Evaluation of Nursing Performance Concerning Nasogastric Tube in Neonatal Intensive Care Unit at al-Batool Teaching Hospital in Baqubah City

تقويم الاداء التمريضي المتعلق بالانبوب الانفي-المعدي في وحدة العناية المركزة لحديثي الولادة في مستشفى البتول التعليمي في مدينة بعقوبة

Aqeel S. Nayef, MscN[*]
Mahdi A. Neamah PhD. Pediatric /Nursing[**]

*** Academic Nurse, Diyala Health Directorate, Ministry of Health, akeelsaad.aa@gmail.com**
****Assistant Professor, Pediatric Nursing Department, College of Nursing, University of Baghdad, drmahdi.1955@gmail.com**

المستخلص:

الهدف: تهدف الدراسة إلى تقويم جودة العناية التمريضية للأطفال المبتسرين خلال التغذية بالأنبوب الأنفي المعدي في وحدة العناية المركزة لحديثي الولادة من خلال تقويم جودة أداء الممرضين للطفل المبتسر أثناء تغذية الأنبوب الأنفي المعدي في وحدة العناية المركزة لحديثي الولادة وللتعرف على العلاقة بين جودة الأداء التمريضي للطفل المبتسّر أثناء تغذية الأنبوب الأنفي المعدي والخصائص الاجتماعية الديموغرافية مع بعض المتغيرات.

المنهجية : تم إجراء دراسة وصفية في وحدة العناية المركزة لحديثي الولادة في مستشفى البتول التعليمي ابتداء من ٢٠ نوفمبر ٢٠١٧ إلى ٢٤ أبريل ٢٠١٨. عينة غرضية غير محتملة من (٢٥) ممرضة كانوا يعملون في وحدة حديثي الولادة . تم جمع البيانات من خلال استخدام أداة الرصد المبنية صُممت لتحقيق الأهداف ، وتتكون من: الجزء الأول الذي يتناول الخصائص الاجتماعية والديموغرافية للممرضات والبيانات الخاصة بالطفل المبتسر ، ويتضمن الجزء الثاني الرعاية التمريضية قبل وأثناء وبعد أنبوب التغذية الأنفي المعدي. . تم استخدام إجراءات التحليل الإحصائي الوصفي والنسبة المئوية ومتوسط الدرجات) و (إجراءات التحليل الإحصائي الاستدلالي (مربع كاي) لتحليل البيانات.

النتائج: أظهرت الدراسة أن غالبية المشاركين في الدراسة هم من الإناث ممن تتراوح أعمارهم بين (٢٠-٢٩) سنة مع دبلوم ، وأن أكثر من نصفهم متزوج ولديهم ما يكفي من الدخل الشهري و كانت سنوات الخبرة في مجال التمريض من (١-٥) سنة وكانت جودة الرعاية قبل، اثناء وبعد الاجراء بمستوى معتدل.

التوصيات: يوصى بتوفير برامج فيديو متقدمة واجتماعات محددة وبرامج وورش عمل وأنشطة تدريبية وحلقات دراسية وكتيب للكادر التمريضي حول كيفية استخدام المعايير العالمية لوضع أنبوب التغذية الأنفي المعدي. وكذلك توفير الادوات والمعدات اللازمة لإجراء عملية ادخال أنبوب أنفي معدي .

الكلمات المفتاحية: تقويم ، أداء. ألانبوب الانفي المعدي.

Abstract

Objectives: The study aim to evaluate nursing performance during nasogastric tube feeding in neonatal intensive care unit.

Methodology: **A** descriptive study was carried out in Neonatal Intensive Care Unit at al–Batool Teaching Hospital, for the purpose of evaluate of quality of nursing performance for premature baby during nasogastric tube feeding in neonatal intensive care unit. The study consumed the period from 4th of December 2017 to the 24nd of April 2018, Non-probability purposive sample of (25) nurses working in the neonatal intensive care unit. The data were collected through the use of Observational instrument which consist of socio-demographic characteristics, quality of nursing care.

