Assessment of Nurses' Knowledge about Intravenous Fluid Administration at Basra General Hospital

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ABSTRACT

Background
Intravenous fluid administration to form correctly it is very important to maintain the health of the potential complications that occur through the administration, so it is important to assessment the level education of nurses and development the ideas about intravenous fluid.

Objectives
To assessment of nurse's level of education about Intravenous Fluid Administration at Basra General Hospital.

Methodology
The study was descriptive cross-sectional one, on sample of 300 nurse in Basra general hospital. Closed-end questions questionnaire was used for the purpose of data collection; the data collection was carried out from December 2017 to March 2018.

Results
This study showed that 34%of the sample were males and 66%were fameless regarding the age 65%of the sample age 19-28 and 213% were 29-38 and 5,3% were 39-48 and 8,4%were 49 and above that's mean The highest Percent was the age 19-28
Regarding the distribution according to working place 24%in emergency ward , also 24%in the medical ward, 28%in the surgica ward ,6%in icu and 15%in the pediatric ward and2%in the other ward .regarding the level education 7% primary school level, 9,7%intermediate school,38,7%sechonary school,50,7%health institute and 3% college level
Regarding years employment 77%were from 1-19 years, 10, 6%were from 10-19 years, 6%were from 20-29 years 6, 4%were from 30-39years.
Regarding years of practice in there wards 71%less than one years,9,6% for one years,4% for five years,6%for three years,14%for years ,and 2%for six and seven years .
So the nurses scoring of knowledge about iv fluid administrations we found 11%of the study nurses had 51%scors, 14%had scores 52-61,34,4%had scors62-71,27%had scores 72-81
8, 3%had scores 82-91 and 5,3%had scores 92 and above and when we had down Pearson correlation between age and scores and between gender and scoring also the ward and scoring, the level of education and scoring, years of employment and scoring, years of practice and scoring we found all of these correlation is negative the is no correlation between every one

Conclusions
1-The study showed that 34 % of the sample were males and 66 % were females
2-The highest percent of the study sample was at the age 19 to 28 years
3-More than half of the sample were had a level of education of   health institute
4-Most of the study sample had less than 10 years of employment
5-Most of the nurses had a good knowledge about IV fluid , were the were got high scoring
6-We havnt find any correlation between the variables and the scores they got

Keywords: Nurses' Knowledge, Assessment, Intravenous Administration, Basra, Iraq.

INTRODUCTION

Intravenous fluid is a common practice today. It is an efficient and effective procedure of supplying fluids directly into the extracellular fluid compartment; specially the venous system (1).

Intravenous fluid is a type of medical treatment in which medication is delivered directly into the body via a blood vessel, the spinal cord, or a muscle. This type of therapy is used when treating a condition with oral medication is not an option for a variety of reasons, ranging from swallowing disorders to the use of

medications that would be destroyed in the stomach and must therefore be delivered directly. It can be used to treat a number of different conditions (2).

THE PURPOSE OF INTRAVENOUS FLUID

Is to maintain daily fluid or electrolyte requirements or place lost fluids or electrolytes .when pt. Are unable to meet daily requirements through oral intake .iv fluid are given .standard IV solutions do not meet daily caloric, protein, or fat requirements. Only solutions containing dextrose have calories .solutions containing dectrose5% have 170 calories per1000 ml.higher dextrose solutions have more calories 10% dextrose contains 340 calories per 1000ml .

Patient factors that effects the choice of solutions include

*renal functions

*daily maintenance requirements

*existing fluid and electrolyte imbalance

*clinical status (3)

The infusions of fluids into the peripheral veins is often indicated when pts is unable to take fluid orally. Intravenous therapy is used to maintain or to restore fluid balance, to maintain or to replace electrolytes, administer water-soluble vitamins to provide a source of calories and nutrients administer drugs and to replace blood and blood products (4,5).

Intravenous fluid

Is the giving of liquid substances directly into a vein. It can be intermittent or continuous; continuous administration is called an intravenous drip.(6)

The word intravenous simply means "within a vein", but is most commonly used to refer to IV therapy. Therapies administered intravenously are often called specialty pharmaceuticals. (7,8)

Other materials called "solutes." Within IV solutions, the solutes can be molecules called electrolytes (charged particles such as sodium, potassium, and chloride) and/or other larger compounds such as proteins or molecules (9)

Important Uses of intravenous fluid:

• Establish or maintain fluid and/or electrolyte balance

• Administer medication continuously or intermittently

• Administer bolus medication

• Administer fluid to maintain venous access in case of an emergency

• Administer blood or blood products

• Administer intravenous anesthetics

• Maintain or correct a patient's nutritional status

• Administer diagnostic reagents

• Monitor hemodynamic functions

• Correct acidosis or alkalosis. (10,11,12).

