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KNOWLEDGE AND PRACTICE REGARDING MEDICAL ADHESIVE RELATED SKIN INJURY (MARSI) AMONG NURSING OFFICERS

A Clinical Study at Acharya Harihar Post Graduate Institute of Cancer, Cuttack

[1]Subhranshu Mishra, [2]Milan Kumar Gochhi, [3]Ashutosh Prusty, [4]Itishree Sarangi

B.Sc. Nursing Students, NIMS College of Nursing, Bhubaneswar, Odisha, India

Abstract: Medical Adhesive Related Skin Injury (MARSI) is a frequent but under-recognized clinical complication. This study utilized a qualitative approach with a clinical-based observational design to assess MARSI-related knowledge and practices among 50 nursing officers at Acharya Harihara Post Graduate Institute of Cancer. Data collection involved a self-structured checklist and a 3-level scale. Findings indicated that 62% of participants possessed a low level of knowledge, while only 16% demonstrated adequate knowledge. The results emphasize an urgent need for targeted training programs to enhance clinical skills and prevent avoidable adhesive-related complications in oncology units.

Index Terms: MARSI, Nursing Practice, Oncology, Skin Integrity, Medical Adhesives, Patient Safety.

1. INTRODUCTION

Medical adhesive-related skin injury (MARSI) is defined as a condition where skin abnormalities, such as erythema lasting 30 minutes or longer, blisters, or tears, appear after the removal of a medical adhesive. While medical adhesives are indispensable in healthcare for securing dressings, catheters, and monitoring devices, their improper use often leads to mechanical trauma. This trauma not only compromises skin integrity but also causes significant pain, increases infection risks, and delays the overall healing process, thereby reducing the patient's quality of life.

In specialized settings like oncology, the stakes are even higher. Patients are often immunocompromised due to chemotherapy and radiation, making their skin more fragile and susceptible to injury. Despite the clinical relevance of MARSI, there is a noted "paucity of information" regarding best practices for application and removal techniques outside of specialized wound care textbooks.

2. NEED OF THE STUDY

The prevalence of MARSI has been reported in various studies to range from 3.4% to as high as 25% daily per subject. In oncology units, patients often suffer from neutropenia and have limited physiological potential to fight infections. Any skin injury, however minor it may seem, can become a gateway for dangerous infections that may lead to extended hospital stays or even mortality in critical cases.

Treating these injuries is also a financial burden; the average cost of treating a single skin tear has been reported at approximately $21.96. Therefore, assessing and improving the knowledge of nursing officers—who are the primary caregivers on the frontline—is essential for optimizing patient safety and clinical outcomes.

3. RESEARCH METHODOLOGY

The methodology follows a systematic path to solve the research problem, moving from initial identification to final conclusion.

3.1 Population and Sample

- **Target Population:** The study targeted nursing officers who are actively posted and working within the oncology units.
- **Universe of the Study:** The setting was the Acharya Harihar Post Graduate Institute of Cancer in Cuttack, Odisha.
- **Sample Size:** A total of 50 samples were collected for this study.
- **Sampling Technique:** A purposive sampling technique was applied to select participants who met the specific clinical criteria.

3.2 Data and Sources of Data

- **Primary Data:** Data were collected directly from the nursing officers through clinical observation and assessment tools.

- **Research Tools:** The researcher used a self-structured checklist to evaluate the specific practices and a 3-level scale to categorize the levels of knowledge and skill.
- **Operational Definitions:** Knowledge was measured as the correct written response to items regarding adhesive use, while practice was defined as the clinical skill used to integrate theory into care.

3.3 Statistical Methods Used

- **Descriptive Statistics:** Frequency and percentage distributions were used to analyze the demographic characteristics and the levels of knowledge among the nursing officers.
- **Analytical Approach:** The study focused on finding the association between the existing knowledge levels and the actual clinical practices observed during the study.

4. RESULTS AND DISCUSSION

The findings reveal a significant gap between theoretical knowledge and clinical requirements:

- **Knowledge Levels:** The majority of the participants, 31 (62%), demonstrated a low level of knowledge regarding MARSI. Only 8 (16%) of the 50 nursing officers reached an "adequate" level of knowledge.
- **Clinical Practice Observations:** It was noted that injuries often occur when the bond between the skin and the adhesive is stronger than the internal bond between skin layers.
- **Prevention Gaps:** The study highlighted that simple preventive steps, such as allowing skin preps to dry completely or using adhesive removers, are frequently overlooked in daily practice.
- **Comparative Incidence:** While this study focused on nursing knowledge, literature reviews show that MARSI incidence can be as high as 41.2% in intensive care settings, underscoring the severity of the issue.

5. CONCLUSION

This study confirms that there is an urgent deficiency in both knowledge and practice regarding MARSI among nursing officers in an oncology setting. Since MARSI is "clinically relevant and potentially avoidable," the findings suggest that the institution must implement regular "training programs, seminars, and workshops". By focusing on proper adhesive selection and gentle removal techniques, healthcare providers can significantly reduce patient trauma and improve the overall standard of oncology care.

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