Results: The study shows that the majority of participants was female with age (20-29) years with diploma and more half was married with somewhat sufficient of monthly income, years of experience in nursing and neonatal intensive care unit were, quality of care before, during, and after at fair level

Recommendations: Advanced video programs, specific meetings, programs, workshops, training activities and seminars, and Booklet are should be provided for nurses on how to use global standards to placement of the nasogastric feeding tube in NICU. And it's recommended to provide the necessary advanced supplies and equipment for nasogastric feeding tube procedure.

Keywords: Evaluation, Performance, Nasogastric Tube.

Introduction

Nasogastric tube is the promote feeding method for infants with any problem at gastrointestinal tract, comatose baby, babies breathing is increased than normal or with the assistance of a mechanical ventilator and premature babies (1). However, it can be inserted for many indications as, feeding or administration the medication, the indications of NG tube for low birth weight child or newborn have from respiratory distress syndrome, neonatal sepsis and complications related to congenital anomalies, dehydration, and electrolyte imbalances (2).

The use of a feeding tube permissible full enteral feeding in premature babies, "In 1960s and 1970s. However, because of very fast advancement of feeding by this route, the number of very premature babies who advanced necrotizing enterocolitis (NEC) with enteral nutrition improved. In 1970s and 1980s feedings are usually suspended for extended times (weeks) so as to avoid NEC. In the end of 1980s it was perceived that withholding of feedings did not avoid NEC but led to GI atrophy, with wholly its particular difficulties(3).

Importance of the Study

Concerning to the World Health Organization**,** there are around 15 million babies each year who are birth premature about the world. This most important reason of death in the world for children under the age of five are complications of a premature delivery (4). Annually, more than 1 million enteral feeding tube occurred. In reviewing above 2,000 feeding tube placement. 1.3 to 2.4 percent of NG tubes were malpositioned and 28 percent of those resulted in respiratory complications, malpositioned was clear in the revision as placement outside to the GI tract (5).

Objective of the study

The research aim to evaluate quality of nursing care for premature baby during nasogastric tube feeding in Neonatal Intensive Care Unit.

Methodology

3.1 Design of the Study:

Descriptive (correlational) study design performed on quality of nursing care for premature baby during nasogastric tube feeding in neonatal intensive care unit. The present research started from the 4th of December 2017 to 24th of April 2018, in order to assess nursing performance during nasogastric feeding tube placement in NICU.

3.2 Sample of the study

The total sample included (40 nurses), only (5 nurses) were recruited to participate in the Pilot study and (10 nurses) were excluded from being invalid for research criteria. Thus the actual sample size was (25) nurses was purposive selected through a non-probability technique. These nurses worked at neonatal intensive care unit in hospital that have such facilities to provide premature baby nursing care with nasogastric feeding tube.

3.3. Study Instrument:

3.3.1 Part one: demographic characteristics:

A socio-demographic characteristics sheet consists of (9) items, including : nurse's age, gender, marital status, monthly income, residence, level of education, gender, years of experiences in Hospital , years of experiences in neonatal intensive care unit NICU , the nurses have participated training session concerning care of nasogastric feeding tube procedure.

3.3.2. Part Two: Quality of Nursing Care Considering Nasogastric Tube in Premature Baby

It is composed of three axes, which described the following:

I- Identification of the information related to the observation and control of the nurse before nasogastric tube procedure , this axis consists of (15) items.

II- Identification of the information related to the observation and control of the nurse during nasogastric tube procedure.

this axis consist of (12) items.

III- Identification of the information related to the observation and control of the nurse after nasogastric tube procedure : this axis consist of (6) items.

3.4. Data Collection

Data were collected through using of the questionnaire, and the process started at 7th of February 2018 to 24nd of April 2018 after obtaining permission from the hospital for 4th days of week. Where, this process divided into two steps.

