

# Determination Level of Nurse's Practices toward Surgical Wound Care in Karbala Teaching Hospital, Iraq

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## Abstract

**Background:** Wound dressing is one of the major nursing responsibilities. Aseptic technique is mandatory to minimize complications. Effective wound dressing promotes wound healing and leads to early discharge and saving costs.

**Methods:** Quantitative study descriptive-cross sectional design selected obtained proper answers for the study questions related to wound care practices potential problem in specific health setting from the period between (5. Jan to 30. May. 2021).

**Results:** higher percentage 12(40%) of the participants were (26-30) years old. The higher percentage 19(63.33%) of the patient were male. The higher percentage 13 (43.33%) of the participant were diploma.

**Conclusions:** Responses of the participants were (good) related to overall domains of the practices toward wound care except the participants were (fair) related to surgical wound cleaning.

**Key word:** Determination, nurses, practices, wound care

## Introduction

A wound is a disruption of normal anatomical structure and function that results from pathological process beginning internally or externally to the involved organs [1]. The goal of wound care is to promote tissue repair and regeneration so that skin integrity is restored. Wound can be treated by leaving them to air; no dressing (protective covering placed over a wound) is applied [2]. The wound is believed to be at risk for infection development related to the drying of the wound, resulting in less bacterial growth [3].

The skin, the body's first line of defense, protecting the underlying structure from invasion by organisms [2]. Maintaining an intact skin surface is important because a break or disruption in this integrity is potentially dangerous and possibly life threatening [3]. Maintenance of skin integrity and promotion of wound healing are important aspects of nursing care in all care setting [4].

Dressings are important component of post-operative wound management. A good dressing should maintain a moist wound environment and thus promote wound healing, be able to remove excessive exudate that might lead to maceration of the wound, provide a good barrier against bacterial or fluid contamination, and be adherent to the skin but a traumatic on removal [5]. The nurses play an important role in the therapeutic success and outcome of the patient because minimize the patient risk factor for infection through maintaining strict aseptic technique,

inspecting the solution for signs of contamination, monitoring the patient closely before, during and after an exchange and recording his vital signs [6]. Nosocomial infections are caused by pathogens transmitted from one patient to another by way of health care workers (HCWs) who have not washed their hands between patients or (HCWs) who do not practice control measures such as use of hand disinfection, glove use etc [6].

Today wound infection increased the financial cost on the patients, increase the use of antibiotics, increase in the consumption of medical supplies and increase of time consuming for personnel in the health sector [7, 8].

### Objective:

1. Determination the level of the nurse's practices toward surgical wound care.
2. To find out the relationship between nurse's practices and their demographic characteristic.

## Methodology

### Study Design

Quantitative study descriptive-cross sectional design selected obtained proper answers for the study questions related to wound care practices potential problem in specific health setting from the period between (5. Jan to 30. May. 2021).

### Setting:

Emergency unit and surgical unit at Imam Al-Hussein teaching hospital at Karbala city were selected as arch field to data collection.

**Sampling:**

Non- probability (purposive sample) of (30) nurses who involved direct in wound caring was assigned to participate in the study to determine the level of their practices in this filed.

**The study tool**

wound care check list was used to determine the level of nurses practices in this related to wound care which adapted from (© 2017 American College of Surgeons.), the tool consist two part, the first one includes the demographical characteristic of the sample of (5) items, while the second part extended through (5) domains (removal of wound dressing (5)items, wound cleaning (7)items, wound covering and used packs (13)items, caring for surgical drain (10) items and caring around the site of the drain(9) items. The checklist score as always, sometimes and never, three Likert scale level used to determine the level of nurses practices as 3 for always, 2 for sometimes and 1 for never.

**Administration and ethical consideration**

Official agreement was obtained from the specific committee in university of al-ameed collage of nursing- adult department to go through this study, official agreement was obtained from imam al-Hussain teaching hospital to facilitated data collection.

