JBAAR
Journal of Basic And Applied Research
ISSN 2413-7014

Knowledge and Practices among Nurses Regarding Hygiene in the Care of Comatose Patient in Surgical and Medical Ward in a Government Hospital in Jordan

Nisser Mohammad AL-Hroub*, Sherwin C. Ycaza

Al-Ghad International Colleges for Applied Medical Sciences

*Corresponding author: nisserjo@yahoo.com

Received: 14-3-2017
Revised: 10-4-2017
Published: 26-4-2017

Keywords:
Hygiene,
Comatose patient,
Nurse,
Knowledge, practice

Background: Hygiene refers to conditions and practices that helps maintain health and prevent the spread of diseases. Whereas in popular culture and parlance it can often mean mere "cleanliness," hygiene in its fullest and original meaning goes much beyond that to include all circumstances and practices, lifestyle issues, premises and commodities that engender a safe and healthy environment.
The aim of this study is to assess the knowledge and practice of nurses regarding hygiene in the care of comatose patient in a Government Hospital in Jordan.
Materials and methods: The study was conducted during the period of 1st June 2016 to 1st December 2016. The design of this study is Descriptive cross – sectional hospital base analysis by manual analysis method. This is a type of study in which a condition and potentially related factors are being measured at a specific point in time for a defined population (NEDARC, 2016).
Results: The study respondents were fifty (50) nurses, among these respondents, twenty six (26) were males and twenty four (24) were females which was ethically informed to participate in this study. The study showed that knowledge of nurses about hygiene in the care of comatose patient were 45% good, 40.1% poor knowledge and 14.9% moderate knowledge.
Conclusion: The present study concluded that study sample has a moderate to good knowledge. Based on the study findings it is recommended that the nurses needs to attend courses and trainings about hygiene of comatose patient to improve their practice.

Cite this article as: AL-Hroub, N.M and Ycaza, S.C. (2017) Knowledge and Practices among Nurses Regarding Hygiene in the Care of Comatose Patient in Surgical and Medical Ward in a Government Hospital in Jordan. Journal of basic and applied Research,3(1): 44-52

INTRODUCTION

Hygieneis a set of practices performed for the preservation of health. According to the World Health Organization (WHO), Hygiene refers to conditions and practices that helps maintain health and prevent the spread of diseases. Whereas in popular culture and parlance it can often mean mere "cleanliness," hygiene in its fullest and original meaning goes much beyond that to include all circumstances and practices, lifestyle issues, premises and commodities that engender a safe and healthy environment. While in modern medical sciences there were set of standards of hygiene recommended for different situations, what is considered hygienic or not can vary between different cultures, genders and ethnic groups. Some regular hygienic practices may be considered good habits by a society while the neglect of hygiene can be considered disgusting, disrespectful or even threatening. Medical hygiene pertains to the hygiene practices related to the administration of medicine, and medical care, that prevents or minimizes disease and the spread of diseases.

One essential and fundamental aspect of nursing is ensuring the patients environment to be safe, therapeutic and pleasant. Proper hygiene and grooming provided by nurses not only contributes to comfort but also contribute to healing and recovery (Geyer, Mogotlane, and Young, 2009). Most microorganism that can cause infections in hospitals are spread by careless actions. Hand hygiene is a great way to prevent the spread of infections from one person to another. However, research show that on average, healthcare providers including nurses, clean their hands less than half of the times they should (CDC, 2016).

Most of these practices were developed in the 19th century and they were well established by the mid-20th century. Some procedures (such as disposal of medical waste) were refined in response to late-20th century disease outbreaks, notably AIDS (Acquired Immune Deficiency Syndrome) and Ebola.

Among the health care professionals, nurses play one of the most significant roles in influencing client's perceptions. After conducting a study of patient ratings of their hospital experiences, Otani (2010) has concluded that patient ratings of care provided by nurses have the most direct impact on

ratings of overall quality of care and services in the health care settings.

Nurses must provide total care to the patients including daily bed bath with washing of the skin and gentle massage to the skin to activate blood circulation with a focus on the location of pressure when a patients is lying in bed. After bed bath, skin must be thoroughly dry to prevent infection. Skin can be moisturized by a paraffin oil or lanolin cream to prevent dryness and cracking. Dr. Benabio (n.d.), suggests that using mild moisturizing soaps with softening components such as glycerin or lanolin, not harsh soaps that removes natural oils off the skin. Applying moisturizer regularly after hand wash while hands are still damp and gently pat dry. Using hand gel sanitizers that are less drying than soap and water may also help prevent dryness.