3.5 Statistical Data Analysis: (SPSS, 24 version)

3.5.1. Descriptive Data Analysis:

3.5.2. Inferential Data Analysis:

3.6. Ethical Considerations

It is necessary to consider moral issues during the evaluation period, among these ethical considerations are the following:

-Informed consent.
-Do no harm.
-Confidentiality.
-Anonymity

Results

Table (1:) Distributions of Participants According to Sociodemographic

Variables	F	%
Age		
20-29	19	76.0
30-39	6	24.0
Total	25	100.0
Gender		
Female	25	100.0
Male	0	0.0
Total	25	100.0
Educational Qualification		
Nursing High School	9	36.0
Associate degree (Diploma)	10	40.0
Bachelor's degree	6	24.0
Total	25	100.0
Marital Status		
Not married	12	48.0
Married	13	52.0
Total	25	100.0
Years of experience in NICU: Mean (SD) = 4.7 ± 4.7		
1-5	20	80.0
6-10	2	8.0
≥ 11	3	12.0
Total	25	100.0
Years of experience in nursing: Mean (SD) = 2.4 ± 2.9		
1-5	23	92.0
6-10	1	4.0
≥ 11	1	4.0
Total	25	100.0
Residency		
Urban	25	100.0
Rural	0	0.0
Total	25	100.0
Monthly income		
Somewhat sufficient	15	60.0
Sufficient	10	40.0
Total	25	100.0
Participation in training courses		
Yes	4	16.0
No	21	84.0
Total	25	100.0
Place of training courses		
Inside Iraq	4	100.0

F= frequency, %= percent

Most of study participants are within the age group of (20-29) years-old (*n = 19*; 76.0%), followed by those who age (30-39) years-old (*n = 6*; 24.0%). Concerning gender, all participants are females (*n = 25*; 100.0%). Regarding educational qualification, two-fifth hold an associate degree "Diploma" (*n = 10*; 40.0%), followed by those who are nursing high school graduates (*n = 9*; 36.0%), and those who hold a bachelor's degree (*n = 6*; 24.0%). With respect to marital status, more than a half are married (*n = 13*; 52.0%) compared to not married participants (*n = 12*; 48.0%).

Concerning years of experience in nursing, the years mean is 4.7 ± 4.7; the majority have (1-5) years of experience in NICU (*n = 20*; 80.0%), followed by those who have 11 years or more (*n = 3*; 12.0%), and those who have (6-10) years (*n = 2*; 8.0%). Regarding years of experience in nursing, the years mean is 2.4 ± 2.9; the vast majority have (1-5) years of experience in nursing (*n = 23*; 92.0%), followed by those who have each of (6-10) years and 11 years or more (*n = 1*; 4.0%).

With respect to residency, all participants live in urban areas (*n = 25*; 100.0%). Concerning monthly income, most reported that they have somewhat sufficient income (*n = 15*; 60.0%) compared to those who have sufficient income (*n = 10*; 40.0%).

The majority reported that they didn't participate in any training course related to NG tube (*n = 21*; 84.0%) compared to those who participated in such courses (*n = 4*; 16.0%). All these courses were held inside Iraq (*n = 4*; 100.0%).

