A Study to Assess the Knowledge on Fluid Calculation among III rd Year B.Sc (N) Students at Narayana College of Nursing, Nellore, A.P.

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Abstract: Calculation of fluid is also a part of administration of fluid and medication as a physician is responsible for ordering the type of solutions, the volume to be supplied may define the calculation of fluid in a different ways. Calculation of fluid is important because it is probable to give too little to meet the patients need or so much that the following system is over load. Additional factors must be taken into consideration when determining insensible fluid losses. There are many mechanisms of determining the maintenance fluid requirements for children. Each of these methods, while providing a reasonable estimate of maintenance fluids. Cannot account for the physiologic changes that occur in hospitalized children. For this reason, when calculating maintenance fluids, pharmacist must always keep in mind factors that may affect fluid balance and changed needs. Hospitalized children frequently have elevated fluid requirements due to their illness. Patients suffering from fever, burn injuries, hyper metabolic states, pain, asthma and increased intestinal losses may all have elevated maintenance fluid requirements. Burn patients in particular are a classic example of patients with increased fluid needs due to higher metabolic rates. **Objectives: 1.** To assess the level of knowledge regarding fluid calculation procedure. **2.** To find out the association knowledge regarding fluid calculation procedure with socio demographic variables. **Methodology:** A non experimental descriptive approach done after taking formal permission from Principal Narayana College of Nursing Nellore. The study was conducted in III year B.Sc (N) Students at Narayana College of Nursing Nellore, 100 samples selected with a non probability convenience sampling technique and the 28 structured questionnaires were used to determine the knowledge on Fluid calculation procedure among III year B.Sc. (N) Students. Each sample are taken nearly 30 minutes to complete the data. The data collection time schedule will be from 9am -1pm. The data was analyzed by using descriptive and inferential statistics. **Result:** The study reveals that with reference to the awareness regarding fluid calculation among III year B. sc. (N) students 14(14%) students acquired A+ grade,18(18%) acquired A grade, 30 (30%) acquired B+ grade,23 (23%)acquired B grade,11(11%) acquired C grade,4(4%) students acquired D grade. With regard to knowledge on Fluid calculation procedure, the mean was 20.45 and the standard deviation was 4.56. There was the significance association between the level of knowledge with their selected socio demographic variables like Age and religion. There was no significant statistical association between with socio demographic variables like source of information. **Conclusion:** The present study concluded that among 100 III year B.Sc. (N) students w ith regard to assess the knowledge on Fluid calculation, 14 (14%) had A+ grade of knowledge, 18(18%) had A grade of knowledge, 30(30%) students had B+ grade of knowledge, 23(23%) students had B grade of knowledge, 11(11%) students had C grade of knowledge,4(4%) students had D grade of knowledge. The study concluded that the level of knowledge among III year B.Sc (N) students on Fluid calculation was moderate knowledge and need to be educate then with demonstration adequate and practice. **Keywords: Study, Assess, Knowledge, Fluid calculation.**

Introduction: Water is vital for all forms of life and the centerpiece of existence. It is an essential nutrient, if there was no water there would be no life on earth. Water is one of the valuable and indispensable resources. It plays a key role in the human body. We can survive up to several weeks without food, but only a few days without water. Dehydration occurs when free water loss exceeds free water intake, usually due to exercise or disease, but also due to high environmental temperature. Mild dehydration can be caused by immersion decreases and this may increase risk of decompression sickness in divers, most people can tolerate a three to four percent decrease in total body water without difficulty or adverse health effects. A five to eight percent decrease can cause fatigue and dizziness. Loss of oven ten percent of total body water can cause physical and mental deterioration, accompanied by severe thirst. Death occurs at a loss of between fifteen and twenty five percent of the body water.

Intravenous fluids are administered to provide water electrolytes, and nutrients that the child needs. Total parenteral nutrition (TPN), chemotherapy and blood products also are administered intravenously. TPN, often called hyper alimentation, is the administration of dextrose, lipids, amino acids, electrolytes, vitamins, minerals and trace elements in to the circulatory system to meet the needs of the child whose needs cannot be met through the gastrointestinal back. Intravenous therapy is putting a sterile fluid through a needle directly into the patient's vein. Intravenous therapy is used to give fluids when the patient cannot swallow, is unconscious, is dehydrated or is in stock, to provide salts needed to maintain a balance of electrolytes, or glucose needed for metabolism, or to give medication. If the cannula is not sited correctly, or the vein is particularly fragile and ruptures, the following can occur infection, phlebitis, infiltration, fluid overload, hypothermia, electrolyte imbalance, and embolism.

