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AN OBSERVATIONAL STUDY TO ASSESS WOUND DRESSING PRACTICES AMONG HEALTHCARE GIVERS IN SELECTED GOVERNMENT HOSPITALS

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ABSTRACT

Background: Wound dressing is a routine yet critical nursing procedure. Inadequate wound dressing practices increase the risk of wound infection, delayed healing, prolonged hospital stays, and hospital-acquired infections. Healthcare givers play a vital role in maintaining aseptic wound dressing practices; therefore, assessment of these practices is essential to improve patient care quality. **Objective:** To assess the practices, identification of deficit areas and association of selected wound dressing practices and selected demographic variables among health care givers. **Materials and Methods:** A quantitative, non-experimental observational study was conducted among 50 healthcare givers working in selected government hospitals of Punjab. Participants were selected using a convenience sampling technique. Data were collected using a structured performance checklist covering the preparatory, performance, and after-care phases of wound dressing technique. Descriptive and inferential statistics were used for data analysis. IEC number: **2024/08/1225. Results**: The findings revealed that 64% of healthcare givers demonstrated unsatisfactory wound dressing practices, whereas only 36% had satisfactory practices. The highest mean percentage practice score was observed in the preparatory phase (89.89%), followed by the after-care phase (79.80%), while the performance phase showed the lowest mean score (75.27%). Age ($p < 0.05$) and work experience ($p < 0.01$) showed a statistically significant association with wound dressing practices. **Conclusion:** Wound dressing practices were largely unsatisfactory, particularly during the performance phase. Regular supervision, in-service education, and strict adherence to aseptic wound dressing guidelines are essential to improve wound care practices and patient safety.

KEYWORDS: Wound dressing technique; healthcare givers; aseptic practices; wound infection.

INTRODUCTION

Hospitalised patients frequently require wound dressing as part of their treatment. Wounds resulting from surgical procedures, trauma, pressure injuries, burns, and chronic illnesses increase the risk of infection, delayed healing, and prolonged hospitalisation. Proper wound dressing technique is essential to promote tissue repair, prevent microbial contamination, and reduce hospital-acquired infections.[1]

Wound dressing is a complex clinical procedure that requires strict adherence to aseptic principles such as hand hygiene, use of sterile materials, correct wound cleansing techniques, and safe disposal of contaminated waste. Inadequate adherence to these principles may result in wound contamination, surgical site infections, increased treatment costs, and higher mortality rates.[2] Improper wound care is a major contributor to hospital-acquired infections in low- and middle-income countries.[3]

Healthcare givers, particularly nurses, play a pivotal role in performing wound dressing procedures in hospital settings. Observational studies have reported deviations from standard wound dressing guidelines, including poor hand hygiene, improper use of personal protective equipment, and incorrect wound cleansing techniques.[4-6] Several factors influence wound dressing practices,

including professional experience, workload, availability of sterile supplies, training, and institutional infection control policies.[7-9]

Despite the availability of standard guidelines, adherence to aseptic wound dressing techniques remains inconsistent in many government hospital settings. Hence, this study was undertaken to assess wound dressing practices among healthcare givers and to identify deficit areas requiring improvement.

OBJECTIVES OF THE STUDY

1. To assess the practices of wound dressing technique among healthcare givers.
2. To identify deficit areas in wound dressing practices.
3. To determine the association between wound dressing practices and selected demographic variables.

METHODS

Study Design

A quantitative, non-experimental observational research design was adopted**.**

Setting and Participants

The study was conducted in selected wards of a government hospital. Fifty healthcare givers involved in wound dressing procedures were selected using convenience sampling.

Inclusion Criteria

Healthcare givers working in medical, surgical, orthopaedic, gynaecology, and paediatric wards who were directly involved in wound dressing procedures and were willing to participate**.**

Exclusion Criteria

Healthcare givers who were on leave during the period of data collection, not involved in wound dressing procedures, or unwilling to participate**.**

Tool for Data Collection

A structured performance checklist was used, consisting of three phases: preparatory phase, performance phase, and after-care phase. Each participant was observed once during routine duty hours. The average observation time was 30–35 minutes. The study was guided by a modified conceptual framework based on Ida Jean Orlando's Deliberative Nursing Process Theory (1961), which explains the interaction between client behaviour, nurses' responses, and resulting care outcomes (**Figure 1**)."

