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A study to assess the practice skills of bandaging among nursing students of selected colleges of Pune city

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Abstract

Bandaging is the process of covering wound or an injured part. . Bandage is a middle French word from the old French in which bender means 'to bind' and bande means 'a strip' It is an essential part of the medical and paramedical practice. However this aspect of the training of doctors and nurses is often neglected and they are often unable to apply bandages that will remain undisturbed at least until the next day. Trying bandages is also important for ambulance crew and anyone who gives first aid.

The objectives of the study were to assess the practice skill of bandaging among nursing students.

In this quantitative approach, a exploratory (Observational study) Design was used for 60 samples using stratified random sampling (lottery method) technique. An Observation checklist was prepared to assess the knowledge and practice skills to collect the data.

The data was analysed by using descriptive and inferential statistics for assessing adequate and inadequate practice skills of nursing students on bandaging which shows that 75% students have adequate practice skills and rest 25% having inadequate skills of bandaging. The study emphasized enhancement regarding practice skills of bandaging.

Conclusion: It can therefore be concluded that practice of bandaging is effective in improving the skills and accuracy among nursing students.

Keywords: Bandaging, assess, knowledge, practice, nursing students adequate skills, inadequate skills

Introduction

A bandage is a piece of material used either to support a medical device such as dressing or splint or on its own to provide support to or to restrict the movement of a part of body. Bandage is a middle French word from the old French in which bender means 'to bind' and bandage means 'a strip'^[1].

Need for study

Bandaging is a basic procedure, but if carried out incorrectly it has the potential to cause inconsiderable harm. Bandaging skills are essential for all nurses. It is important to be able to choose the correct type, size and composition of bandage and then apply it safely using the most appropriate technique as incorrectly applied bandage may lead to pressure necrosis and subsequent limb amputation. Bandaging application has changed little over last 100 yrs.

Problem Statement

“A study to assess the practice skills of Bandaging among nursing students of selected Colleges of Pune city”.

Research Objectives

To assess the practice of nursing students regarding Bandaging

Review of literature-

A review of literature is an essential aspect of scientific research. It broadens the understanding and gains insight necessary for the development of broad concept into which the problem fits.

- 1) A Study was conducted by J.F.O' Brein, etall in 2003. The aim of this study was to compare the cost-effectiveness of four-layer compression bandaging for venous leg ulcers with that of other available treatments.
- 2) A study was conducted by Merilyn Annells PhD, RN, etall in January 2008 the aim of the study was. To describe and explore reasons for use or non-use by district nurses of compression bandaging, a best practice component of venous leg ulcer management.
- 3) A study was conducted on the process of research utilization to apply research knowledge to clinical practice for dressing peripheral intravenous (IV) catheters.

Methodology

Problem Statement

"A study to assess the practice skills of Bandaging among nursing students of selected Colleges of Pune city".

Research objectives

- To assess the practice of nursing students regarding Bandaging.

Research Methodology

- Methodology can be "The analysis of the principles of methods, rules and postulates employed by a discipline," The systematic study methods that are, can be or have been applied within a discipline."
- This chapter deals with the methodology adopted for assessing the practice skills of Bandaging among nursing students of selected Colleges of Pune city"

Research Approach

- Research Approach refers to the approach or methodology that has been adopted to conduct the study. Research approach is the most significant part of any research. The appropriate choice of the research approach depends on the purpose of the research study.⁽¹⁴⁾
- The research approach adopted for this study will be Quantitative Approach.

Research Design

- "A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure."⁽¹⁵⁾
- The research design used in this study is exploratory Observational study.

Research Variable

Practice skills on bandaging

Research Setting

The research setting refers to the place where the data is collected. The data for study was collected from-

- Bharati Vidyapeeth Deemed University College of nursing.
- Bharati Vidyapeeth School College of nursing.
- St Andrews College of Nursing
- Dwarikadas Sangamnerkar School of Nursing.

Population

A research population is also known as a well-defined collection of individuals or objects known to have similar characteristics. All individuals or objects within a certain population usually have a common, binding characteristic or trait⁽¹⁷⁾.

The population in the study are all nursing students

Sample Size

The sample size most typically refers to the number of units that were chosen from which data were gathered.

The sample size for the study is comprised of 60 nursing students.

Sampling Technique

A visual representation of selecting a sample by arranging the study population according to some ordering scheme and then selecting elements at regular intervals through that ordered list.

In this study, Non probability randomization technique by lottery method is used to select the samples.

