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Practice of Blood Transfusion among Nurses in Public Tertiary Care Hospitals Lahore

Adila Mastoor[1*], Ms. Naseem Rooman[2], Afsar Ali[3], Ms. Dilnasheen Safdar[4]

[1]Post RN BSN Student, National College of Nursing, Lahore, The University of Lahore, Pakistan

[2]Principal, National College of Nursing Lahore, The University of Lahore, Pakistan

[3]Sr. Nursing Instructor, National College of Nursing Lahore, The University of Lahore, Pakistan

[4]Manager Infection Control, National College of Nursing, Lahore, The University of Lahore, Pakistan

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***Corresponding author**

Adila Mastoor

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Abstract: From the above medical crises it is strictly order to for the first fifteen minutes of the blood transfusion the nurse should stay with the patient to closely monitored c for any signs of adverse effects (Allan & and Bates 2004). The main purpose of the study is to assess the practices of blood transfusion among clinical nurses at a public tertiary care hospital Lahore. In this study across sectional descriptive design was used. The study was conducted at Mayo hospital at all the critical and other inpatients areas. A questionnaire adapted from thesis of Ebenezer tetteh (2015) "Knowledge and practice of blood transfusion among nurses in Ghana: experiences from the cape coast teaching hospital, this questionnaire was used to collect data from the respondent. Questionnaire consists of 2 parts first focusing on demo-graphic data of participant and second is lekert scale questionnaire which is based on practice data. Analysis of variables was done on SPSS 21. The overall practice results shown in the above table and graph reveals that there were no participants in the poor practice category. 63.56% of the participants had moderate practices having score of practice between 45 and 80 on a maximum score of 108. 36.44% of the study participants had good practices and scored above 80 score on a maximum of 108 practice total score. Majority of the participants was having moderate practices of Blood transfusion but there were no as such poor practices.

Keywords: Practices, Nurses, Blood Transfusion.

INTRODUCTION

Blood transfusion is a procedure in which blood or blood components are transfer from one person (a donor) another (a recipient). The reason of blood transfusions to improve the blood's capacity to increase its oxygen carrying capacity restores any blood deficit, improve immunity, and correct clotting problems. The blood transfusion depend on the reason, then the physician may order for the whole blood or a blood component, such as red blood cells, platelets, blood clotting factors, fresh frozen plasma (the liquid part of blood), or white blood cells [1].

Demand for blood often occur by an array of factors that contain obstetric hemorrhage, cancer, major operation , road traffic accidents, armed conflict, sickle cell disease and childhood anemia, malnutrition, HIV, malaria, and parasitic infections. Every second, someone in the world needs blood. Surgery, trauma, severe anemia and complications of pregnancy are among the clinical conditions that demand blood transfusion in every country [2].

The WHO reported about blood transfusion that the usage of blood in many countries is very different with a greater proportion of blood transfusion which is being given to the women with obstetric emergencies and children suffering from severe anemia, often resulting from malaria and malnutrition. It is assessed the use of red blood cell transfusion in developing countries as pregnancy-related 37%, children 14%, surgery 12%, trauma 18% and medical 19%. This is a harsh difference to red blood cell transfusion in the developed countries where red blood cell is used for purposes of complicated procedures such as open-heart surgery, organ transplantation and other medical conditions such as leukemia and thalassemia with pregnancy-related (6%) and child anemia (3%) been the least for red blood cell transfusion [3].

From the WHO assessment these find out the blood transfusion is given in developing countries to treat basic conditions to prevent mortalities which happen in an advance countries.

The United Nations Children's Fund (UNICEF), The United Nations Population Fund (UNFPA) and The World Bank stated that, each year, an estimated 287,000 women die worldwide due to complications related to pregnancy and childbirth. More than half of these maternal deaths (56%) occur from hemorrhage (severe bleeding) as the leading cause. To prevent from the above complication the which occur due to driven blood transfusion WHO, UNICEF, UNFPA and the World Bank states that it is important to make available rapid access to adequate blood and highly knowledgeable personnel to safely administer blood [4].