Table (2:) Quality of Nursing Care before Nasogastric Tube Procedure

Items	Observation 1			Observation 2			Observation 3			* Mean (SD)	Assess.
	NA (f %)	AI (f %)	A (f %)	NA (f %)	AI (f %)	A (f %)	NA (f %)	AI (f %)	A (f %)		
1.Hands washing	14 (56%)	4 (16%)	7 (28%)	6 (24%)	7 (28%)	12 (48%)	8 (32%)	8 (32%)	9 (36%)	2.0 ± .26	**Fair**
2.Wearing sterile gloves	2 (8%)	23 (92%)	0 (0.0%)	1 (4%)	19 (76%)	5 (20%)	6 (24%)	18 (72%)	1 (4%)	1.96 ± .18	**Fair**
3. Wearing a face mask	19 (76%)	0 (0.0%)	6 (24%)	14 (56%)	1 (4%)	10 (40%)	10 (40%)	1 (4%)	14 (56%)	1.82 ± .34	**Fair**
4.Wearing a sterile gown	1 (4%)	0 (0.0%)	24 (96%)	1 (4%)	0 (0.0%)	24 (96%)	1 (4%)	0 (0.0%)	24 (96%)	2.92 ± .00	**Good**
5.Wearing cover shoes	1 (4%)	0 (0.0%)	24 (96%)	2 (8%)	2 (8%)	21 (84%)	2 (8%)	1 (4%)	22 (88%)	2.84 ± .10	**Good**
6. Preparing the equipment	1 (4%)	18 (72%)	6 (24%)	2 (8%)	20 (80%)	3 (6%)	0 (0.0%)	23 (92%)	2 (8%)	2.10 ± .08	**Fair**
7.Preparing thee quip-ment trolley	24 (96%)	1 (4%)	0 (0.0%)	24 (96%)	1 (4%)	0 (0.0%)	22 (88%)	0 (0.0%)	3 (12%)	1.10 ± .11	**Poor**
8.Sterilizing the trolley between one patient and another	18 (72%)	2 (8%)	5 (20%)	14 (56%)	9 (36%)	2 (8%)	20 (80%)	3 (12%)	2 (8%)	1.42 ± .12	**Poor**

9. Preparing the baby and family	1 (4%)	4 (16%)	20 (80%)	4 (16%)	21 (84%)	0 (0.0%)	1 (4%)	8 (32%)	16 (64%)	2.73 ± .12	**Good**
10. Explaining the procedure to the baby's family	4 (16%)	13 (52%)	8 (32%)	4 (16%)	17 (68%)	4 (8%)	6 (24%)	16 (64%)	3 (12%)	29.6 ± .68	**Good**
11. Cleaning and sterilizing the baby's nasal nostrils with a sterile cloth	3 (12%)	0 (0.0%)	22 (88%)	3 (12%)	1 (4%)	21 (84%)	6 (24%)	0 (0.0%)	19 (76%)	2.01 ± .14	**Fair**
12.Placing the baby in a 30-40 degree position	5 (20%)	13 (52%)	7 (28%)	6 (24%)	16 (64%)	3 (12%)	4 (16%)	17 (68%)	4 (16%)	2.66 ± .12	**Good**
13.Placing a towel over the baby's chest to keep the baby's skin	10 (40%)	1 (4%)	14 (56%)	14 (56%)	1 (4%)	10 (40%)	7 (28%)	0 (0.0%)	18 (72%)	1.98 ± .10	**Fair**
14.Measuring the tube from tip of the nose to the earlobe and then to a point halfway between the xyphoid and the umbilicus.	9 (36%)	16 (64%)	0 (0.0%)	2 (8%)	23 (92%)	0 (0.0%)	13 (52%)	11 (44%)	1 (4%)	1.69 ± .20	**Fair**
15.Marking size of the nasogastric tube by a marker or tape after measure it	23 (92%)	1 (4%)	1 (4%)	21 (84%)	3 (12%)	1 (4%)	14 (56%)	10 (40%)	1 (4%)	1.26 ± .18	**Poor**

