Assessment of Knowledge and Practice of Body Mechanics Among Nursing Students: A Descriptive Study

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Abstract-This study aims to assess the knowledge and practice of Body Mechanics among nursing students while performing selected nursing procedures. The research was conducted in a descriptive, non-experimental design using a structured questionnaire and observational checklist. Data were collected from a sample of 100 B.Sc. Nursing students at G.S.L. General Hospital, Rajahmundry. The results revealed that the majority of the nursing students had inadequate knowledge (59%) and poor practice (97%) regarding the use of Body Mechanics in nursing procedures. There was a positive but weak correlation between knowledge and practice (r = 0.04). The study concluded by developing an informational booklet to improve students' understanding and practice of Body Mechanics.

Keywords: Body Mechanics, Nursing Students, Knowledge, Practice, Nursing Procedures, Descriptive Research

1. INTRODUCTION

Research methodology is a crucial process for refining methods of data collection, organization, and analysis. This chapter discusses the methodology used to explore nursing students' knowledge and practice regarding Body Mechanics. The approach was framed around the research objectives and the conceptual framework. It covers the research design, population, sample, tool development, validity and reliability, and the plan for data analysis. Understanding proper Body Mechanics is critical in nursing practice to prevent injury and enhance patient care. Therefore, this study seeks to evaluate the knowledge and practices of nursing students, focusing on the use of Body Mechanics during selected nursing procedures.

2. RESEARCH APPROACH

The research approach refers to the basic procedure followed in conducting the study. In this case, a quantitative approach was adopted, aiming to assess the knowledge and practice of nursing students concerning the use of Body Mechanics while performing selected nursing procedures. A structured questionnaire was used to assess knowledge, while an observational checklist was used to evaluate practice.

3. RESEARCH DESIGN

The non-experimental descriptive research design was chosen for this study. This design allows the researcher to describe the current status of knowledge and practices among nursing students without manipulating variables.

4. SETTING OF THE STUDY

The study was conducted in the medical and surgical wards at G.S.L. General Hospital, Rajahmundry. This setting provided a real-world environment where nursing students could demonstrate their knowledge and practice of Body Mechanics.

5. VARIABLES

Demographic Variables:

- Age
- Year of study
- Primary source of information

6. POPULATION

The population for this study included nursing students from G.S.L. & Swatantra College of Nursing, Rajahmundry. Specifically, the study focused on first, second, and third-year B.Sc. Nursing students.

7. SAMPLE

A sample of 100 B.Sc. Nursing students was selected using a non-probability convenience sampling technique. This approach allowed the researcher to select participants who were readily available and willing to participate.

8. SAMPLING CRITERIA

Inclusion Criteria:

- Nursing students willing to participate in the study.
- Nursing students present during the data collection period.

Exclusion Criteria:

- B.Sc. Nursing students with musculoskeletal disorders or other chronic illnesses.

9. DEVELOPMENT OF THE TOOL

The researcher developed a structured questionnaire and observational checklist to assess the knowledge and practice of Body Mechanics among nursing students. The following steps were involved in the tool development:

1. Review of related literature
2. Preparation of a blueprint
3. Seeking expert opinions
4. Investigator's personal experience
5. Item construction
6. Finalization of the tool

10. DESCRIPTION OF THE TOOL

The tool was divided into three sections:
Section-A: Demographic information (4 questions)
Section-B: Knowledge assessment (30 questions)

- Part-I: General Body Mechanics (15 questions)
- Part-II: Body Mechanics in Bed-Making (5 questions)
- Part-III: Body Mechanics in Transferring a Helpless Patient (5 questions)
- Part-IV: Body Mechanics in Assisting a Patient from Bed to Wheelchair (5 questions)

Knowledge Levels:

- Adequate knowledge: 75% and above
- Moderate knowledge: 50-74%
- Inadequate knowledge: 49% and below

Section-C: Practice assessment (21 steps across 3 parts)

- Part-I: Bed-Making (5 steps)
- Part-II: Transferring a Helpless Patient (8 steps)
- Part-III: Assisting a Patient from Bed to Wheelchair (8 steps)

Practice Levels:

- Good practice: 75% and above
- Poor practice: 74% and below

11. CONTENT VALIDITY

The content validity of the tool was evaluated by experts from various fields, including physicians, statisticians, and nursing personnel. Their feedback ensured that the items represented the domain of Body Mechanics accurately.