Ethical is fundamental to good research practice and the protection of society, the board guiding principles for designing ethical behavior for researchers includes (respect for persons, beneficence, justice, respect, for community and contextual caring for this purpose the objective of the study explained for the nurse in order to obtain their agreement to participant in this study.

**Data collection:**

Direct observational method was used to collect the data, 3 observations for each participant during their daily work with the patients, each participant need about (1-4) day to complete their (3) observation.

**Statistical analysis:**

Descriptive and infernal statistical methods used to tabulate the collected data, "for the data analysis SPSS version 21 statistical package was used.

**Results**

In this chapter, descriptive and inferential statistical methods used to tabulate the data which resented systematically according the questionnaire form which used to achieve study

objectives as tables and figures.

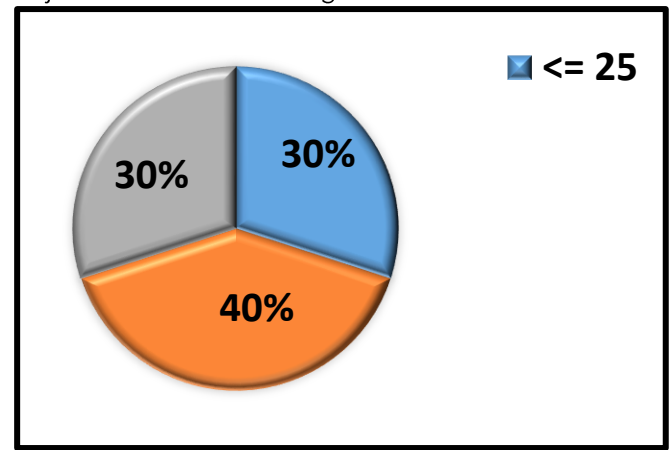


Fig (1): Distribution of studied sample according to Age group (Years).

This figure shows that higher percentage 12(40%) of the participants were (26-30) years old.

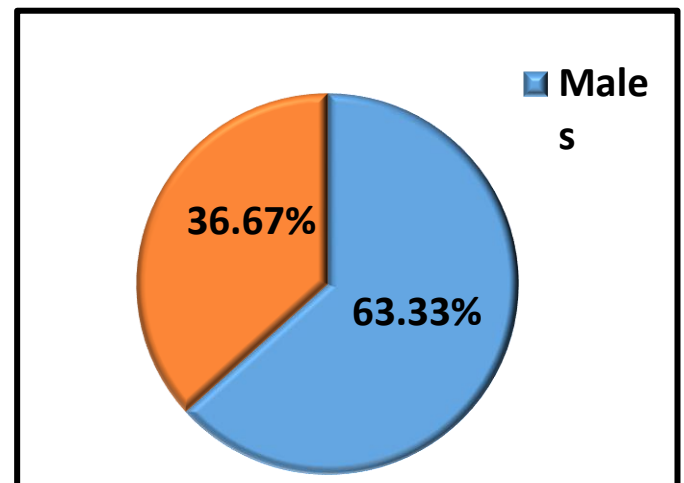


Fig (2): Distribution of studied sample according to Gender.

This figure shows that the higher percentage 19(63.33%) of the patient were male.

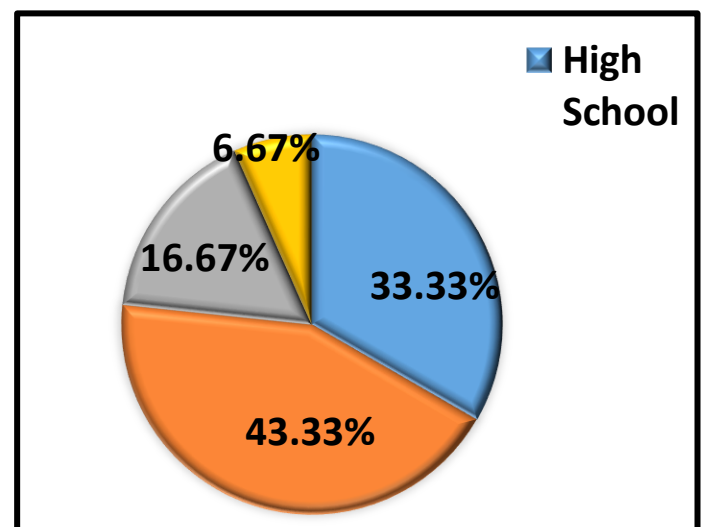


Fig (3): Distribution of studied sample according to Level of Education.