***** The mean score is for the three observations

A: Applied correctly, AI: Applied incorrectly, NA: Not applied

Cut-off-point: 1-1.66 = Poor, 1.67-2.33 = Fair, 2.34-3.0 = Good

Table (3:) Quality of Nursing Care During Nasogastric Procedure

Items	**Observation 1**			**Observation 2**			**Observation 3**			*** Mean (SD)**	**Assess.**
	NA (f %)	**AI (f %)**	**A (f %)**	**NA (f %)**	**AI (f %)**	**A (f %)**	**NA (f %)**	**AI (f %)**	**A (f %)**		
16.Making sure that the position of the baby in 30-40 degrees	2 (8%)	20 (80%)	3 (12%)	4 (16%)	14 (56%)	7 (28%)	3 (12%)	11 (44%)	11 (44%)	2.16 ± .14	**Fair**
17.Wetting the edge of the nasogastric tube with a sterile water	1 (4%)	11 (44%)	13 (52%)	0 (0.0)	6 (24%)	19 (76%)	0 (0.0)	12 (48%)	13 (52%)	2.58 ± .15	**Good**

18.Insert the nasogastric tube through the nasal opening gently	0 (0.0)	0 (0.0)	25 (100)	1 (4%)	0 (0.0)	24 (96%)	0 (0.0)	8 (32%)	17 (68%)	2.86 ± .16	**Good**
19. Removing the nasogastric tube if there is an obstade	14 (56%)	1 (4%)	10 (40%)	11 (44%)	7 (28%)	7 (28%)	13 (52%)	6 (24%)	6 (24%)	1.80 ± .06	**Fair**
20.Wetting the edge of the tube with steril water again when its inserted by another opening	23 (92%)	1 (4%)	1 (4%)	15 (60%)	6 (24%)	4 (16%)	13 (52%)	9 (36%)	3 (12%)	1.42 ± .26	**Poor**
21. Withdrawing of the tube when vomiting occur into the baby	0 (0.0)	0 (0.0)	25 (100)	5 (20%)	9 (36%)	11 (44%)	1 (4%)	7 (28%)	17 (38%)	2.62 ± .38	**Good**
22. Withdrawing of tube if signs of respiratory distress occur: cynosis,prolong cough ,tachypnea	20 (80%)	2 (8%)	3 (12)	13 (52%)	5 (20%)	7 (28%)	18 (72%)	3 (12%)	4 (16%)	1.04 ± .20	**Poor**
23.Fixing the nasogastric tube on the baby's nose or upper lip using adhesive tape	0 (0.0)	11 (44)	14 (56)	0 (0.0)	10 (40%)	15 (60%)	0 (0.0)	6 (24%)	19 (76%)	1.52 ± .22	**Poor**
24.Using a stethoscope to check the pathway of the nasogastric tube	12 (48%)	1 (4%)	12 (48)	14 (56%)	0 (0.0)	11 (44%)	12 (48%)	0 (0.0)	13 (52%)	1.97 ± .08	**Poor**
25. Using a 3ml or 5 ml disposible syringe that containing air	0 (0.0)	0 (0.0)	25 (100)	0 (0.0)	0 (0.0)	25 (100)	0 (0.0)	0 (0.0)	25 (100)	3.00 ± .00	**Good**
26.Connecting the syringe to the nasogastric tube	0 (0.0%)	4 (16%)	21 (84%)	0 (0.0%)	0 (0.0%)	25 (100%)	0 (0.0%)	0 (0.0%)	25 (100)	2.94 ± .09	**Good**
27. Pushing the air into the gastrointestinal cavity to ascertain the pathway of the nasogastric tube	1 (4%)	6 (24%)	18 (72%)	2 (8%)	8 (32%)	15 (60%)	1 (4%)	12 (48%)	12 (48%)	254 ± .12	**Good**