According to Osuala (2014), a pressure ulcer is a localized skin injury or underlying tissue, usually over a bony prominence, due to unrelieved pressure. It remains a major health problem that affects more adults patients. Nurses must change the patient's position in bed every two hours at the most and examine carefully the skin especially in the location of pressure while lying in bed and take the necessary measures to prevent bed sores.
In case of corneal reflex paralysis, the eye remains open and exposed to the atmosphere and germs causing dehydration and infections of the corneas. In this case, nurses must clean the patient's eyes by normal saline solution and applying an eye drops as prescribed by the doctor to prevent infections, dryness and patching the eyes to prevent injury that may lead to loss of vision.

Nurses must also provide oral care to the patients by clearing the mouth of accumulated secretions several times a day, especially the teeth and tongue by cleaning the mouth using cotton buds dipped in normal saline solution. Prevent dryness and cracking of the lips by applying glycerin and lemon or paraffin oil. Often accompanied by coma incontinence in the urine or retention of urine, preferably in this case the use of a catheter Foley (Foley fixed) to prevent urination that lead to bed sores and when to use a catheter must be considered sterilization rules (Aseptic technique) in convulsions, it is advisable to use the headrests and Side rails and keep the tongue reducer.

Albini, Soares, Wolf, &Gonçalves, (2013), conducted a study to evaluate the knowledge about the care with dysphagia patients from the nurses who work in intensive care units (ICU), in order to evaluate their knowledge about dysphagia, and its implications on ICU patients with this clinical complication. The result showed that professionals in both groups had an adequate knowledge about the definition and complications of dysphagia, but they did not know about the stages, causes and specific care related to nutrition, medication and hygiene in cases of dysphagia, the self-assessment reported lack of training in conducting some procedures to patients with dysphagia.
Unconsciousness is a state of the mind in which an individual is unable to respond or express their needs. It is a lack of awareness of one's environment and the inability to respond to external Stimuli (Atoznursing, 2015). Hygiene includes oral care, bed bath, skin care, and care of pressure sore. Nursing the unconscious patient can be a challenging experience. Unconscious patients have no control over themselves or their environment and thus are highly dependent on the nurse. The skills required to care for unconscious patients are not specific to critical care and theatres as unconscious patients are nursed in a variety of clinical settings. Nursing such patients can be a source of anxiety for nurses. However, with a good knowledge base to initiate the assessment, planning and implementation of quality care, nursing patients who are unconscious can prove highly rewarding, and the skills acquired can promote confidence in the care of all patients.

This study **aimed** to:
1. Study the knowledge and practices among nurses regarding hygiene in the care of comatose patient in a government Hospital in Jordan.
2. Assess the knowledge of nurses regarding:
2.1. Type of hygiene in comatose patient
2.2 . Importance of hygiene in comatose patient
2.3 . Steps of hygiene in comatose patient.
2.4 . Complications of poor hygiene in comatose patient.
2.5 . Equipment utilized for hygiene in the care of comatose patient.
3. Assess the practices of nurses regarding:
3.1. Performing hygiene in comatose patient.
3.2. Preparing and sterilization of equipment utilized for hygiene of comatose patient.
3.3. Steps of hygienic measures in the care of comatose patient.
3.4. Positioning of comatose patient during hygiene.

3-METHODOLOGY

3-1: Study design:

Descriptive cross – sectional hospital base. In this study, data are gathered on the whole study population at a single point in time. It will provide a snapshot of the frequency of the variables involved in the study.

3-2: Study area:

The hospital in this study was established in 1996 (though it did exist from 1956, located at another

site) and is some 145 kilometers south of Amman, the Jordanian capital. It is located close to Petra and is a small hospital with a 110-bed capacity. The new hospital building is the result of a collaboration between the Italian and Jordanian governments. It has an emergency department, medicine and surgical wards, central laboratory, morgue, microsurgery, intensive care unit, and coronary care unit.

3-3: Study population:
Nurses working in medical and surgical wards in a government hospital in Jordan.

3-4: Sample
3-4-1: Sample size:
50 nurses working in medical and surgical wards in a government hospital in Jordan.

3-5: Data collection
3-5-1: Technique of data collection:
Simple random sampling is being utilized in this study in obtaining data. Survey-questionnaires were distributed to the respondents. The respondents were given enough time in completing the survey-questionnaires.
3-5-2: Tools of data collection:
Survey-questionnaire and checklist.

3-7: Ethical consideration:
- Research purpose and objectives will be explained to the participants in clear simple words.
- Participants has the rights to have voluntary informed consent.
- Participants has right to withdraw at any time without any deprivation.
- Participants has right to be protected from harm
- Participant's privacy and confidentiality must be protected at all times by using coded questionnaire.
- Participants has the right to benefit from the research. If there were results of the study, it will be received by treating doctor immediately.
- In case of research in medical staff, questionnaire should be filled in their free time.