The tool used for data collection in the present study consisted of a Demographic Data Sheet and a Structured Performance Checklist on Wound Dressing. The tool was developed based on standard nursing procedures, aseptic principles, and hospital protocols for wound dressing.

The Demographic Data Sheet included items related to age, gender, professional qualification, designation, years of work experience, working area, and duty shift. These variables were used to describe the sample characteristics and to assess the association between demographic variables and wound dressing practices.

The Structured Performance Checklist consisted of 50 items designed to assess the wound dressing practices of healthcare providers. The checklist was organized into three phases: preparatory phase, performance phase (procedure), and after-care phase. Each item represented an observable step in the wound dressing procedure.

The checklist was scored using a dichotomous scale, where "Yes" was scored as 1 and "No" was scored as 0. The total score ranged from 0 to 50, with higher scores indicating better wound dressing practices and adherence to aseptic techniques.

Validity of the Tool

The content validity of the tool was established by submitting it to a panel of experts in nursing and clinical practice. The experts evaluated the tool for relevance, clarity, and adequacy of the items. Based on their suggestions, necessary modifications were incorporated, and the final tool was prepared.

Reliability of the Tool

The reliability of the structured performance checklist was established using the inter-rater reliability method. The reliability coefficient indicated that the tool was reliable and suitable for assessing wound dressing practices among healthcare providers.

Score Range Interpretation

0 – 16	Poor practice
17 – 33	Average practice
34 – 50	Good practice

Ethical Considerations

Ethical committee approval and administrative permission were obtained prior to data collection. Written informed consent was obtained from all participants. Confidentiality and anonymity were ensured.

Data Analysis

Data analysis was performed using SPSS 26.0 software. Descriptive statistics were used to summarize the demographic characteristics and basic information of healthcare workers participating in the study. The data collected were coded, tabulated, and analysed using both descriptive and inferential statistics. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to describe the demographic variables of the participants and to assess the level of wound dressing practices among healthcare providers. Inferential statistics were used to determine the association between wound dressing practices and selected demographic variables. Appropriate statistical tests such as the chi-square test were applied. The level

of significance was set at p < 0. 05.

Ethics approval and consent to participate
This study was approved by the Ethics Committee of the selected hospital. All the participants have signed an informed consent. Participation in the study was entirely voluntary, and participants had the freedom to decline participation or withdraw from the survey at any point.

RESULTS

Table 1 reveals the levels of practices among healthcare givers regarding wound dressing technique. The majority of health care givers, 32 (64%), were found to have unsatisfactory practices, whereas only 18 (36%) had satisfactory practices.

Hence, it is depicted that the majority of the healthcare givers were following unsatisfactory practices. This indicates the need for supervision and the development of specific guidelines regarding aseptic wound dressing technique.

Table 2 shows that the mean percentage practice score of health care givers was highest in the preparatory phase (89.89%) with rank order 1, followed by the aftercare phase (79.80%) with rank order 2 and least in the performance phase (75.27%) with rank order 3.

Hence, it was concluded that the deficit area among health care givers regarding wound dressing practices was in the performance phase. This indicates that healthcare givers require improvement in the performance phase of wound dressing technique.

Table 3 reveals that in the preparatory phase, 31 (62%) health care givers had satisfactory practices, while 19 (38%) had unsatisfactory practices regarding wound dressing technique. In the performance phase, 42 (84%) health care givers had unsatisfactory practices, and only 8 (16%) had satisfactory practices. In the aftercare phase, 29 (58%) health care givers had unsatisfactory practices, whereas 21 (42%) had satisfactory practices.

Hence, it was inferred that the performance phase was the most deficient area of wound dressing technique among health care givers as compared to the preparatory and after care phases.

Table 4 depicts the association of wound dressing practice scores of health care givers with selected demographic variables. It reveals that healthcare givers belonging to the age group of ≥ 50 years had the highest mean practice score (45.40), followed by the age group of 40–49 years (40.86), 30–39 years (39.53) and 18–29 years (37.91). The relationship between age and wound dressing practices was found to be statistically significant at $p \leq 0.05$ level.

About gender, female health care givers had a slightly higher mean practice score (40.50) than male health care givers (39.09). However, the association between gender and wound dressing practices was found to be statistically non-significant at $p \leq 0.05$ level.