A macro drip tube can deliver to as 15 drops per 1 ml. Micro drip tubing delivers 60 drops per 1 ml. The number of drops required for 1ml is called the drop factor. Work out the number of milliliters of fluid to administer in an hour. Divide the total amount of solution to be delivered by the number of hours the infusion will last. Then multiply that figure by the drop factor. To determine how many drops to administer per minute, divide by 60. Count the number of drops per minute that are being infused. If that is not the correct flow rate, adjust the drip rate.

The drop rate (drops/ml) is calculated by the formula.

$$\text{Drop rate} = \frac{\text{volume of solution} \times \text{drop factor}}{\text{Time}}$$

Statement of Problem

A Study to Assess the Knowledge on fluid Calculation among III rd year B.Sc (N) students at Narayana College of Nursing, Nellore, A.P.

Objectives

1. To assess the level of knowledge regarding fluid calculation procedure.
2. To find out the association between level of knowledge regarding fluid calculation procedure with socio demographic variables.

Operational Definitions

Study: A detailed investigations and analysis of calculation of fluid among nurses.

Assess: Evaluate the nature and knowledge of calculation of fluids by deliberate and systematic collection of dates among nurses.

Knowledge: It refers to the skills in Fluid calculation gained through theoretical and practical experience.

Fluid Calculation: To evaluate the number of drops to be administered per minute.

Assumption: The nursing students may not have adequate knowledge regarding fluid calculation.

The nursing students may not have adequate practice regarding fluid calculation.

Limitations: Study limited to III rd year B.Sc. Nursing students.

Study is limited to Narayana college of Nursing.

Research Approach:

Quantitative research approach was adopted.

Research Design:

❖ Descriptive research design was selected to conduct the present study to assess the knowledge regarding fluid calculation among III year B.Sc. (N) students.

Settings of the study: The study was conducted in Narayana College of Nursing, Nellore A.P.

POPULATION:

Target Population: The target population was III year B.Sc. nursing students.

Accessible population: III year B.Sc. Nursing students studying in Narayana College of Nursing, Nellore.

Sample: The sample was III year B.Sc (N) students who fulfill the inclusion criteria.

Sampling size: The sample size was 100

Sample Technique: Non probability convenience sampling technique was used to select the samples.

Criteria for Sampling:

Inclusion criteria: The nursing students who are:

❖ Studying III year B.Sc. (N) at Narayana College of Nursing

❖ Available at the time of data collection

❖ Willing to participate in the study

Exclusion Criteria: The nursing students

❖ On leave

❖ Are sick

Variables of the study: Variables of the study are research variables and dependent variables.

Research Variables: The knowledge on fluid calculation.

Demographic Variables: The demographic variables such as age, religion, source of information.

Description of the tool: The tool for the data collection consists of two parts.

Part - I: Deals with demographic variables such as age, religion, source of information, regarding fluid calculation.

Part - II: It consists of 28 structured questionnaires to assess the knowledge regarding fluid calculation among III year B.Sc. Nursing students.

Ethical clearance: Ethical clearance certificate was obtained from institutional ethical committee of Narayana College of nursing, Nellore.

Data collection procedure: After obtaining formal permission from Principal, Narayana College of Nursing and the institutional ethical committee at Narayana College of Nursing. The main study was conducted for two weeks.100 students was selected by non probability convenience sampling techniques. The participants was seated comfortably either in the classroom or auditorium. After explained the nature

and purpose of study, informed consent was obtained from the participants. The data was collected by administering the two sections of the tool. Demographic data was collected and semi structured questionnaire which consists of 34 questions was administered to participants and asked to tick the responses, which they feel appropriate. The data collection started on 1-11-21 to 12-11-21.Each participants took 30 minutes to collect the data, 5 days in a week, 6 participants in a day and 50 participants in a week. Then the collected data was coded, tabulated and organized for statistical analysis. Further the data was analyzed by using descriptive and inferential statistics based on the objectives of the study.

Table No - 1: Frequency and percentage distribution of level of knowledge on fluid calculation among III year B.Sc. (N) students.