Data Collection Process

Prior permission will be obtained from respective nursing colleges and school. The purpose of the study will be explained to the participant in the study and confidentiality of their response will be assured and formal consent will be taken. Observational Checklist for evaluating the Practice Skill of Bandaging will be used.

Description of Tool

Section I: Demographic data:

The demographic tool comprises of

1. Age
2. Gender (Male & Female)
3. Class (2 yr, 3yr, 4yr Bsc & 2yr, 3yr, intership GNM)
4. Course (Bsc & GNM)

Section II

The questionnaire will be scored into two categories as:

Inadequate skill: 1 to 30

Adequate skill: 31 to 48

Tool Validity

Validity refers to how well a test measures what it is purported to measure. Validity is the extent to which a measurement tool measures what it's supposed to measure⁽¹⁸⁾.

The tools was prepared and distributed to a group of 05 experts for validity in. The expert suggestions and remarks were taken towards positive implementation for tool construction.

The changes predominantly were made to construction of the questions and scoring for observation checklist. Every suggestion was carefully examined and applied in the study for enhancing the quality of the tool. Therefore, on the basis of validation by the experts, the tool was found to be valid and applicable for the research study.

Reliability

Reliability of research instrument is defined as the extent to which the instrument yields the same results on repeated measures. The reliability of a measuring tool can be assessed in the aspects of stability, internal consistency, and

equivalence depending on the nature of the instrument and aspects of the reliability concept^[19].

Reliability of the tool was done in Dwarikadas Sangamnerkar school of nursing college Navi Peth, on 4 October 2017. The tool was administered to 10 nursing students. Non probability randomization by lottery Method was used for assessing the reliability of Section II – observation checklist for which Karl Pearson coefficient correlation test was used the correlation coefficient denoted by r , measure of the strength of the straight line efficient was found to be 0.99 which proved that Tool was reliable.

The reliability of Tool - Observational Checklist was assessed using Inter-rater method for which Cohen's Kappa test was used. The importance of rater reliability lies in the fact that it represents the extent to which the data collected in the study are correct representations of the variables measured. While the kappa can range from -1 to +1 Cohen's suggested that a score as low as 0.41 might be acceptable. Cohen's Kappa score was found to be 0.71 which suggested that Tool was reliable.

Pilot Study

Pilot study is a small scale preliminary study conducted in order to evaluate feasibility, time, cost, adverse events, and effect size (Statistical variability) in an attempt to predict an appropriate sample size and improve upon the study design prior to performance of a full scale research project^[20].

The pilot study was conducted in ST. Andrews College of nursing Pune on 27 October 2017. One week prior to actual data collection to find the feasibility of the study. 6 samples were selected for the pilot study. Prior to the study permission was obtained from the concerned authority. The selected subjects were informed of the purpose of the study and consent was obtained.

Assessment of Practice skill using observation checklist was done. The time taken to complete one observation checklist by the samples was 20 to 25 minutes.

Operational Definitions

- **Study:** A detailed investigation and analysis related bandaging study.
- **Assess:** To evaluate or estimate the nature, ability, or quality.
- **Practice skill:** Practice- carry out or perform (a particular activity, method, custom) habitually or regularly: we still practice some of these rituals today.
- **Skill:** The ability to do related bandaging well
- **Bandage:** A strip of woven material used to bind up a wound or to protect an injured part of the body.

Assumption

The nursing students may have adequate skill in bandaging.

Research Methodology

- **Research approach:** Quantitative approach
- **Research design:** Exploratory study (Observational study)
- **Population:** Nursing students
- **Sample:** Nursing students of Bharati vidyapeeth college of nursing Pune city
- **Sampling technique:** Non probability randomization through lottery method.
- **Sample size:** 60

- **Research setting:** Bharati vidyapeeth college Pune City.

Sample selection criteria

- Inclusion Criteria:
 - BSc students of II yr, IIIyr and IV yr.GNM students of II yr, IIIyr and Internship.
 - Nursing students willing to participate in the study.
- Exclusion criteria
- Iyr students of BSc and GNM.

Variable

Research variable: Practice skills on Bandaging.

Plan of Data collection

- Tool preparation and validation of the same
- Pilot study
- Permission from the class co-ordinator
- Selection of the samples
- Explaining the research to the subjects
- Informed consent
- Observation using checklist
- Statistical calculation and
- Dissemination of the result

Tools

The investigator will collect the data from nursing students using observation checklist. Section A: - Demographic data – Age, Gender, class, course. Section B:-Observation check list - to assess the Practice on bandaging.