This figure shows that the higher percentage 13 (43.33%) of the participant were diploma.

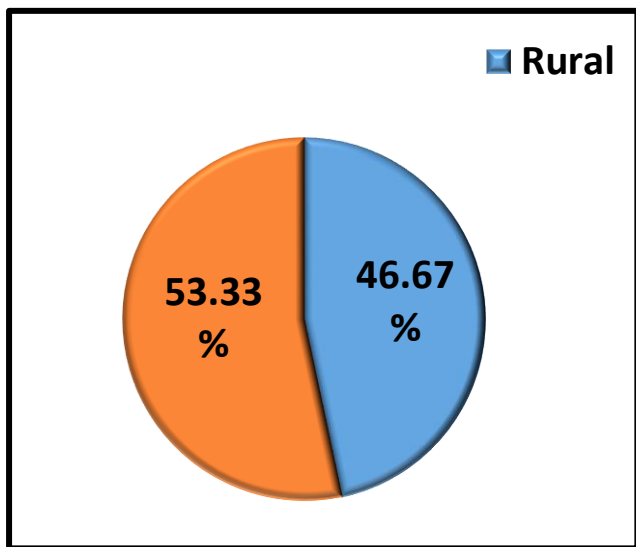


Fig (4): Distribution of studied sample according to Residence.

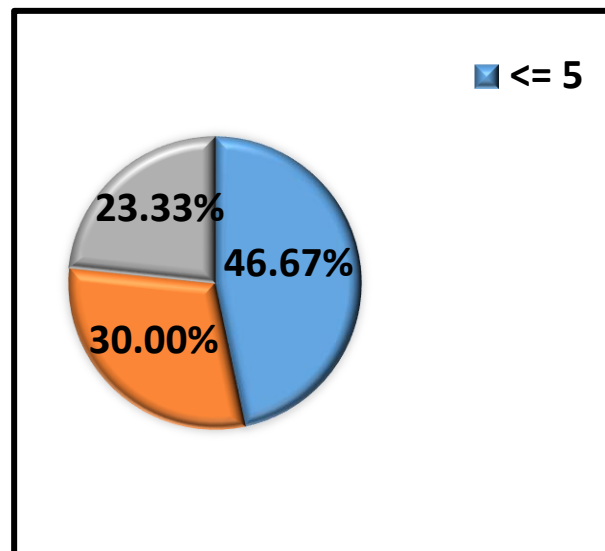


Fig (5): Distribution of studied sample according to Years of experience.

This figure shows that the higher percentage 16 (53.33%) were urban resident

This figure shows that the higher percentage 14(46.67 %) of the participant were ≤ 5 years of experience

**Table (1): Nurses practice level related to removal of wound dressing.**

| Items   | Freq. |          |        | MS   | Assess. | % resp. |
|---|-------|----------|--------|------|---------|---------|
|   | Never | Sometime | Always |      |         |         |
| 1. Clean your hands (wash or use 60% alcohol-based hand gel). | 1     | 8        | 21     | 2.67 | Good    | 89.00   |
| 2. Use a gloved hand or a plastic bag to remove the dressing. | 0     | 0        | 30     | 3.00 | Good    | 100.00  |
| 3. Inspect the dressing for drainage or any foul odor.        | 21    | 4        | 5      | 1.47 | Fair    | 49.00   |
| 4. Coil the dressing inside the glove or bag and discard.     | 7     | 7        | 16     | 2.30 | Good    | 76.67   |
| 5. Use 60% alcohol-based hand gel to disinfect your hands.    | 0     | 5        | 25     | 2.83 | Good    | 94.33   |

Mean of score (MS), MS (1-1.66)=poor , MS (1.67-2.33)= fair, MS (2.34-3)good, % Resp.=((MS/3)\*100)

This table shows that the responses of the participants were (good) related to skill—remove wound dressing.