* The mean score is for the three observations

A: Applied correctly, AI: Applied incorrectly, NA: Not applied

Cut-off-point: 1-1.66 = Poor, 1.67-2.33 = Fair, 2.34-3.0 = Good

Table (4 :)Quality of Nursing Care after Nasogastric Procedure

Items	Observation 1			Observation 2			Observation 3			* Mean (SD)	Assess.
	NA (f %)	AI (f %)	A (f %)	NA (f %)	AI (f %)	A (f %)	NA (f %)	AI (f %)	A (f %)		
28.Connecting the tube to the feeding equipment or need a valve according to the doctor's order	15 (60%)	0 (0.0%)	10 (40%)	10 (40%)	0 (0.0%)	15 (60%)	12 (48%)	0 (0.0%)	13 (52%)	2.01 ± .20	**Fair**
29.Removing personal protective equipment : gloves, mask	3 (12%)	0 (0.0%)	22 (88%)	3 (12%)	5 (20%)	17 (68%)	0 (0.0%)	6 (24%)	19 (76%)	2.69 ± .11	**Good**
30.Disposing of medical waste in safe places	0 (0.0%)	0 (0.0%)	25 (100%)	0 (0.0%)	2 (8%)	23 (92%)	0 (0.0%)	1 (4%)	24 (96%)	2.96 ± .04	**Good**
31. Hand washing	22 (88%)	0 (0.0%)	3 (12%)	15 (60%)	5 (20%)	5 (20%)	10 (40%)	5 (20%)	10 (40%)	1.61 ± .38	**Poor**
32. Follow up the health status of the premature baby	0 (0.0%)	2 (8%)	23 (92%)	2 (8%)	4 (16%)	19 (76%)	0 (0.0%)	4 (16%)	21 (84%)	2.81 ± .12	**Good**
33.Recording the information of nasogastric tube insertion like, date and time , size and type of tube, extent of baby response to procedure	5 (20%)	5 (20%)	15 (60%)	3 (12%)	7 (28%)	15 (60%)	3 (12%)	12 (48%)	10 (40%)	2.38 ± .10	**Good**

* The mean score is for the three observations

A: Applied correctly, AI: Applied incorrectly, NA: Not applied

Cut-off-point: 1-166 = Poor, 1.67-2.33 = Fair, 2.34-3.0 = Good

Discussion

Part I: Discussion of the Demographics

Concerning participants' age, most of study participants are within the age group of (20-29) years-old, followed by those who age (30-39) years-old with percent (24.0%) nurses. This finding agrees with the study who found that less than two thirds of the studied nurses' age were from 20-30 years with mean age of 22.8±0.52[6] , and supported with study who show that more than half of the nurses their ages ranged between (20-25) years [7]. Regarding gender, all participants were females. This finding agrees with study who found that (93.3%) of study participants were females [7]. With respect to educational qualification, two-fifth hold an associate degree "Diploma", followed by those who are nursing high school graduates, and those who hold a bachelor's degree. This finding of the present study supportive evidence is available in the study who reported that the majority of nurses had secondary degree of education [8]. This finding is congruent with the study who found that more than a half have diploma in nursing [9].

Concerning the subjects' marital status, more than a half of the study participants are married. This finding is consistent with the result of the study who found that most of study participants were married [9]. Regarding the years of experience in nursing, the years mean is 4.7 ± 4.7; the majority have (1-5) years of

experience in nursing, followed by those who have 11 years or more. This finding agrees with that obtained by finding of the study who found that around a half have (1-5) years of experience [9], and Consistently, this finding agrees with the result of the study who reported that 60% of participants had 0-<1 year of experience, 26% had1-<2 years, 12% had 2-<3 and only 2% had 3 or more years of experience [10]..

Regarding years of experience in NICU, the years mean is 2.4 ± 2.9; the vast majority have (1-5) years of experience in NICU, followed by those who have each of (6-10) years and 11 years or more. This finding agrees with finding of the study who reported that a half of participants have less than two years of experience in NICU [11]. Consistently, this finding agrees with the study who found that the majority of study sample have less than three years [12].

The majority reported that they didn't participate in any training course related to NG tube compared to those who participated in such courses. This finding agrees with finding of the study who found that all study subjects did not have any previous training course about nasogastric tube feeding [13]. (Table 1).