RESULT AND DISCUSSION

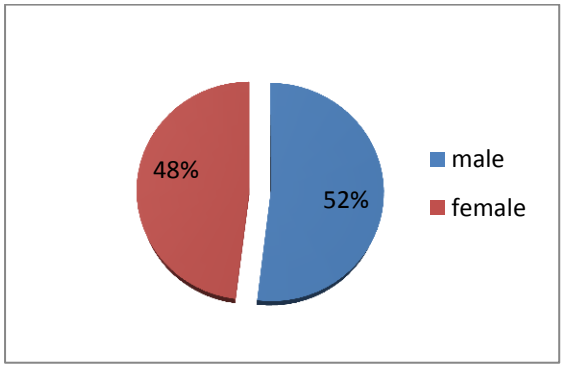

Figure (1): Distribution of Gender

Figure 1 shows the distribution of gender of the respondents. 48% female and 52% male nurses.

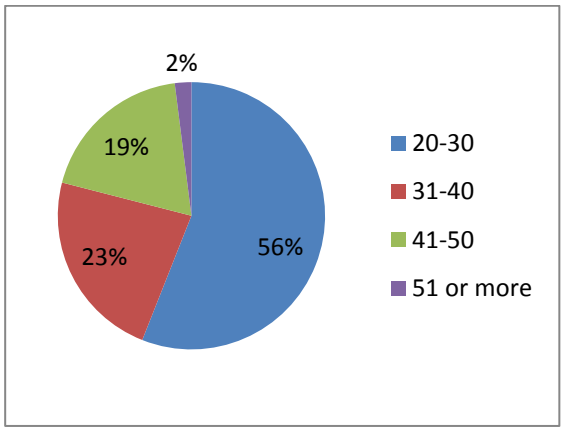

Figure (2): Distribution of age

Figure 2 shows the distribution of age of the respondents. Among the respondents, 56% of the group belongs to ages 20 – 30 years old, 23% belongs to 31 – 40 years old, 19% belongs to 41 – 50 years old and 2% of the respondents belongs to ages above 51 years old. Most of the respondents are 20-30 years old and only few of them were 51 years old and above.

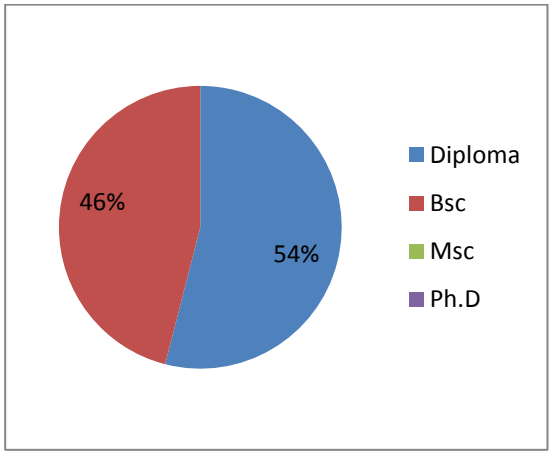

Figure (3): Distribution of Academic qualification:

Figure 3 shows the distribution of academic qualification of the respondents. 54% of the respondents are diploma holders and 46% holds the bachelors degree in nursing. More than half of the total number of respondents were diploma of nursing holders.

in terms of years. 47% of the respondents have 1 – 3 years of experience, 23% has 3-5 years of experience, 22% has more than 7 years of clinical experience, and 8% has 5 – 7 years of clinical experience. Majority of them has less than 3 years of experience in the area.

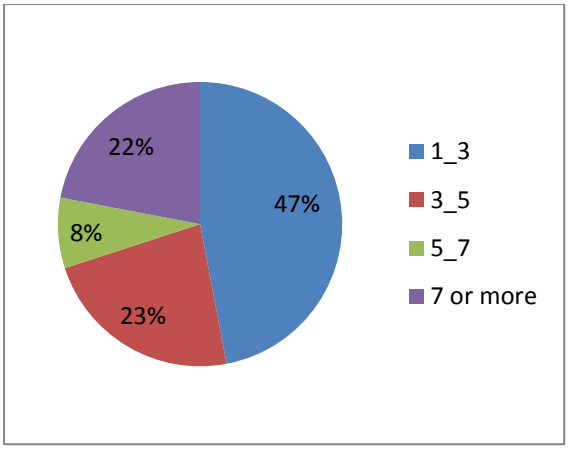

Figure (4): Distribution of Experience:

Figure 4 shows the distribution of work experience

RESULTS

Table (1): Distribution of the study sample according to definition of comatose patient

Class	Frequency	Percent
Check on 4 answer	2	4%
Check on 3 answer	10	20%
Check on 2 answer	16	32%
Check on 1 answer	22	44%
Total	50	100%

Table 1 summarizes the participants knowledge on the definition of a comatose patient. 4%, and 20% of the total sample have good knowledge, 32% and 44% have poor . Majority of the participants has poor knowledge of the condition.

