

Effectiveness Of Structured Teaching Program On Knowledge And Skills Regarding Wound Dressing Techniques Among B.Sc. Nursing 3rd Semester Students Of College Of Nursing, Synod Hospital Durtlang

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Abstract

Background: Wound dressing is a fundamental nursing procedure that plays a critical role in infection prevention and wound healing. Inadequate knowledge and skills among nursing students may adversely affect patient outcomes.

Aim: To evaluate the effectiveness of a structured teaching program on knowledge and skills regarding wound dressing techniques among B.Sc. Nursing 3rd semester students.

Methods: A quantitative pre-experimental one-group pre-test post-test design was adopted among 30 B.Sc. Nursing 3rd semester students selected using total population sampling. Data were collected using a structured knowledge questionnaire and an observational checklist. A structured teaching program was administered, followed by post-test assessment. Descriptive and inferential statistics were used for data analysis.

Findings: When compared to pre-test scores, post-test knowledge and competence scores shown a notable improvement. A statistically significant difference in knowledge ($t = 7.88, p < 0.001$) and skills ($t = 21.64, p < 0.001$) was found using the paired t-test. Selected demographic characteristics did not significantly correlate with post-test scores.

Conclusion: Nursing students' knowledge and proficiency in wound dressing procedures were greatly enhanced by the structured training approach.

Keywords: Nursing Students, Knowledge, Skills, Wound Dressing Technique, Structured Teaching Program

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I. Introduction

Overview

In order to promote wound healing, avoid infection, and improve patient comfort, wound dressing is a crucial part of nursing care. Nurses are in charge of choosing the right dressing materials, keeping an eye on the healing process, and ensuring aseptic procedures. Infection risk, delayed healing, and patient morbidity can all be increased by poor wound care procedures.

Nursing students sometimes exhibit gaps between their theoretical understanding and their ability to conduct practical skills, especially when it comes to clinical operations like dressing wounds. For the development of fundamental clinical skills, the third semester of the B.Sc. Nursing program is essential. competencies.

It has been demonstrated that structured teaching methods that combine theory, practice, and demonstration improve learning outcomes and procedural proficiency.

In order to evaluate the impact of a structured teaching program on 3rd semester B.Sc. Nursing students knowledge and abilities related wound dressing procedures, the current study was conducted.

II. Objectives

1. To assess the effectiveness of a structured teaching program on knowledge and skills regarding wound dressing techniques.
2. To determine the correlation between pre-test knowledge and pre-test skills.
3. To find the association between knowledge and skills with selected demographic variables.

III. Hypotheses

H₁: There is a significant difference between pre-test and post-test knowledge scores.

H₂: There is a significant difference between pre-test and post-test skill scores.

H₃: There is a significant correlation between knowledge and skills.

H₄: There is a significant association between knowledge, skills, and selected demographic variables.

IV. Materials And Methods

Design of Research quantitative one-group pre-experimental design with a pre-test and post-test phase.

Setting: Synod Hospital, Durtlang, Aizawl, Mizoram; College of Nursing.

Sample and Method of Sampling Using total population sampling, thirty third- semester B.Sc. Nursing students were chosen.

Instruments for Gathering Data

- A structured knowledge survey on how to heal wounds
- A checklist of observations for wound dressing abilities

Intervention

A planned educational program that includes lectures and hands-on practice with wound dressings.

Procedure for gathering data

After a knowledge and skill pre-test, a systematic teaching program was implemented. Seven days later, a post- test evaluation was conducted with the same instruments.

Analysis of Statistics

Both inferential (paired t-test, Pearson correlation, and Chi-square test) and descriptive (frequency, percentage, mean, and standard deviation) statistics were employed.

Taking Ethics into Account

Institutional authorities granted permission. All participants gave their informed consent, and confidentiality was upheld

V. Results

SECTION I: Frequency and percentage distribution among 3rd Semester students according to their demographic variables.

Table 1. Frequency and percentage distribution among 3rd Semester students according to their demographic variables.

Variable	Category	Frequency	Percentage
Age group	20-25 years	21	70.0
	<20 years	7	23.3
	26-31 years	2	6.7
Gender	Female	26	86.7
	Male	4	13.3
Education	Undergraduate	28	93.3
	Post Graduate	2	6.7
Clinical Exposure	Yes	28	93.3
	No	2	6.7
Workshop Attendance	No	20	66.7
	Yes	10	33.3

The above Table 1 shows the frequency and percentage distribution among 3rd semester students and show that majority i.e 21 (70%) belongs to the age group 20-25 years, 7 (23.3%) belongs to the age group <20 years , 2 (6.7 %) belongs to the group 26-31 years and 0% were > 31 years.Majority of them 26 (86.7%) were female and the remaining 4 (13.3%) were male and in regard to educational qualification,majority 28 (93.3%) were post- graduate and the remaining 2 (6.7%) were under-graduate. Out of 30 students 28 (93.3%) had previous clinical exposure and the remaining 2 (6.7%) had no previous clinical exposure. Majority 20 (66.7%) had previous nursing workshops and the remaining 10 (33.3%) had no previous nursing workshops related to wound care.

SECTION II : Frequency and percentage distribution of knowledge regarding wound dressing technique among 3rd Semester students before and after planned teaching was implemented.

Table no 2 Frequency and percentage of pre and post- test knowledge regarding wound dressing technique among 3rd Semester students.

