – significant at $p \leq 0.05$, NS – Not significant

Table 4 shows that age (p value 0.003), qualification (p value 0.004), duty in clinical department (p value 0.001) and year of services (p value 0.001) of the staff nurses has significant association with the knowledge regarding principles of body mechanics.

Table 5: Association between practices of staff nurses regarding principles of body mechanics with selected demographic variables. N= 100

S. No.	Variables	Chi square value	df	P value	Interpretation
1	**Age (in years)**	21.00	1	0.045*	Statistically significant
	Less than 24				
	25-35				
	36-45				
	Above 46				
2	**Gender**	1.69	1	0.241	Not statistically significant
	Male				
	Female				
3	**Qualification**	20.11	3	1.070	Not Statistically significant
	ANM				
	GNM				
	B. Sc nursing				

	Post Basic B. Sc nursing				
4	**Duty in clinical department**	16.21	3	1.122	Not Statistically significant
	ICU				
	Emergency				
	OT				
	General ward				
5	**Year of services**	13.51	3	0.082	Not Statistically significant
	Less than 1 year				
	2-5 years				
	6-10 years				
	Above 10 years				
6	**Previous knowledge regarding principles of body mechanics**	27.05	1	0.074	Not statistically significant
	Yes				
	No				

*S – significant at $p \leq 0.05$, NS – Not significant

Table 5 shows that age (p value 0.045) of the staff nurses has significant association with the practice regarding principles of body mechanics.

Discussion

The result of present study shows that out of 100 staff nurse, 58% of the staff nurses belong to the age group of 25-35 years. 93% of the staff nurses are female. 46% of the staff nurses had the qualification of GNM. 39% of staff nurses work in general ward. 55% of the staff nurses had an experience of 2-5 years. 86% of the staff nurses had previous knowledge regarding principles of body mechanics. 60% had average knowledge score, 23% had good knowledge score and 17% had poor knowledge score. Majority 70% of the staff nurses had good practice, 30% had poor practice regarding principles of body mechanics. Age of the staff nurses is significantly associated with knowledge and practice. Qualification, duty in clinical department and year of services are significantly associated with the knowledge only regarding principles of body mechanics.

The result of the study is supported by similar studies

A study was conducted to assess the knowledge and practice of body mechanics techniques among nurses at Punjab Institute of Cardiology Lahore. A sample of 216 nurses was taken by using convenient sample technique. The result reveals that 65% of nurses had fair knowledge about body mechanics techniques, 35% with poor knowledge. With regard to the practices, 60% of the nurses was following and practiced the techniques of body mechanic while the other 40% were not [6].

Conclusion

The staff nurses had average knowledge and good practice on principles of body mechanics. Age, qualification, duty in clinical department and year of services of the staff nurses are statistically significant with the knowledge and age of the staff nurses has significant association with the practice regarding principles of body mechanics. An informational booklet was developed to raise awareness regarding the importance of following principles of body mechanics in the clinical settings to prevent injuries. The findings revealed that if the staff nurses had adequate knowledge regarding principles of body mechanics, they can follow and implement it in their working activities mainly in clinical settings which will be help them to avoid twisting of muscles, back pain and strain, stress or injury to the muscle.

Recommendation

A similar study can be under taken for a large sample in different settings thus broad generalization will be possible.

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Conflict of Interest

Not available.

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Reference

1. Clement N. Principles and practice of Nursing-I, Nursing Arts and procedures. 3rd ed., vol. 1. Bangalore: EMMESS medical publisher; 2009. p. 131-132.
2. Priyanka, Kaur R, Sakshi, Sheetal, Kaur S, Chozzin T, *et al*. Study to assess the knowledge and use of Body mechanics practices and its association with musculoskeletal problems among Hospital Attendants in selected ward of PGIMER, Chandigarh. IJHSR. 2021 [cited 2022 Mar 9];11. Available from: https://www.ijhsr.org/IJHSR_Vol.11_Issue.9_Sep2021/IJHSR-Abstract.033.html
3. Jaafar N, Mohd Ghazali AN. Study of knowledge and practice of Body mechanics techniques among nurses in Hospital Kluang, Johar, Malaysia. [cited 2022 Apr 21]. Available from: https://www.researchgate.net/publication/236982573_Knowledge_and_Practice_of_Body_Mechanics_Techniques_Among_Nurses_in_Hospital_Kluang_Johor_Malaysia
4. Rawat A, Negi A, Rana M, Gusian M, Negi N, Tomar N, *et al*. Knowledge assessment on use of Body mechanics and Safety measures among ward attendants in selected hospital of Dehradun, Uttarakhand. Int J Adv Nur Management. 2017 [cited 2022 Mar 6];5(4):288-292. doi:10.5958/2454-2652.2017.00062.2. Available from: https://ijanm.com/HTMLPaper.aspx?Journal=International+Journal+of+Advances+in+Nursing+Management%3bPID%3d2017-5-4-2
5. Anap DB, Iyer C, Rao K. Work related musculoskeletal disorders among hospital nurses in rural Maharashtra, India: a multi centre survey. Int J Res Med Sci. 2013 [cited 2022 Mar 22];1(2):101–107. Available from:

https://www.researchgate.net/publication/236589713_Work_related_musculoskeletal_disorders_among_hospital_nurses_in_rural_Maharashtra_India_A_multi_centre_survey

6. Shamim A, Afzal M, Kousar R, Ali W. Assess knowledge and practices of body mechanic technique among nurses at Punjab institute of cardiology Lahore. Saudi J Med Pharm Sci. 2017 [cited 2022 Feb 27];3(6A). Available from: https://www.researchgate.net/publication/318793237_Asses_knowledge_and_practices_of_body_mechanic_technique_among_nurses_at_Punjab_institute_of_cardiology_Lahore

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