**Table (2): Nurses practice level related to wound cleaning.**

| Items   | Freq. |          |        | MS   | Assess. | % resp. |
|---|-------|----------|--------|------|---------|---------|
|   | Never | Sometime | Always |      |         |         |
| 1. Clean and prepare an area and set out your supplies.                 | 7     | 7        | 16     | 2.30 | Fair    | 76.67   |
| 2. Clean your hands (wash or use 60% alcohol-based hand gel).           | 2     | 2        | 26     | 2.80 | Good    | 93.33   |
| 3. Soak clean gauze or cloth in tap water or sterile cleaning solution. | 0     | 1        | 29     | 2.97 | Good    | 99.00   |
| 4. Dab around the incision line, away from the center of the wound.     | 25    | 3        | 2      | 1.23 | Poor    | 41.00   |
| 5. Use a cotton swab to remove any blood or crust that has formed.      | 13    | 6        | 11     | 1.93 | Fair    | 64.33   |
| 6. Rinse the wound and carefully pat it dry with gauze or clean towel.  | 1     | 8        | 21     | 2.67 | Good    | 89.00   |
| 7. Remove the dressing daily to inspect and clean around the wound.     | 9     | 9        | 12     | 2.10 | Fair    | 70.00   |

This table shows that the responses of the participants were (fair) related to skill—clean wound.

| Items  | Freq. |          |        | MS   | Assess. | % resp. |
|--|-------|----------|--------|------|---------|---------|
|  | Never | Sometime | Always |      |         |         |
| 1. Clean and prepare an area and set out your supplies.  | 9     | 7        | 14     | 2.17 | Fair    | 72.33   |
| 2. Clean hands (wash or use 60% alcohol-based hand gel).   | 0     | 7        | 23     | 2.77 | Good    | 92.33   |
| 3. Disinfect tweezers and scissors with alcohol.   | 5     | 3        | 22     | 2.57 | Good    | 85.67   |
| 4. Cut pieces of tape longer than the wound and hang them on the side of a table edge.             | 0     | 5        | 25     | 2.83 | Good    | 94.33   |
| 5. Remove old tape and dressing with a gloved hand or plastic bag.                                 | 1     | 5        | 24     | 2.77 | Good    | 92.33   |
| 6. Check the old dressing for drainage or odor.  | 12    | 10       | 8      | 1.87 | Fair    | 62.33   |
| 7. Coil the dressing inside the glove or bag and discard.  | 8     | 9        | 13     | 2.17 | Fair    | 72.33   |
| 8. Clean your hands (wash or use 60% alcohol-based hand gel).                                      | 2     | 2        | 26     | 2.80 | Good    | 93.33   |
| 9. Put on clean gloves.  | 6     | 11       | 13     | 2.23 | Fair    | 74.33   |
| 10. Use tweezers to lift the packing material out and cut off a length.                            | 5     | 7        | 18     | 2.43 | Good    | 81.00   |
| 11. Use a cotton swab to gently push the packing into the wound and tunneled areas.                | 13    | 8        | 9      | 1.87 | Fair    | 62.33   |
| 12. Apply a dressing or bandage that extends at least 1 inch over the edges of the wound to cover. | 1     | 5        | 24     | 2.77 | Good    | 92.33   |
| 13. Remove the gloves and clean your hands again.  | 5     | 7        | 18     | 2.43 | Good    | 81.00   |

This table shows that the responses of the participants were (good) related to skill—pack wound.