According to qualification, graduate health care givers had the highest mean practice score (43.83), followed by diploma holders (40.35) and certificate holders (40.10). The association between qualification and wound dressing practices was found to be statistically non-significant.

In terms of designation, staff nurses had a higher mean practice score (41.56) as compared to technicians (39.22). However, the relationship between designation and wound dressing practices was statistically non-significant.

Regarding working area, healthcare givers working in the critical care unit had the highest mean practice score (44.50), followed by those working in OPD (42.40), ward (40.60), emergency (39.58), and dressing room (38.89). The association between working area and wound dressing practices was found to be statistically non-significant.

With respect to duty shift, healthcare givers working in double duty had the highest mean practice score (45.50), followed by evening duty (42.33), morning duty (39.81), and night duty (38.71). However, the association between duty shift and wound dressing practices was found to be statistically non-significant.

Based on work experience, healthcare givers with ≥ 10 years of experience had the highest mean practice score (43.70), followed by 2–5 years (40.10), 6–9 years (38.69), and ≤ 1 year (35.50). The relationship between work experience and wound dressing practices was found to **be statistically significant at $p \leq 0.01$ level.**

Hence, it was concluded that age and work experience of health care givers had a significant influence on the practices of wound dressing technique, whereas other demographic variables had no significant influence.