Importance of the study

The nurse plays an important role before insertion cannula by teaching the patients about the procedure; prepare sterile equipment good skin preparation to the IV sites a septic technique during therapy by daily inspections of the i.v sites.

The nurses responsible for administration IV fluid .medication, blood transfusion and its products, assessing IV solutions.

And importance point from this study to practices and minimize the risk factors which complicated the IV fluid therapy.

Goals of the project

1. to assessment of nurse's knowledge about intravenous fluid at Basra general hospital.

2.to find out the relationship between nurses knowledge and the demographic variables that include age,sex, level of education, years of employment, years of experience and training sessions.

3. To find out the relationship between nurses knowledge and intravenous fluid therapy complications.

METHODOLOGY

Design of the study: A descriptive cross-sectional study design was carried out in Basra general hospital, started from December1st 2017up to30 March 2018 in order to assess the nurse's knowledge about intravenous fluid.

Setting of the study: The present study carried out in Basra general hospital.

The sample of the study: A probability (random) sample of (300) nurses males and females in Basra general hospital were selected for the purpose of the study, they were working in different wards in the hospital.

Study's instrument: A Closed-end questions questionnaire was used for the purpose of data collection. The questionnaire contains two parts, the first part consists of 6 items related to Socio-demographic characteristics of the nurses and include: age, gender, working wards, the educational levels, years of employment and Number of training sessions in intravenous fluid therapy. The second part of the questionnaire consists of 25 questions that are concerned the nurses knowledge about intravenous fluid therapy. Standardized 4- points Likert scale including: strongly agree, agree, don't agree and strongly don't agree. The already performed questionnaire forma was distributed to 300 nurses were they read the forma and answer them, the forma the collected by the researchers, each forma was scored according to the right typical answer.

Statistical analysis : Analsis was made by using SPSS (Statistical package for Social Sciences) version 16, data was expressed in (frequency and percentage). Correlations were used to examine the association between different variables.

The scoring was graded as followers.
32% to 51% needs improvement
52% to 71% adequate
72% and above % excellent.

RESULTS

Table 1: Socio demographic characteristics of the participants (N=300)

Characteristics of the participants	Categories/groupings	Frequency	Percent (%)
Gender	Male	102	34.0
	Female	198	66.0
Age in years	19–28 years	195	65
	29–38	64	21.3
	39–48	16	5.3
	49 and above	25	8.4
Ward	Emergency	73	24.3
	Medical	73	24.3
	Surgical	85	28.3
	Intensive care unit	19	6.3
	Pediatric	44	14.7
	Others	6	2.0
Education level	Primary	2	7
	Interim	29	9.7
	Secondary	116	38.7
	College	1	3
	Institute	152	50.7
Years of employment	1–9	231	77
	10–19	32	10.6
	20–29	18	6
	30–39	19	6.4
Years of Practice			
	Less than one	213	71
	1	29	9.6
	2	12	4
	3	18	6
	4	4	1.4
	5	12	4
	6	6	2
	7	6	2

Table 1 shows the demographic table showed that 34 % of the sample were males and 66 % were females

Regarding the age 65 % of the sample aged 19 to 28 , 21.3 % were 29 to 38 , 5.3 % were 39 to 48 and 8.4 % were 49 and above , that is mean the highest percent was at the age 19 to 28 years regarding the distribution according to working place 24 % in emergency ward , also 24 % in the medical ward , 28 % in the surgical ward , 6 % in the ICU , 15 % in the pediatric ward and 2% in other ward .

Regarding the level of education 7 % primary school level , 9.7 % intermediate school , 38.7 % secondary school , 50.7 % health institute and 3 % college level .

Regarding years of employment 77 % were from 1 to 10 years , 10.6 % were from 10 to 19 years , 6 % were from 20 to 29 years , 6.4 % were from 30 to 39 years Regarding years of pracice in thier

wards , 71 % less than one year , 9.6 % for one year , 4 % for two and five years , 6 % for three years , 1.4 % for four years , and 2 % for six and seven years .

Table 2: Distribution of the studied population according to the scoring

Scoring interval	Frequency	Percentage
32 – 41	11	3.6
42 – 51	22	7.4
52 – 61	42	14
62 – 71	103	34.4
72 – 81	81	27
82 – 91	25	8.3
92 and above	16	5.3
Total	300	100

the table showed that 11 % of the studied population had scores 51 and less , 14 % had scores between 52 to 61 , 34.4 % had scores 62 to 71 , 27 % had scores 72 to 81 , 8.3 % had scores 82 to 91 and 5.3 % had scores 92 and above.