| Items   | Freq. |          |        | MS   | Assess. | % resp. |
|---|-------|----------|--------|------|---------|---------|
|   | Never | Sometime | Always |      |         |         |
| 1. Clean your hands (wash or use 60% alcohol-based hand gel).                               | 3     | 6        | 21     | 2.60 | Good    | 86.67   |
| 2. Using one hand, firmly hold the drain tubing near where it comes out of the skin.        | 9     | 5        | 16     | 2.23 | Fair    | 74.33   |
| 3. Pinch the tubing with your other hand using your thumb and first (index) finger.         | 1     | 5        | 24     | 2.77 | Good    | 92.33   |
| 4. Using an alcohol pad squeeze the tubing flat to push clots through to the drain.         | 0     | 8        | 22     | 2.73 | Good    | 91.00   |
| 5. Use a gloved hand to open the cap on the end of the drain.                               | 3     | 3        | 24     | 2.70 | Good    | 90.00   |
| 6. Hold the opening away from you, and empty the drain contents into a measuring container. | 6     | 6        | 18     | 2.40 | Good    | 80.00   |
| 7. Record the amount and color of the drainage.   | 13    | 12       | 5      | 1.73 | Good    | 57.67   |
| 8. Hold the drain away from you, squeeze the drain until it is flat, and close the cap.     | 1     | 13       | 16     | 2.50 | Good    | 83.33   |
| 9. Pour the drainage down the sink or flush larger amounts down a toilet.                   | 7     | 12       | 11     | 2.13 | Fair    | 71.00   |
| 10. Remove gloves and clean your hands again.   | 7     | 8        | 15     | 2.27 | Fair    | 75.67   |

This table shows that the responses of the participants were (good) related to skill—clean for surgical drain.

| Items  | Freq. |          |        | MS   | Assess. | % resp. |
|--|-------|----------|--------|------|---------|---------|
|  | Never | Sometime | Always |      |         |         |
| 1. Use a gloved hand or a plastic bag to remove the dressing.                              | 0     | 0        | 30     | 3.00 | Good    | 100.00  |
| 2. Inspect the dressing for any drainage or any foul odor.                                 | 12    | 10       | 8      | 1.87 | Fair    | 62.33   |
| 3. Coil the dressing inside the glove or bag and discard.                                  | 10    | 6        | 14     | 2.13 | Fair    | 71.00   |
| 4. Clean your hands (wash or use 60% alcohol-based hand gel).                              | 0     | 7        | 23     | 2.77 | Good    | 92.33   |
| 5. Clean the wound and skin around the drain tubing.                                       | 1     | 10       | 19     | 2.60 | Good    | 86.67   |
| 6. Open the package and remove the gauze dressing.   | 2     | 6        | 22     | 2.67 | Good    | 89.00   |
| 7. Touching only the edges of the gauze, place the opening around the tubing of the drain. | 7     | 16       | 7      | 2.00 | Fair    | 66.67   |
| 8. Layer bandages around the tubing and wound site to protect the drain from falling out.  | 0     | 7        | 23     | 2.77 | Good    | 92.33   |
| 9. Tape the dressings or wrap a bandage around to keep them in place.                      | 0     | 2        | 28     | 2.93 | Good    | 97.67   |

This table shows that the responses of the participants were (good ) related to skill—change the dressing around the drain.

**Table (6): Evaluation of nurse's practice about the overall skills.**

| Skills Domains                            | Freq.      |          | MS   | Assess. | % resp. |
|---|------------|----------|------|---------|---------|
|   | Inadequate | Adequate |      |         |         |
| SKILL—REMOVE WOUND DRESSING               | 3          | 27       | 2.45 | Good    | 81.67   |
| SKILL—CLEAN WOUND                         | 10         | 20       | 2.22 | Fair    | 74.00   |
| SKILL—PACK WOUND                          | 4          | 26       | 2.44 | Good    | 81.33   |
| SKILL—CARE FOR SURGICAL DRAIN             | 1          | 29       | 2.41 | Good    | 80.33   |
| SKILL—CHANGE THE DRESSING AROUND DRAIN    | 3          | 27       | 2.53 | Good    | 84.33   |
| NURSING PRACTICE (OVERALL SKILLS DOMAINS) | 1          | 29       | 2.41 | Good    | 80.33   |

This table shows that the responses of the participants were (good ) related to overall domains of the practices toward wound care.