Plan for data analysis

- The data will be analyzed by using descriptive statistics.
- Descriptive statistics will include frequency, percentage, mean, median and standard deviation

Brief description of data collection

After taking permission of class teacher the student names list will be taken and sampling technique will be done using Non probability randomization through lottery method. Ten students will be selected from each batch. The participants will be explained about the study. Informed consent will be taken from participants. Each student will have to one by one go to each area and show the demonstration. The observer will score the procedure with the help of observational checklist.

Conclusion

The chapter thus concludes that, exploratory (observational study) research design will be used for 60 nursing students at various hospitals using Non probability randomization through lottery method. Observation checklist will be used as the tool which has been validated by 05 experts and the reliability of the tool was achieved using Karl Pearson's Correlation Coefficient for the observation and Cohen Kappa (k) for the practices of bandaging. Upon completion of the pilot study showed that the study was feasible to conduct.

Major Finding

Distribution of samples based on practical score of sample regarding practice skills of bandaging.

Section II- Deals with the distribution of samples based on adequate and inadequate skill Using frequency and percentages in table 1 and figure

Shows practice skill of nursing student on bandaging. N = 60

Sr.no	Skill	Score	%
1.	Inadequate skill	0 – 30	14
2.	Adequate skill	31 - 48	46

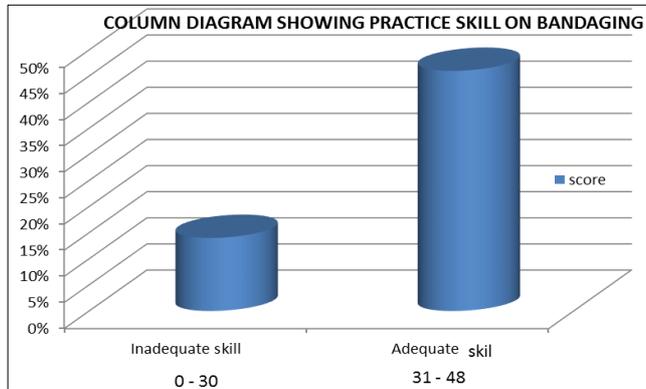


Figure shows, 45% of the sample were having adequate skill well as and 14% of the sample were having inadequate skill

Conclusion

The analysis made in the present study revealed that the practices skill related to bandaging among nursing students was that 46% were having adequate skill and 15% were having inadequate skill.

Conclusion

Conducting the research study in itself is not important unless its findings are known to all concerned and implications of its findings have been discussed.

This chapter deals with the summary and discussion of the findings of the study its conclusion, its implication to nursing and recommendation for future research in this field.

Objectives of the study were as follows

- To assess the practice of nursing students regarding bandaging.

Major Findings

Section 1(demographic data)

The data given in table 1 shows that 41 (68.33%) students belongs to age group 20 to 25, 18(30%) belongs to up to 19 and 1 (1.66%) belongs to age group above 25 years. 44 (73.33%) students were female and 16(26.66%) were male.30(50%) students were B.sc nursing and 30(50%) were of GNM students, where 10 (20%) students of them are students of 2nd year bsc nursing, 10(20%) are students of 3rd year B.sc,10(20%) are students of 4th year B.sc nursing,10(20%) are students of 2nd year GNM ,10(20%) are students of 3rd year GNM and 10 (20%) students are from GNM interns.

Section 2 (observation checklist)

Observation of practice skills of bandaging showed that 45(75%) samples having adequate skills and 15(25%) samples having inadequate skills of bandaging.

Thus, the overall analysis reveals that the most of the students (75%) having adequate practice skills of bandaging.

Discussions

The present study was conducted to assess the practice skills of bandaging among nursing students of Bharati Vidyapeeth College of nursing Pune.

Based on the objectives, the researcher tried to evaluate the practice skills of 60 nursing students (B.sc and GNM) of Bharati Vidyapeeth college of nursing Pune.

The quantitative observation research design was used for the study. The sample size most typically refers to the number of units that were chosen from which data were gathered. The sample for the study is comprised of 60 nursing students.

Non probability randomization through lottery method was implemented for the study to obtain samples the data and findings have been organised, analysed and presented in 2 sections.

Section 1 deals with the description of samples

Where demographic variables of nursing students consist of age, gender, class and course.