Part II: Discussion of Quality of Nursing Care Related to NGT procedure

1. Quality of nursing care before nasogastric tube procedure

Regarding the quality of nursing performance before nasogastric tube procedure, the study finding revealed that the majority of nurses have a fair performance in hand washing and for wearing sterile gloves, with respect to nurses' performance related to wearing a face mask, preparing equipment for nasogastric tube, cleaning and sterilizing the baby's nostrils with a sterile cloth, placing a towel over the baby's chest to keep the baby's skin, and measuring the tube from the tip of the nose to the earlobe and then to a point halfway between the xyphoid and the umbilicus, nurse's performance was at a fair level.

These findings are supported with findings of the study which reported that hand washing (wash hands with soap and water before and after completion of the tasks and duties with time (40 - 60 second) with pass assessment, and had a pass assessment for wearing the gloves (necessity of wear the gloves before touching the patient) [11]. Consistently, these findings are also supported with the study who found that nursing performance to use personal protective equipment (wear a face mask) when begin to work was at a pass level [14].

Furthermore, this finding is supported by findings of the study which found that (83.3%) of nurses had competent practical performance about measure tube for approximate length. More than half of nurses had incompetent performance regarding quality of nursing care for high risk neonate receiving nasogastric tube feeding , also show that more than half of the study sample had competent performance with percent (66.7 %) nurses have competent performance with wash hands ,and percent (50%) competent performance with prepare equipment [16].

Regarding nurses' performance pre-NGT, the study findings revealed that participants have poor level of performance for the items (Prepare of trolley for equipment preparation, Sterilize trolley between patient and another, and mark size of the

nasogastric tube by a marker or tape after measure it). This finding is supported by finding of the study who showed that more than half of the studied nurses had an unsatisfactory level of practice regarding care given before NG feeding tube [7], then these concur with the study who mentioned that levels of performance as regards to pre-administration of medication via nasogastric tube were unsatisfactory less than two third and approximately one-half of the studied sample incorrectly practice this procedure [15] (Table 2).

2. Quality of Nursing Care during Nasogastric Tube Procedure

Concerning nurses' performance during NGT, the study findings revealed that the quality of nursing care during nasogastric feeding tube procedure are good for the majority of nurses for the items (moisturizing the edge of the nasogastric tube with sterile water, insert the nasogastric tube through the nasal opening gently, remove of tube when vomiting occur into the baby, use syringe 3ml or 5 ml disposable containing air, connecting a syringe with nasogastric tube, and push air into the gastrointestinal cavity to ascertain the pathway of the nasogastric tube) .

This finding disagrees with findings of the study who clarified that studied nurses' practice scores about care given during NG tube were unsatisfactory [7]. Furthermore, this finding disagree with result of the study who reported that nurses' practice of NG tube feeding was unsatisfactory [10].(Table 3)

3. Quality of Nursing Care after Nasogastric Tube Procedure

Regarding nurses' practices after NGT, the study finding revealed that the majority of nurses' performance were good for the items (remove personal protective equipment: gloves, mask and dispose of medical waste in safe places, this finding of the present study supportive evidence is available in the study that showed all participants have more than average practice level and (57.14%) have very good practice [10].

In addition to that nursing performance related nasogastric tube procedure in item dealing with (connect the tube with the feeding equipment or need a valve according to the doctor's order) with mean (SD) = 2.01 ± .20, this result clarified that fair assessment of nursing performance related feeding practice this goes back that related of the patient administrating of feeding to the baby in neonatal intensive care unit (Researcher) (Table 4).

Recommendations:

Based on the aforementioned conclusions, the researcher recommends the following:

1. There is must be a plan of quality improving considering neonatal services in neonatal intensive care unit through:

-Initiation of the "Professional Nursing Practice Committee" which is uncharged of developing, evaluating, reviewing the policies, procedures & standards of care for professionals Practice Nursing.

-Updating of protocols and standards, programs, workshops, training activities and seminars concerning nasogastric feeding tube decreasing of nosocomial infection rate, parental education, improving of discharge planning and the follow up needs of our infants/families.