Table 3: The correlation between age and scoring

	Scores	Age	Result
Pearson Correlation	1	.053	
Sig. (2-tailed)		.363	Insignificant
N	300	300	

The table showed no correlation between age of the population and the scoring they get.

Table 4: The correlation between gender and scoring

	Scores	Gender	Result
Pearson Correlation	1	.028	
Sig. (2-tailed)		.632	Insignificant
N	300	300	

The table showed that no correlation between the gender of the population and the scoring they get .

Table 5: The correlation between ward and scoring

	scores	Ward	Result
Pearson Correlation	1	-.059-	
Sig. (2-tailed)		.311	insignificant
N	300	300	

The table showed that no correlation between the ward of the population and the scoring they get.

Table 6: The correlation between level of education and scoring

	Scores	Levels	Result
Pearson Correlation	1	-.111-	
Sig. (2-tailed)		.056	insignificant
N	300	300	

The table showed that no correlation between the level of education of the population and the scoring they get.

Table 7: The correlation between years of employment and scoring

	Scores	Years	Result
Pearson Correlation	1	.043	
Sig. (2-tailed)		.460	insignificant
N	300	300	

The table showed that no correlation between the years of employment of the population and the scoring they get.

Table 8: the correlation between years of practices and scoring

	Scores	Practice	Result
Pearson Correlation	1	.048	
Sig. (2-tailed)		.407	insignificant
N	300	300	

The table showed that no correlation between the years of employment of the population and the scoring they get.

DISCUSSION

Greater intention to IV fluid administration should be made during preparing nursing education program and it should be prior in continuing professional development. Our study showed that 34% of the samples were males and 66%were female that is mean females nurses were more cooperative than males regarding the agreement in sharing in research process

Regarding the age 65%of the sample age 19-28 and 13% were 29-38 and 5,3% were 39-48 and 8,4%were 49 and above that's mean The highest Percent was the age 19-28 .Regarding the distribution according to working place 24%in emergency ward , also 24%in the medical ward, 28%in the surgical ward ,6%in ICU and 15%in the pediatric ward and2%in the other ward .regarding the level education 7% primary school level, 9,7%intermediate school,38,7%sechondary school,50,7%health institute and 3% college level , that is mean most of the nurses were either from secondary nursing schools or heath institution level

Regarding years employment 77%were from 1-19 years, 10, 6%were from 10-19 years, 6%were from 20-29 years 6, 4%were from 30-39years.

Regarding years of practice in there wards 71%less than one years,9,6%for one years,4% for five years,6%for three years,14%for years ,and 2%for six and seven years ,the nurses scoring of knowledge about iv fluid administrations we found 11%of the study nurses had 51%scors, 14%had scores 52-61,34,4%had scors62-71,27%had scores 72-81 and8, 3%had scores 82-91 and 5, 3%had scores 92 and above , that is mean most if the nurses had acceptable knowledge about IV fluid therapy and when we had done Pearson correlation between age and scores and between gender and scoring also the ward and scoring, the level of education and scoring, years of employment and scoring, years of practice and scoring we found all of these correlation is negative the is no correlation between every one

It had been noted that the mean of scores was not significant on all items and it had been noted that similar with other research in 2001was done be done be Abdul-hussein Mohammed fajer al-gannem(13), but the different is by the practices he found that nurses practices have beeter acknowledge and acceptable in teaching hospital while in this study the nurses practices disagreed in relation with their knowledge about iv administration based on the result of the present study nurses should have in service education in order to obtain to date practices regarding iv administration because the result of the study indicated break technique and inadequate knowledge about iv therapy.

CONCLUSIONS

1-The study showed that 34 % of the sample were males and 66 % were females.

2-the highest percent of the study sample was at the age 19 to 28 years.

3-more than half of the sample were had a level of education of health institute

4-Most of the study sample had less than 10 years of employment.

5-Most of the nurses had a good knowledge about IV fluid , were the were got high scoring.

6-We havnot find any correlation between the variables and the scores they got.

RECOMMENDATIONS

1-An aditional courses in IV fluid knowledge should done to enhance nurses knowledge .

2-Long term course about IV fluid therapy for six months including IV injection and therapy .

3-Courses in the english language to inhance their knowledge in understanding what was written in the IV pack and drugs .

4-Monthly evalaution for the staff to know their level of knowledge in IV fluid therapy.

5-The nurses should follow NANDA and WHO instractions about iv fluid .

6-An educational posters about IV fluid should be made and put every where in the hospitals .

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