1) A Study was conducted in January 2014 by Edwin Chamanga

Literature has shown that patients with leg ulcers can have a significantly poorer quality of life compared to those without leg ulcers. In addition, research has identified problematic relationships between patients with leg ulcers and practitioners, such as community nurses. The author contends that this mismatch needs to be addressed in order to improve patient quality of life through leg ulcer bandaging. He makes several recommendations for practice and highlights that community practitioners need to use innovative practice to help improve the quality of leg ulcer bandaging care they deliver. The overall aim of this article is to establish the extent of community practitioners' understanding of the impact of leg ulcer bandaging on patient quality of life.

In section 2 an analysis of data related to practice skills of bandaging among nursing students.

The present study also shows that 75% of samples had adequate practice skills and 25% had inadequate practice skills of bandaging. When observational study was conducted.

2) A study was conducted by Merilyn Annells PhD, RN, et all in January 2008

The aim of the study was. To describe and explore reasons for use or non-use by district nurses of compression bandaging, a best practice component of venous leg ulcer management.

Background. Leg ulcers are costly to both individuals and communities. The most prevalent of leg ulcers are venous leg ulcers, which are common wounds treated by district nurses. Compression bandaging is the best practice for the treatment of venous leg ulcers with considerable evidence that this aids healing in an effective and timely manner. It is anecdotally known that compression bandaging is not always used by district nurses when treating venous leg ulcers, yet little is known as to why this is so.

Method. A qualitative descriptive/exploratory study was used; interview data were collected with constant comparative data analysis applied until data saturation was obtained.

Findings of the study were. As could be anticipated, several basic elements need to be present for a district nurse to use compression bandaging, like knowing that compression bandaging is best practice, knowing how to use compression bandaging and being able to determine that the ulcer is venous in nature. However, the major finding is the essentialness of having a patient willing for compression bandaging to be applied and sustained; the study explored what determines willingness or non-willingness and strategies that can be used to encourage willingness.

Conclusion. A prime enabler of the use of compression bandaging is having a patient willing to agree to the commencement of this treatment and for this to be sustained. Consequent recommendations are offered. Evidence-based nursing requires not only knowledge of cause and effect evidence but also evidence that provides understanding about human responses and choices when there is a health challenge.

Relevance to clinical practice. The relevance of the findings for clinical practice is that knowledge is provided about what factors may constrain a patient's willingness for compression bandaging to be applied and sustained as treatment for a venous leg ulcer and about what actions can be tried to facilitate willingness.

Conclusion

The findings of the study showed that there was significant difference between adequate and inadequate knowledge and practice skill related to bandaging procedure among nursing students

Hence, on the basis of above findings, it could be concluded undoubtedly that the selected nursing students have adequate knowledge of bandaging.

The content validity and reliability of tool was done, which suggested that the tool was reliable. the pilot study was conducted on 6 samples and feasibility of students was established. It was found that the tool had some flaws that require changing.

Implication

The findings of the study have implications for nursing practice, nursing education, nursing administration and nursing research

Nursing Practice

The study emphasizes on enhancement regarding knowledge and practice skill of bandaging. The nurses must enhance their professional skills. All the nursing personnel's working in hospital must to improve practices by following principles of bandages rigorously.

It will help the nurses to evaluate their practices, improve the accuracy of skills while performing bandaging.

Nursing Education

Nursing students should be given an opportunity to learn about the knowledge and practice of bandaging.

Nursing Administration

Nursing administration at various levels can take initiative to conduct research on various procedures. In nursing administrator can properly utilize nurse's abilities, practice, attitude and knowledge regarding bandaging. Administration should take initiative to take periodic classes on the knowledge and practice of bandaging to be consist of

in content to maintain uniformity throughout with upgrade knowledge this will insure better profession standard in nursing

Nursing Research

The result of study contributes to the body of knowledge in nursing. There is need for extended and intensive nursing research in the area of clinical teaching of the nursing students to improve knowledge and practice.

It highlight the area which required future exploration the suggestion and recommendations can be utilized in further studies of the same field.

Recommendations

Keeping in view the finding of the present study the following recommendation were made

- A similar study can be replicated in different setting to strengthen the findings.
- The same study could be replicated on a large sample; this would provide invaluable evidence in area of practice.
- Further research could be carried out on different aspects of bandaging.
- A similar study can be done using different types of bandaging.
- A comparative study can be conducted.
- A following of study can be conducted to evaluate effectiveness of planned teaching programme on bandaging procedure.

Nursing Limitation

- A limited time was available for data collection
- The relevant literature was scanty, as limited nursing studies have been conducted on the topic under investigation.
- Problems were faced as the nursing student had a tight schedule of working hours.
- This study is limited only to those who are willing to participate in the study.

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