Table (2): Distribution of the study sample according to Important of hygiene in comatose patient:

Class	Frequency	Percent
Check on 9 answer	2	4%
Check on 8 answer	9	18%
Check on 7 answer	7	14%
Check on 6 answer	10	20%
Check on 5 answer	5	10%
Check on 4 answer	0	0%
Check on 3 answer	6	12%
Check on 2 answer	2	4%
Check on 1 answer	9	18%
Total	50	100%

Table (2):The table show study sample who know the important of hygiene in comatose patient were good knowledge with percentage (4%, 18%, 14%), moderate knowledge with percentage (20%, 10%, 0%), poor knowledge with percentage (12%,4%,18%). and the majority with percentage (20%).

Table (3) The table show study sample who know shift to made hygiene of comatose patient were good knowledge with percentage (14%, 26%) and poor knowledge with percentage (60%) and the majority with percentage (60%).

Table (3): Distribution of the study sample according to shift you made hygiene of comatose patient:

Class	Frequency	Percent
Check on 3 answer	7	14%
Check on 2 answer	13	26%
Check on 1 answer	30	60%
Total	50	100%

Table (4): Distribution of the study sample according to the type of hygiene in comatose patient:

Class	Frequency	Percent
Check on 9 answer	7	14%
Check on 8 answer	25	50%
Check on 7 answer	1	2%
Check on 6 answer	2	4%
Check on 5 answer	3	6%
Check on 4 answer	2	4%
Check on 3 answer	2	4%
Check on 2 answer	2	4%
Check on 1 answer	6	12%
Total	50	100%

Table (4) The table show study sample who know the type of hygiene in comatose patient were good knowledge with percentage (14%,50%,2%), moderate knowledge with percentage(4%,6%,4%), poor knowledge with percentage (4%,4%,12%). and the majority with percentage (50%).

Table (5): Distribution of the study sample according to equipment that is using for hair hygiene:

Class	Frequency	Percent
Check on 5 answer	5	10%
Check on 4 answer	16	32%
Check on 3 answer	8	16%
Check on 2 answer	9	18%
Check on 1 answer	12	24%
Total	50	100%

Table (5):The table show study sample who knows What is Equipment are using for hair hygiene are good knowledge with percentage (10%, 32%), moderate knowledge with percentage (16%), poor knowledge with percentage (18%, 24%). and the majority with percentage (32%).

Table (6): The table show study sample who know the equipment which are using for eye hygiene were good knowledge with percentage (14%, 48%) and poor knowledge with percentage (38%) and the majority with percentage (48%).

Table (6): Distribution of the study sample according to equipment that is using for eye hygiene:

Class	Frequency	Percent
Check on 3 answer	7	14%
Check on 2 answer	24	48%
Check on 1 answer	19	38%
Total	50	100%

Table (7): Distribution of the study sample according to equipment that is using for mouth hygiene:

Class	Frequency	Percent
Check on 5 answer	2	4%
Check on 4 answer	9	18%
Check on 3 answer	20	40%
Check on 2 answer	9	18%
Check on 1 answer	9	18%
Check on 0 answer	1	2%
Total	50	100%

Table (7):The table show study sample who know the equipment which are using for mouth hygiene were good knowledge with percentage (4%,18%), moderate knowledge with percentage(40%,18), poor knowledge with percentage (18%,2%). and the majority with percentage (40%).

Table (8): Distribution of the study sample according to the solutions that are using for mouth hygiene;

Class	Frequency	Percent
Check on 4 answer	2	4%
Check on 3 answer	11	22%
Check on 2 answer	10	20%
Check on 1 answer	25	50%
Check on 0 answer	2	4%
Total	50	100%

Table (8):The table show study sample who know the solutions that are using for mouth hygiene were good knowledge with percentage (4%, 22%), moderate knowledge with percentage(20%), poor knowledge with percentage (50%, 4%). and the majority with percentage (50%).

Table (9): Distribution of the study sample according to equipment that is using for skin hygiene (bed bath):

Class	Frequency	Percent
Check on 8 answer	2	4%
Check on 7 answer	12	24%
Check on 6 answer	5	10%
Check on 5 answer	6	12%
Check on 4 answer	12	24%
Check on 3 answer	6	12%
Check on 2 answer	2	4%
Check on 1 answer	5	10%
Total	50	100%

Table (9):The table show study sample who know equipment which are using for skin hygiene were good knowledge with percentage (4%, 24%10%), moderate knowledge with percentage (12%, 24%, 12%), poor knowledge with percentage (4%, 10%). and the majority with percentage (24%, 24%).