2. The Iraqi Ministry of Health should provide the necessary advanced supplies and equipment for nasogastric feeding tube procedure in NICU.

3. Future studies are recommended.

References:

1. Brown, J. M., & Schmidt, N. A. (2012). Evidence-based practice for nurses: Appraisal and application of research.
2. Abed M., & Salih A., (2018). The effect of educational program on nurse's knowledge and practices about nasogastric tube feeding at neonatal intensive care units. *Journal of Nursing Education and Practice*, *8*(8),21.Retrived from: file:///C:/Users/Future/Downloads/12578-46467-1-PB%20(6).pdf
3. Örs, R. (2013). The practical aspects of enteral nutrition in preterm infants. *Journal of Pediatric and Neonatal Individualized Medicine (JPNIM)*, *2*(1), 35-40.
4. World Health Organization. (2015). WHO recommendations on interventions to improve preterm birth outcomes.
5. Childern'sHospital Association,(2012).Blind Pediatric NG Tube Placements: Patient Safety Alert. Retrived from: https://www.childrenshospitals.org/quality-and-performance/patient-safety/alerts/2012/blind-pediatric-ng-tube-placements
6. Zaki, A. M., (2014). Quality of Nursing Care Provided for Neonates with Tracheoesophageal Fistula.
7. AL-Hawaly, M. N., IBRAHIM, M. H., & QALAWA, S. A. (2016). Assessment of Nurses' Knowledge and Performance Regarding Feeding Patients with Nasogastric Tube in Ismailia General Hospital. *Significance*, *10*, 11.
8. Shehab, M. S., Abd-Elkader, H., & Ibrahim, N. M. (2016). Assessment of Nurses' Practice Related to Managing Patients with Dyspnea at Emergency Units at Port Said hospitals. *International Journal of Caring Sciences*, *9*(3), 1066.
9. Abd El Fattah, N., Negawa, A., & El Dein, Z. (2009). Assessment of quality of nursing care provided immediately after birth at university hospital. *Life Science Journal*, *9*(4), 2115-26.
10. Ahamed, N., & Mondal, D. (2014). Assessment of Knowledge and Practice of Staff Nurses Regarding Ryle's Tube Feeding in a Selected Hospital of Kolkata, West Bengal. *SMU Medical Journal*, *1*(2), 294-302.
11. Mansi, Q. H. & Aziz, A. R., (2017). Assessment Quality of Nursing Care Provided to Neonates with Respiratory Distress Syndrome at Intensive Care Unit in AL-Nasiriyah City Hospitals. *Kufa Journal for Nursing Sciences|.p.55*
12. Ahmed, G. E., & Abosamra, O. M. (2015). Knowledge of Pediatric Critical Care Nurses Regarding Evidence Based Guidelines for Prevention of Ventilator Associated Pneumonia (VAP). *Journal of Education and Practice*, *6*(9), 94-101.
13. Bedier, N. A., EL-Ata, A. B. A., & Shehab, M. S. (2016). Effect of Educational Program on Nurses' Practice Related to Care of Patients Undergoing Nasogastric Tube Feeding. *International Journal of Caring Sciences*, *9*(2), 432.
14. Iiiyasu,G., Dayyab, F., Habib, Z., Tiamiyu, A., Abubakar , S.,

Mijinyawa,M., and habib,A.(2016) : Knowledege and practices of infection control among healthcare workers in a tertiary referral center in north – western nigeria . afr J med sci. Vol. (15),No. (1) Pp. 34 .

15. Metwaly E. A.(2013).: Nurses' Performance Regarding NasogastricTube Feeding In Intensive Care Units, Unpublished Master Thesis. Faculty of Nursing Zagazig, University.
16. Ahmed F.A.,(2009).Quality of nursing care for high risk neonate recieving nasogastric tube feeding at benha university.faculty of nursing /Benha university, Study Instrument.