Knowledge Category Table

Category	Pre Test Frequency	Pre Test Percentage	Post Test Frequency	Post Test Percentage
Excellent	4	13.3	26	86.7
Good	22	73.3	4	13.3
Need improvement	4	13.3	0	0

Table 2 Represents the level of knowledge regarding wound dressing technique among 3rd semester students before and after giving health teaching . Results show that before giving health teaching **13.3%** of the participants Needs improvement while **73.3%** of the participants have good knowledge and **13.3%** of the participants have excellent knowledge. After giving health teaching **86.7%** of the participants have excellent knowledge and **13.3%** of the participants have good knowledge.

SECTION III : Frequency and percentage distribution of skills regarding wound dressing technique among 3rd Semester students before and after planned teaching was implemented

Table 3 : Frequency and percentage distribution of skills regarding wound dressing technique among 3rd Semester students before and after planned teaching was implemented.

Skill Category Table

Category	Pre	Pre	Post	Post
	Test Frequency	Test Percentage	Test Frequency	Test Percentage
Excellent	0	0.0	27	90.0
Good	3	10.0	3	10.0
Need improvement	15	50.0	0	0
Training recommended	12	40.0	0	0

Table 3 Represents the level of skills regarding wound dressing technique among 3rd semester students before and after giving health teaching .Results show that before giving health teaching **50%** of the participants Needs improvement while **10%** of the participants have good knowledge and **12%** were recommended to have a strong training .After giving health teaching **90.0%** of the participants have excellent skills and **10%** of the participants have good skills.

SECTION IV: Effectiveness of planned teaching program on the knowledge and skills regarding wound dressing technique among 3rd Semester students.

Category Distribution

Category	Pre-test (n)	Post-test (n)
Excellent (17-20)	4	26
Good (13-16)	22	4
Need improvement (9-12)	4	0
Training recommended (0-8)	0	0

Before training, most students were in the "Good" category and few in "Excellent"; after the program, nearly all moved to "Excellent". No students remained in "Need improvement" or "Training recommended".

Implementation of the structured teaching program led to statistically and practically significant enhancement in students' knowledge and skills regarding wound dressing.

SECTION V: Correlation between knowledge and skills regarding wound dressing technique among 3rd Semester students before planned teaching was implemented

Category Distribution

Category	Pre-test (n)	Post-test (n)
Excellent (17-20)	0	27
Good (13-16)	3	3
Need improvement (9-12)	15	0
Training recommended (0-8)	12	0

Before the intervention, most students were in "Need improvement" or "Training strongly recommended" for skills, with none rated "Excellent." After the program, 27 out of 30 students achieved "Excellent" skill, and no students remained in lower categories. **Therefore**, the findings suggest that high initial theoretical knowledge does not guarantee superior pre-training skills in wound dressing. Effective teaching should address both domains independently.

SECTION VI: Association between knowledge and skills regarding wound dressing technique among 3rd semester Bsc Nursing students before planned teaching was implemented with selected demographic variables.

Association Between Demographic Variables and Knowledge and Skill Scores

Demographic Variable	Chi-square p value (Knowledge)	Chi-square	ANOVA (Knowledge)	ANOVA P (Skill)	Conclusion
Age group	0.37	0.49	0.52	0.86	No significant association
Gender	0.96	0.86	1.00	0.61	No significant association
Education	1.00	1.00	0.60	0.82	No significant association
Clinical exposure	1.00	1.00	0.11	0.82	No significant association
Workshop attendance	1.00	0.52	0.78	0.54	No significant association

Interpretation: There is no statistically significant association between age, gender, education, previous clinical exposure, or workshop participation and post-test knowledge or skill outcomes among your students. All groups performed similarly after the structured teaching program—almost all reached "Excellent". These findings suggest the intervention was effective regardless of prior background, leveling the field for all demographic groups.

VI. Discussion

The present study demonstrated that the structured teaching program significantly improved both knowledge and skills related to wound dressing techniques among B.Sc. Nursing third-semester students. The increase in mean knowledge and skill scores after the intervention indicates that combining theoretical instruction with practical demonstration is an effective teaching strategy. This finding is consistent with previous studies which reported that structured educational programs

enhance students' understanding and clinical performance in wound care practices (9). The improvement in skill scores was particularly notable, suggesting that hands-on training plays a crucial role in bridging the gap between theory and practice.

These results are also supported by studies conducted by Najm and Hussein (2) and Builders et al. (3), which highlighted that inadequate knowledge and improper techniques among nurses can negatively affect wound management outcomes. By improving competency through structured teaching, students are better prepared to perform wound dressing procedures safely and effectively. Furthermore, similar findings were observed in studies focusing on teaching interventions for pressure ulcer prevention, where educational programs significantly improved knowledge levels among nursing students (9).

The findings emphasize the importance of incorporating structured teaching methods, including demonstrations and supervised practice, into nursing education. Such approaches not only enhance cognitive learning but also improve psychomotor skills, which are essential in clinical settings. This aligns with the concept that experiential learning leads to better retention and application of knowledge in real-life scenarios.

However, the study was limited by a small sample size and the absence of a control group, which may affect the generalizability of the findings. Future studies can include larger samples and comparative designs to further validate the effectiveness of structured teaching programs.

VII. Conclusion

The structured teaching program was effective in enhancing both knowledge and skills regarding wound dressing techniques among B.Sc. Nursing 3rd semester students. Evidence-based nursing practice can be promoted, patient safety can be enhanced, and uniform competency can be guaranteed by integrating organized teaching programs into nursing education.

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