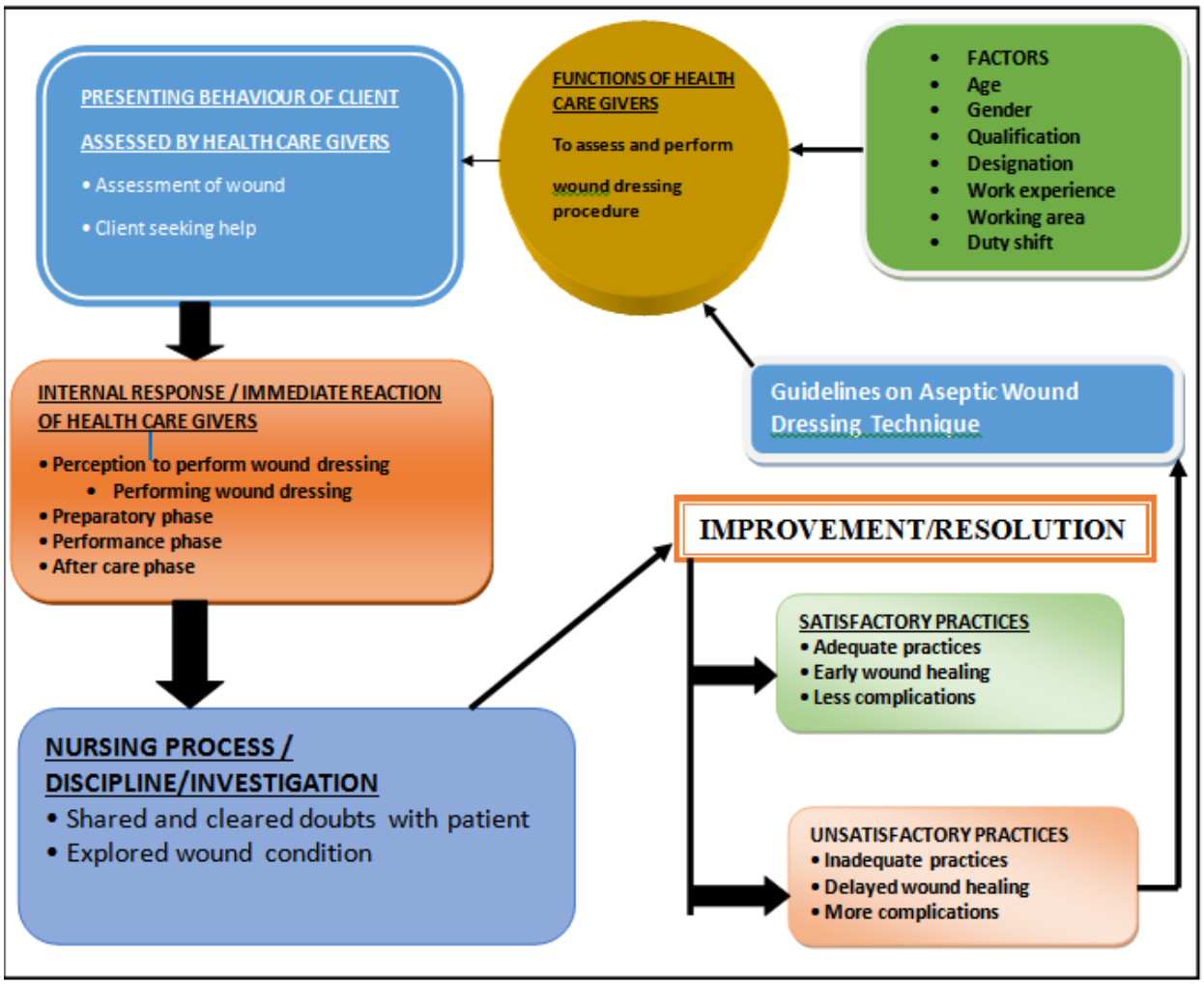

FIG. 1 : Modified Conceptual Framework Based on Ida Jean Orlando's Deliberative Nursing Process Theory (1961)

Table 1: Frequency and Percentage Distribution of Health Care Givers regarding Wound Dressing Technique according to Level of Practices (N = 50).

Level of Practices	Score	Frequency	Percentage
Satisfactory	≥ 90% (≥ 45)	18	36%
Unsatisfactory	< 90% (< 45)	32	64%

Maximum Score = 50
Minimum Score = 0

Table 2: Mean, Mean Percentage and Rank Order of Phases of Practices among Health Care Givers regarding Wound Dressing Technique (N = 50)

Phases of Practices	Maximum Score	Mean Score	Mean %	Rank Order
Preparatory Phase	18	16.18	89.89	1
Performance Phase	22	16.56	75.27	3
After Care Phase	10	07.98	79.80	2
Total	50	0.72	81.44	

Maximum Score = 50
Minimum Score = 0

Table 3: Frequency and Percentage Distribution of Health Care Givers according to Phases of Practices (N = 50)

Phases of Practices	Satisfactory		Unsatisfactory	
	n	%	n	%
Preparatory Phase	31	62%	19	38%
Performance Phase	08	16%	42	84%
After Care Phase	21	42%	29	58%

Maximum Score = 50
Minimum Score = 0

Table 4: Association of Wound Dressing Practice Scores of Health Care Givers with Selected Demographic Variables. (N = 50)

Variable	Category	n	Mean	SD	t / F	P value	Result
Age (years)	18–29	11	37.91	6.36			
	30–39	15	39.53	5.00			
	40–49	14	40.86	5.74	**3.53**	**<0.05***	Significant
	≥50	10	45.40	2.17			
Gender	Male	21	39.09	5.87	0.62	>0.05	NS
	Female	29	40.50	9.22			
Qualification	Diploma	34	40.35	6.22	1.88	>0.05	NS
	Graduate	06	43.83	3.31			
	Certificate	10	40.10	4.12			
Designation	Staff Nurse	32	41.56	5.19	1.43	>0.05	NS
	Technician	18	39.22	6.20			
Working Area	Ward	15	40.60	6.59	1.72	>0.05	NS
	OPD	10	42.40	3.81			
	Dressing Room	09	38.89	6.49			
	Emergency	12	39.58	5.33			
	ICU	04	44.50	3.32			
Duty Shift	Morning	27	39.81	5.60	1.97	>0.05	NS
	Evening	12	42.33	4.54			
	Night	07	38.71	7.16			
	Double	04	45.50	3.11			
Work Experience (years)	≤1	04	35.50	6.76			
	2–5	10	40.10	6.15			
	6–9	16	38.69	4.69	**3.25**	**<0.01****	Significant
	≥10	20	43.70	4.52			

DISCUSSION

The findings of the present study are in accordance with the objectives of the research. The findings of the present study are discussed in the light of the related literature and supported by the findings of other investigators. The present study was undertaken to assess the practices of wound dressing technique among the healthcare givers working in selected government hospitals of Punjab.