12. RELIABILITY AND VALIDITY OF THE TOOL

Reliability was tested using Karl Pearson's coefficient correlation and split-half method. The reliability coefficient ($r = 0.8$) indicated that the tool was reliable. The tool was also validated through expert opinions and literature review.

13. PILOT STUDY

A pilot study was conducted at Swatantra Hospital, Rajahmundry. This trial run helped refine the tool and identify any issues before the main data collection phase.

14. DATA COLLECTION PROCESS

The data collection process took place in the medical and surgical wards of G.S.L General Hospital, Rajahmundry. After obtaining permission from the Medical Superintendent, the researcher administered the structured questionnaires and observational checklists to participants.

15. PLAN FOR DATA ANALYSIS

The collected data were analysed using descriptive and inferential statistical tests:

- Demographic data: Frequency and percentage analysis.
- Knowledge: Frequency, percentage, mean, standard deviation, and correlation.
- Practice: Frequency, percentage, mean, standard deviation, and chi-square test.

16. RESULTS

- Knowledge: 59% of nursing students had inadequate knowledge, 41% had moderate knowledge, and none demonstrated adequate knowledge.
- Practice: 97% exhibited poor practice, and only 3% showed good practice in applying Body Mechanics during nursing procedures.
- Correlation: The correlation coefficient (r = 0.04) indicated a weak positive relationship between knowledge and practice.
- Association: No significant association was found between knowledge or practice and the demographic variables.

TABLE-I: FREQUENCY AND PERCENTAGE DISTRIBUTION OF THE NURSING STUDENTS IN SELECTED COLLEGE OF NURSING, RAJAHMUNDRY ACCORDING TO SELECTED DEMOGRAPHIC FACTORS:

(N=100)

S.NO	DEMOGRAPHIC FACTORS	NURSING STUDENTS IN SELECTED COLLEGE OF NURSING, RAJAHMUNDRY	
		FREQUENCY	PERCENTAGE
1.	Age		
	a) 17-18 Years	5	5%
	b) 19-20 Years	70	70%
	c) 21 Years & Above	25	25%
2.	Year Of Study		
	a) I year B.Sc. nursing	39	39%
	b) II year B.Sc. nursing	26	26%
	c) III year B.Sc. nursing	35	35%
3.	Primary Source Of Information		
	a) Books	25	25%
	b) Teacher's lecture	55	55%
	c) Health magazines	20	20%

TABLE-II- CORRELATION BETWEEN KNOWLEDGE AND PRACTICE OF THE NURSING STUDENTS REGARDING THE USE OF BODY MECHANICS WHILE PERFORMING SELECTED NURSING PROCEDURES.

(N=100)

GROUP	MEAN	STANDARD DEVIATION	CORRELATION CO-EFFICIENT (r)
Knowledge	13.73	3.4	0.04
Practice	12.85	1.12	

17. CONCLUSION

The study highlights the need for enhancing both the knowledge and practice of Body Mechanics among nursing students. Most students showed insufficient knowledge and poor practice, indicating a gap in education and training. To address this, an informational booklet was developed and distributed to the students, aiming to improve their understanding and application of Body Mechanics in clinical settings.

18. RECOMMENDATIONS

- Curriculum Improvements: Incorporate more detailed training on Body Mechanics in nursing education.

- Practical Workshops: Organize regular workshops to practice Body Mechanics techniques.
- Further Research: Conduct longitudinal studies to assess the impact of educational interventions on the knowledge and practice of nursing students.

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