Level of knowledge	Frequency	Percentage
A+	14	14%
A	18	18%
B+	30	30%
B	23	23%
C	11	11%
D	4	4%
Total	100	100%

Table No:1 shows that with regard 18(15%)with belongs to A+ Grade, 22(%) secured to 'A' Grade 34(34%) with procured to 'B+' Grade, 19(19%) with secured to 'B' Grade, 7(7%) with procured to 'C' grade, 4(4%) with got to 'D' grade, group regarding knowledge on intra dermal administration procedure.

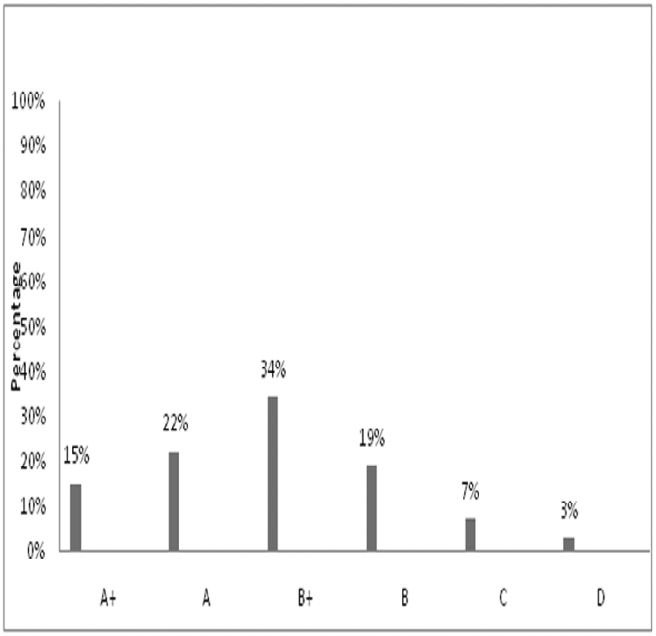

Fig No - 1: Percentage distribution based on level of knowledge on Intra dermal administration procedure among III year B.Sc. (N) students.

Table No - 2: Mean and standard deviation of level of knowledge on fluid calculation among III year B.Sc. (N) student. (N=100)

Category	Mean	SD
Assess the knowledge on intra dermal administration procedure among III year B.Sc (N) student	20.45	4.56

Fig. No-2: It depicts the result estimating the questionnaire with regard to knowledge on fluid calculation. The mean was 20.45 and standard deviation was 4.56.

Table No - 3: Association the level of knowledge regarding intra dermal administration procedure among III year B.Sc (N) student in Narayana College of Nursing with their related socio demographic variable.

S. No	Demographic Variables	A+		A		B+		B		C		D		Chi-Square (X^2)
		F	%	F	%	F	%	F	%	F	%	F	%	
1	**Age**													CV=5.42 TV=18.31 Df=10 P=).05 NS
	18-20 years	3	3	2	2	8	8	4	4	5	5	1	1	
	21-23 years	4	4	2	2	14	14	13	13	19	19	3	3	
	24-26 years	2	2	1	1	10	10	2	2	6	6	1	1	
	>26 years	-	-	-	-	-	-	-	-	-	-	-	-	
2	**Religion**													CV=23.15 TV=18.31 Df=10 P=).05 S
	Hindu	6	6	3	3	14	14	13	13	7	7	1	1	
	Christian	2	2	1	1	14	14	5	5	8	8	2	2	
	Muslim	1	1	1	1	4	4	1	1	15	15	2	2	
	Buddhism	-	-	-	-	-	-	-	-	-	-	-	-	
3	**Source of information**													CV=1.80 TV=24.99 Df=15 P=).05 NS
	Books	2	2	1	1	8	8	5	5	6	6	1	1	
	Journals	2	2	1	1	6	6	4	4	4	4	1	1	
	Mass media	2	2	1	1	8	8	4	4	8	8	1	1	
	All of the above	3	3	2	2	10	10	6	6	12	12	2	2	

Conclusion: The present study concluded that among 100 III year B.Sc. (N) students with regard to assess the knowledge on Fluid calculation , 14(14%) acquired A+ grade, 18(18%) acquired A grade, 30(30%) acquired B+ grade, 23(23%) acquired B grade 11(11%) acquired C grade and 4(4%) acquired D grade of knowledge on Fluid calculation. Hence there is a significant association between the level of knowledge on Fluid calculation among III year B.Sc. (N) students with their selected socio demographic variables such as Age and Religion on Fluid calculation. The results indicate that the health professionals need to educate the nursing students on Fluid calculation. So it is important to create awareness on Fluid calculation among nursing students.

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