**Table (7): Relationship between demographic characteristic and level of the nurse's practices**

| Socio-demographic data |               | Nursing Practice (Overall Skills domains) |          | X <sup>2</sup> (df) | P-value (Sig.) |
|------------------------|---------------|---|----------|---------------------|----------------|
|                        |               | Inadequate                                | Adequate |                     |                |
| Age groups (Years)     | <= 25         | 0   | 9        | 1.55 (2)            | 0.46 (NS)      |
|                        | 26 - 30       | 1   | 11       |                     |                |
|                        | 31 and More   | 0   | 9        |                     |                |
| Gender                 | Male          | 0   | 19       | 1.78 (1)            | 0.181 (NS)     |
|                        | Female        | 1   | 10       |                     |                |
| Level of education     | High School   | 1   | 9        | 2.06 (3)            | 0.55 (NS)      |
|                        | Diploma       | 0   | 13       |                     |                |
|                        | College       | 0   | 5        |                     |                |
|                        | Post graduate | 0   | 2        |                     |                |
| Residence              | Rural         | 1   | 13       | 1.18 (1)            | 0.277 (NS)     |
|                        | Urban         | 0   | 16       |                     |                |
| Years of experience    | <= 5          | 0   | 14       | 2.14 (2)            | 0.299 (NS)     |
|                        | 6 - 10        | 1   | 8        |                     |                |
|                        | 11 and More   | 0   | 7        |                     |                |

**X<sup>2</sup>: Chi-square test, NS: Non-significant, df: degree of freedom.**

This table presented relationship between demographic characteristic and nursing practice, while no significant change in the result of the domains.

## Discussion

The present study showed that highest percentage of age among study samples were 26-30 years' age group. These results not supported by another study conducted by [9] who reported that most of nurses were more than 50 years old. Regarding gender, the highest percentage in the current study were male, these results supported by who showed that most of samples in his study were male [9].

Concerning educational level, the most frequent educational degree in the present study were diploma, these results in the same line with another study conducted by who reported that most of nurse's educational level were diploma degree in nursing [10].

Regarding years of experience, most of nurses in the present study had five years and less years of experience. These result not in the same line with another study conducted by who reported that most of samples had more than 15 years of experience [11].

Related evaluation of nurses practice about the (skill—remove wound dressing). The respondents experienced with a good evaluation of removing wound dressing, these results agree with another study conducted by who reported similar finding [12].

Concerning evaluation of nurses practice about the skill—clean wound, the present study showed that most of items experienced with good responses from study samples. These results in the same line with another study conducted by who reported that respondent had good experiences regarding wound cleaning [13].

Related evaluation of nurses practice about the skill—pack wound , most response of study samples were good, these finding supported by another study conducted by who reported similar results[14].

Regarding evaluation of nurses practice about the skill—care for surgical drain. The current study showed that most responses of study samples were good. These results supported by another study conducted by who reported that study participants responses were good [14].

Related evaluation of nurses practice about the skill—change the dressing around the drain. Nurses experienced with good response for most items. These results supported with another study by [15]

Concerning Relationship between demographic characteristic and Nursing Practice. There is no significant relation between demographic data and nursing practice. These results supported with another study conducted by who reported similar results [12].

## Recommendations conclusions

### Conclusions

Responses of the participants were (good ) related to overall domains of the practices toward wound car except the participants were (fair) related to surgical wound cleaning.

### Recommendations

1. Updating the nurse information related to wound management may maintain and enhance their practices to maintain optimal practices core.
2. Further study can be conducted for large samples and several areas to gain more effective results.

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