Table (10): Distribution of the study sample according to equipment that you are using for ear hygiene:

Class	Frequency	Percent
Check on 4 answer	2	4%
Check on 3 answer	16	32%
Check on 2 answer	18	36%
Check on 1 answer	13	26%
Check on 0 answer	1	2%
Total	50	100%

Table (10):The table show study sample who know equipment which are using for ear hygiene were good knowledge with percentage (4%, 32%), moderate knowledge with percentage (36%), poor knowledge with percentage (26%, 2 %). and the majority with percentage (36%).

Table (11): Distribution of the study sample according to equipment that is using for hand hygiene:

Class	Frequency	Percent
Check on 4 answer	6	12%
Check on 3 answer	30	60%
Check on 2 answer	10	20%
Check on 1 answer	4	8%
Total	50	100%

Table (11):The table show study sample who know equipment which are using for hand hygiene were good knowledge with percentage (12%, 60%) and poor knowledge with percentage (20%, 8%). and the majority with percentage (60%)

Table (12): Distribution of the study sample according to equipment that are using for nails care:

Class	Frequency	Percent
Check on 4 answer	3	6%
Check on 3 answer	17	34%
Check on 2 answer	9	18%
Check on 1 answer	21	42%
Total	50	100%

Table (12):The table show study sample who know equipment which are using for nails care hygiene were good knowledge with percentage (6%, 34%)and poor knowledge with percentage (18%, 42%). and the majority with percentage (42%).

Table (13):The table show study sample who know equipment which are using for genital hygiene were good knowledge with percentage (8%, 28%)

and poor knowledge with percentage (48%,16%) and the majority with percentage (48%).

Table (13): Distribution of the study sample according to equipment that is using for genital hygiene:

Class	Frequency	Percent
Check on 4 answer	4	8%
Check on 3 answer	14	28%
Check on 2 answer	24	48%
Check on 1 answer	8	16%
Total	50	100%

Table (14): Distribution of the study sample according to steps of hygiene in comatose patient:

Class	Frequency	Percent
Check on 9 answer	5	10%
Check on 8 answer	25	50%
Check on 7 answer	6	12%
Check on 6 answer	5	10%
Check on 5 answer	1	2%
Check on 4 answer	3	6%
Check on 3 answer	0	0%
Check on 2 answer	2	4%
Check on 1 answer	3	6%
Total	50	100%

Table (14):The table show study sample who know steps of hygiene in comatose patients were good knowledge with percentage (10%, 50%, 12%), moderate knowledge with percentage (10%, 2%, 6%), poor knowledge with percentage (0%, 4%,6%). and the majority with percentage (50%).

Table (15): Distribution of the study sample according to position during hygiene of comatose patient:

Class	Frequency	Percent
Check on 3 answer	5	10%
Check on 2 answer	16	32%
Check on 1 answer	28	56%
Check on 0 answer	1	2%
Total	50	100%

Table (15):The table show study sample who know the position during hygiene of comatose patient were good knowledge with percentage (10%, 32%) and poor knowledge with percentage (56%, 2%). and the majority with percentage (56%).

Table (16):The table show study sample who know the complication of poor hygiene in comatose patient were good knowledge with percentage (14%, 42%), moderate knowledge with percentage (18%), poor knowledge with percentage (16%, 10%). and the majority with percentage (42%).

Table (16): Distribution of the study sample according to complication of poor hygiene in comatose patient:

Class	Frequency	Percent
Check on 5 answer	7	14%
Check on 4 answer	21	42%
Check on 3 answer	9	18%
Check on 2 answer	8	16%
Check on 1 answer	5	10%
Total	50	100%

Table (17): Distribution of the study sample according to good hygiene of comatose patient lead to?

Class	Frequency	Percent
Check on 4 answer	7	14%
Check on 3 answer	22	44%
Check on 2 answer	11	22%
Check on 1 answer	10	20%
Check on 0 answer	0	0%

Table (17): The table show study sample who know the good hygiene of comatose patient lead to what, were good knowledge with percentage (14%, 44%)and poor knowledge with percentage (22%, 20%). and the majority with percentage (44%).