According to the first objective, the findings of the present study revealed that the majority of healthcare givers (64%) demonstrated unsatisfactory wound dressing practices. This indicates a substantial gap between recommended aseptic wound dressing standards and actual clinical practice. These findings suggest that many healthcare givers are not consistently following essential aseptic principles such as proper hand hygiene, correct sequence of wound cleansing, and safe disposal of contaminated materials. Similar findings were reported by Gamage et al. (2024), who observed wide variation and inconsistency in postoperative wound care practices among nurses, mainly due to inadequate adherence to standardised guidelines.

These results are also supported by Beitz (2010), who identified deficiencies in wound dressing practices due to time constraints, inadequate resources, and a lack of structured protocols. The current findings highlight the urgent need for strengthening infection prevention practices in government hospitals.

According to the second objective, to identify the deficit areas of practices of wound dressing technique used by health care givers, the study findings revealed that the performance phase was the most deficit area, with the highest number of unsatisfactory practices (84%). This indicates that although healthcare givers were generally prepared before the procedure, deficiencies occurred mainly during the execution of wound dressing steps such as wound cleaning, application of sterile dressing, and disposal of used materials.

These findings are consistent with the observations of Nonino et al. (2008), who reported poor compliance with aseptic principles during the execution phase of wound care. Recent literature also supports this observation, stating that inconsistent application of aseptic technique during wound dressing is a major contributor to wound contamination and delayed healing (Scoping Review, 2025).

However, the findings contradict the study by Abi-Said et al. (1999), who reported adequate aseptic compliance during catheter dressing changes, indicating that structured protocols and supervision can significantly improve practice quality.

According to the third objective, the present study revealed that age and work experience had a statistically significant association with wound dressing practices, whereas gender, qualification, designation, working area and duty shift showed no significant association. Health care givers aged ≥50 years and those with ≥10 years of experience demonstrated higher mean practice scores.

These findings are supported by Dunk and Taylor (2009), who reported that professional experience significantly influences infection control practices in wound care. Similarly, Alostaz et al. (2023) reported that increased workload and limited experience are associated with reduced adherence to aseptic techniques. These results suggest that clinical experience plays a vital role in ensuring correct wound dressing practices.

Hence, the present study highlights the importance of continuous professional training, supervision and reinforcement of aseptic guidelines to improve wound dressing practices among health care givers and prevent hospital-acquired wound infections.

Limitations

While this study provides insight into wound dressing practices among healthcare givers, certain limitations should be acknowledged. The sample was drawn from a single hospital using convenience sampling, which may limit the generalizability of the findings to other settings. The observational, cross-sectional design restricts the ability to establish causal relationships between variables. Wound dressing practices were assessed through direct observation, and the presence of the observer may have influenced participants' performance. Additionally, patient-related and contextual factors that could affect wound dressing practices were not explored.

CONCLUSION

The present study concludes that the overall practices of healthcare givers related to wound dressing technique were found to be unsatisfactory, and the performance phase of wound dressing technique was the most deficit area. The study has identified that the age factor and work experience have a significant impact on the practices of wound dressing technique, and with an increase in age and experience, practices were improving. The study has also identified that other factors like gender, qualification, designation, working area and duty shift of the health care givers do not have any influence on the practices of wound dressing technique.

The study recommends that teaching programs, seminars and workshops can be conducted to improve the practices of healthcare givers about wound dressing technique. Guidelines on aseptic wound dressing technique prepared by the investigator should be used as standards. However, these guidelines should incorporate a degree of flexibility according to recent and advanced technologies, whenever possible. This will enable the healthcare givers to improve their practices in wound dressing technique.

Delimitations

This study has several delimitations. The present study was delimited to healthcare givers working in the Civil Hospital. The study was restricted to those healthcare givers who were directly involved in wound dressing procedures. The sample size was limited to 50 health care givers. The study focused only on the assessment of wound dressing practices and selected demographic variables.

Recommendations

Based on the findings of the present study, it is recommended that similar studies be conducted on a larger sample to generalize the findings. The guidelines on aseptic wound dressing technique developed by the investigator should be utilised in clinical practice. Further studies can be conducted in different hospitals, among patients and nursing students, to assess knowledge and practices related to wound dressing technique. Regular in-service education, supervision and evaluation programs should be organised to improve the practices of healthcare givers. Experimental and comparative studies can also be conducted to evaluate the effectiveness of structured teaching programs on aseptic wound dressing technique.

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Conflicts of interest

There are no conflicts of interest.

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