Observational check list:

Table (18): Availability of equipment to hygiene comatose patient:

Name of equipment	Frequency	Percent
1. Trolley	2	100%
2. Tray	0	0%
3. Gloves	2	100%
4. Soap	1	50%
5. Basin	2	100%
6. Cotton	0	0%
7. Gauze	0	0%
8. Tongue pressure	0	0%
9. Normal saline	0	0%
10. Syringe	0	0%
11. Scissor	0	0%
12. Comb	0	0%
13. Shampoo	0	0%
14. Brush tooth	0	0%
15. Sterile water	0	0%
16. Glycerin	0	0%
17. Sponge	0	0%
18. Powder	0	0%
19. Suction machine	2	100%
20. Towel	0	0%

Table (18):The table show availability of equipment to hygiene comatose patient all equipment is not available except (Trolley Percent (100%) and Gloves Percent (100%) and Suction machine (100%)

Table (19):The table show step of hygiene in comatose patient all study sample is not make step of hygiene except hand washing with percentage (46%).

Table (19): Step of hygiene in comatose patient:

Procedure	Done		Not done	
	Frequent	Percent	Frequent	Percent
1. Explain procedure with family	0	0%	13	100%
2. Hand washing	6	46%	7	54%
3. Prepare Equipment	0	0%	13	100%
4. Maintain privacy	0	0%	13	100%
5. Positioning the patient	0	0%	13	100%
6. Bath the patient face	0	0%	13	100%
7. Bath the patient neck	0	0%	13	100%
8. Bath the patient ear	0	0%	13	100%
9. Bath the patient arm	0	0%	13	100%
10. Bath the patient axilla	0	0%	13	100%
11. Bath the patient abdominal	0	0%	13	100%
12. Bath the patient genital area	0	0%	13	100%
13. Bath the patient legs	0	0%	13	100%
14. Dry the body by towel	0	0%	13	100%
15. Lubricate the body	0	0%	13	100%
16. Documentation	0	0%	13	100%

Table (20): Sterilization of equipment to hygiene comatose patient:

Name of equipment	Yes		No	
	frequency	Percent	frequency	percent
1. Trolley	0	0%	13	100%
2. Tray	0	0%	13	100%
3. Gauze	0	0%	13	100%
4. Tongue pressure	0	0%	13	100%
5. Basin	0	0%	13	100%
6. Syringe	0	0%	13	100%
7. Scissor	0	0%	13	100%
8. Comb	0	0%	13	100%
9. Sponge	0	0%	13	100%
10. Tube of Suction machine	0	0%	13	100%
11. Towel	0	0%	13	100%

Table (20):The table show sterilization to hygiene comatose patient all study samples is not making sterilization with percentage (100%).

Table (21): Positioning comatose patient during hygiene:

Name of position	Yes		No	
	frequency	percent	frequency	percent
1. Mouth hygiene (lateral position)	0	0%	13	100%
2. Genital hygiene (lithotomy position)	0	0%	13	100%
3. Bed bath (side to side)	0	0%	13	100%

Table (21):The table show positioning comatose patient during hygiene all study samples is not make positioning with percentage (100%).

DISCUSSION

Cross sectional descriptive study aimed to assess knowledge and practice among nurses regarding hygiene of comatose patient.

The study involved 50 nurses, the majority of gender was male (26) with percentage (52%), and female was (24) with percentage (48%) as shown in Figure 1, the majority of age between (20-30) with percentage 56% shown in Figure 2.

Most of the study sample their qualification degree was diploma which with percentage 54% (Figure 3). 47% of the study sample their years of experience (1-3) (Figure 4).

In (table1), the study samples who know definition of comatose patient were good knowledge with percentage (24%) and the majority were poor knowledge with percentage (76%). In (table 2), the study sample who know the important of hygiene of comatose patient, the majority were good knowledge with percentage (36%), moderate knowledge with percentage (30%), poor knowledge with percentage (34%). In (table 3), the study sample who know shift to made hygiene of comatose patient were good knowledge with percentage (40%) and the majority were poor knowledge with percentage (60%). In (table 4), the study sample who know the type of hygiene in comatose patient the majority were good knowledge with percentage (66%), moderate knowledge with percentage (14%), poor knowledge with percentage (20%).In (table5), the study samples who know the equipment which are using for hair hygiene were good knowledge with percentage (42%), moderate knowledge with percentage (16%), poor knowledge with percentage (42%). In (table 6), the study samples who know the equipment which are using for eye hygiene the majority were good knowledge with percentage (62%) and poor knowledge with percentage (38%).In (table 7), the study sample who know the equipment which are using for mouth hygiene were

good knowledge with percentage (22%), the majority were moderate knowledge with percentage (58%) and poor knowledge with percentage (20%,). In (table 8), the study sample who know the solutions that are using for mouth hygiene were good knowledge with percentage (26%), moderate knowledge with percentage (20%) and the majority were poor knowledge with percentage (54%). In (table 9), the study sample who know the equipment which are using for skin hygiene were good knowledge with percentage (38%), the majority were moderate knowledge with percentage(48%) and poor knowledge with percentage (14%). In (table 10), the study samples who know the equipment which are using for ear hygiene were good knowledge with percentage (36%), moderate knowledge with percentage (36%), poor knowledge with percentage (28%). In (table 11), the study sample who know the equipment which were using for hand hygiene the majority were good knowledge with percentage (72%) and poor knowledge with percentage (28%). In (table 12), the study sample who know the equipment which are using for nails care were good knowledge with percentage (40%) and the majority were poor knowledge with percentage (60%). In (table 13), the study sample who know the equipment which are using for genital hygiene were good knowledge with percentage (36%) and the majority were poor knowledge with percentage (64%). In (table 14), the study sample who know steps of hygiene of comatose the majority were good knowledge with percentage (72%), moderate knowledge with percentage (18%) and poor knowledge with percentage (10%). In (table 15), the study sample who know the position during hygiene of comatose patient were good knowledge with percentage (42%) and the majority were poor knowledge with percentage (58%). In (table16), the study sample who know the complication of poor hygiene of comatose patient the majority were good knowledge with percentage (56%), moderate knowledge with percentage (18%) and poor knowledge with percentage (26%). In (table17), the study sample who know the good hygiene of comatose patient lead to what, the majority were good knowledge with percentage (58%) and poor knowledge with percentage (42%).

The total percent of knowledge of study sample regarding to hygiene of comatose patient were good knowledge about percentage (45%), moderate knowledge about percentage (14.9%) and poor knowledge about percentage (40.1%).

Availability of equipment to hygiene comatose patient all equipment is not available with percentage(80%) except(Trolley and Gloves and Suction machine and soap with percentage 20% (table 18) and Sterilization of equipment all study sample is not make Sterilization with percentage 100% (table 20) and Step of hygiene in comatose patient all study sample are not making step of hygiene with percentage (100%) except Hand washing with percentage 5.9% (table 19) and all study sample are not making position of hygiene with percentage 100% (table 21).

CONCLUSION

The study was conducted to assess knowledge and practices among nurses regarding hygiene of comatose patient, the following conclusions were found in the study:

- The total percent of study sample who were good knowledge with percentage (45%), moderate knowledge with percentage (14.9%) and poor knowledge with percentage (40.1%).
- The study show poor knowledge among nurses about definition, important, shift, position and equipment in mouth hygiene of comatose patient.
- Also it was shown that moderate knowledge about equipment in skin hygiene (bed bath), and good knowledge about types, steps, and complication of poor hygiene of comatose patient.

❖ Regarding the practice about hygiene of comatose patient it was shown that very poor because:

- All equipment was not available with percentage (80%) except (Trolley, Gloves and Suction machine with percentage (20%)).
- Sterilization of equipment is not done with percentage (100%).
- Most study samples were not done Steps of hygiene with percentage (94.1%) except hand washing with percentage (5.9%).
- All study samples were not done position of hygiene with percentage (100%).

ACKNOWLEDGEMENT

The authors would like to acknowledge Dr. Hassan Daghriri, Dean, Al-Ghad International College for Applied Medical Sciences – Najran Campus, for the inspiration and motivation to pursue this study.

REFERENCES

Aiello, A., Garman, A., & Morris, B. S. (2003). Patient satisfaction with nursing care: A multilevel analysis.Journal of Quality Management in Health Care,12 (3), 187-191.

Agosta L. J., (2010): Patient satisfaction with nurse practitioner-delivered primary healthcare services. Journal of the American Academy of Nurse Practitioners 2009; 21(11): 610–617.

Alasad J., Ahmad M., (2003):Patients' satisfaction with nursing care in Jordan. International Journal of Health Care Quality Assurance; 16(6): 279–285.

Albini, R. M., Soares, V. M., Wolf, A. E., & Gonçalves, C. G. (2013). Knowledge of nursing professionals about the care to dysphagic patients in intensive care units. *Scielo* .

Alhusban, M. A., Abualrub R. F., (2009)**:** Patients' satisfaction with nursing care in Jordan. Journal of Nursing Management; 17(6):749–758.

Basavanthopp, B. T., Fundamentals of Nursing, 2nd edition, jitendervij, new Dalhi, 2009, page 407.

Bryant R, Graham MC., (2002)**:** Advanced Practice Nurses: A Study of Client Satisfaction. Journal of the American Academy of Nurse Practitioners; 14(2): 88–92.

Cobansikci, M., (2010): Reliability and validity of the GI, Kacale of patient perception of hospital experience with nursing care in a Turkish population. Journal of Clinical Nursing; 19(13-14): 1929-1934.

Elliott, D., Aitken, L., Chaboyer, W., ACCCNs Critical Care Nursing, 2nd edition, Elsevier Australia, China, 2012 page 105

Graham J., Denoual I., Cairns D. (2005): apply with your care. Journal of Psychiatric and Mental Health Nursing; 12(2): 173–178.

Han, C. H. (2003). Measuring patient satisfaction as an outcome of nursing care at a teaching hospital of Southern Taiwan. Nursing Care Quality Journal,18 (2), 143 -150.

Hroub, N., Brair, S. (2015), Patients Satisfaction regarding Quality of Nursing Care in the National Center for Diabetes Endocrinology and Genetics in Amman, journal of Basic And Applied Research**;** 1(1): 29-35.

Hekkert, K.D. et al., (2009): Patient Satisfaction Revisited: A Multilevel Approach. Social Science & Medicine; 69(1): 68–75.

Hiidenhovi, H., Nojonen, K., Laippala, P., (2002): Measurement of outpatients' views of service quality in a Finnish university hospital. Journal of Advanced Nursing; 38(1): 59–67.

Hills, R., Kitchen, S., (2007): Toward a theory of patient satisfaction with physiotherapy: Exploring the concept of satisfaction. Physiotherapy Theory and Practice; 23(5): 243–254.

Johansson, P., Oleni, M., Fridlund, B., (2002): Patient satisfaction with nursing care in the context of health care: a literature study. Scandinavian Journal of Caring Sciences; 16(4): 337–344.

Kuosmanen, L., et al.,(2006): Patient satisfaction with psychiatric inpatient care. Journal of Advanced Nursing; 55(6): 655–663.

Land, L.M., Jobanputra P., Webber J., Ross JD., (2012): Patient satisfaction in three clinics managing long-term Hawthorne effect. Journal of Health Economics; 27(2): 444–459.

Laos, C.M., et al., (2012): Mobile Pediatric Emergency Response Team: Patient Satisfaction during the Novel H1N1 Influenza Outbreak. Academic Emergency Medicine; 19(3): 274–279.

Laschinger, HS., Hall LM., Almost JA., (2005):Psychometric Analysis of the Patient Satisfaction with Nursing Care Quality Questionnaire. Journal of Nursing Care Quality; 20(3): 220–230.

Lee, D. S., Tu, J. V., Chong A., Alter D. A.,(2008):Patient satisfaction and its relationship with quality and outcomes of care after acute myocardial infarction. Circulation; 118(19): 1938–1945.

Leonard, K.L., (2008):Is patient satisfaction sensitive to changes in the quality of care? An exploitation of the16-Leonard KL., (2008):Is Hawthorne effect. Journal of Health Economics; 27(2): 444–459.

Levoy, B., (2012): The Keys to Patient Satisfaction. Podiatry Management; 31(1): 39–40.

Merkouris, A., Papathanassoglou, E.D.E., Lemonidou, C.**,** (2004): Evaluation of patient satisfaction with nursing care: quantitative or qualitative approach. International Journal of Nursing Studies; 41(4): 355–367.

Osuala, E. O. (2014). Innovation in prevention and treatment of pressure ulcer: Nursing implication. *Tropical Journal of Research* , 61-68.

Saila, T., et al., (2008) Measuring patient assessments of the quality of outpatient care: a systematic review. Journal of Evaluation in Clinical Practice; 14(1): 148–154.

Sanjita, Khadka, Durgeshori Kisi, Padma Raya, Saphalta Shrestha, Fundamental of Nursing Procedure Manual, 1st edition, Japan International Cooperation Agency (JICA), Japan, 2008, page 32, 33, 19, 21, 26, 27, 28, 29, 35, 36, 37, 38

Shakuntla, Sharma 'Birpuri', Principles and Practice of Nursing,2nd edition, Jaypee Brothers Medical Publishers, New Dalhi, 2012, page 113, 116, 120

Smith, Sandra F., Duell, Donna J., Martin, Barbara C., Clinical Nursing Skills basic to advanced skills, 8th edition, New Jersey,2012, page 210, 236

Taylor, Carol R., Lillis, Carol., LeMone, Priscilla, Pamela Lynn, Fundamentals of Nursing The ART AND SCIENCE OF NURSING CARE, 7th edition, Lippincott Williams & Wilkins., china, 2011, page 865, 867, 884

Wagner, D., Bear, M., (2009): Patient satisfaction with nursing care: a concept analysis within a nursing framework. Journal of Advanced Nursing; 65(3): 692–701.

Wilkinson, Judith M., Treas, Leslie S., Barnett, Karen L., Smith, Mable H., FUNDAMENTALS OF NURSING, 3th edition. F. A. Davis Company , Philadelphia, 2016, page 574, 578.588

World Health Organization (WHO)