Every human have right to survive, in above complication blood transfusion is the only choice for survival for many patients which depend on the nurses' knowledge and practice of blood transfusion. Blood transfusion is life-saving procedure in the health care system. However it is an easy method of revealing patients from risk [1].

In another study Bishop [5] explains difference between clinician and lay person about blood transfusion. The clinician knows the procedure of blood transfusion as a treatment and its risk, administration of blood, communicable disease and also knows transfusion is saving of life. Lay person not know error in blood transfusion take life. Adverse effect may cause medical harm even death [5].

From the above medical crises it is strictly order to for the first fifteen minutes of the blood transfusion the nurse should stay with the patient to closely monitored c for any signs of adverse effects [6].

The cause of these mild adverse effects is usually unknown. Multidisciplinary healthcare team crewed the process of blood transfusion which includes nurses. The physician rests the blood transfusion decision. The actual transfusion is conducted completely by the nurse who is at the point-of-care and therefore has an essential role in patient safety during a blood transfusion [7].

Blood transfusion procedure mostly occurs in the nursing practice. Bishop [5] indicated that the transfusion process is composed of five interrelated phase; four of which are relevant to routine nursing practice, such as, patient preparation before blood bag collection, blood pack collection, pre and post transfusion nursing activities and where the safety of blood transfusion is amongst others, dependent on nurses' knowledge and skills. A lack of awareness of good transfusion practice has been identified as a reason for poor compliance such as lack blood transfusion practice phlebotomy errors & blood bank errors including testing of wrong specimen [8].

A Study conducted in Africa which indicates the blood transfusion in the developing countries. About 80% of transfusions are performed due to severe anemia or hemorrhage, but here the high risk factor is inadequate knowledge about the transfusion of blood. All clinical departments which have need to transfer blood to other patients have no proper refrigerator to store blood the best alternative to safe blood is unused blood bags returned to BTC within one hour after receipt [6].

In another study the author explain the transfusion risk. In his study 8.3% respondent said that transfusion is never dangerous, 16.7% respondent do not know that transfusion is risky and 25% respondent unaware that blood transfusion has reverse reaction. Thus the hazard of blood transfusion is misunderstood which may cause high risk to the patients, to prevent the patients from risk or further complication the precautionary measured are necessary for safe transfusion [9].

Stated in his study that the health care provider is responsible to documents all record of blood transfusion procedure and its reverse effect on the patients. This record include date of transfusion , start time of transfusion and end time of transfusion, vital sign and reaction of transfusion and previous record of the transfusion and its reaction. Store this record maximum for 30 years [10].

The author explained in their study the guideline for the blood transfusion procedure; firstly understand of the blood groups, blood components and their function. Secondly explain the procedure to the health care worker to perform in safety, identify the adverse effect and its frequency and monitor the adverse effect and provide safety to the patients [11].

Lee, D. H Accentuate the it is important to check and identify the patient in the following condition, When any health care provider taken the blood sample of any patient , when the blood is collected and right before management of products [12]. Conformation must be done both verbally and by checking the identification bend of the patient. The patient must have their full name , MR number and the health care provider must matched with identification band and then label on the blood bag and then documentation it is very important and must care because it is very beneficial for the patients and save the life of patient [12].

Stated that blood transfusion is only performed by health care providers who has great

experiences and with proper training and authorization [13]. All the health care providers who are authorized must have all information and skills about blood transfusion and all update knowledge about this. In every hospital must give education and arrange workshops to decrease the error during the procedure of blood transfusion [13].

AIMS OF THE STUDY

The main purpose of the study is to assess the practices of blood transfusion among clinical nurse in Lahore Hospital.

SIGNIFICANCE OF THE STUDY

The justification for this study is the paucity of nursing research in an organization on blood transfusion knowledge and practices, focus on transfusion safety including advances in donor-screening and blood testing

It has been shown that errors associated with blood transfusions in which nursing failure was often identified in an organization. Also the organization knows how to enhance Knowledge and practice about blood transfusion among their nurses.

METHODS

SETTING

The setting for this study was Mayo hospital Lahore which is a tertiary care hospital at Lahore city. .

RESEARCH DESIGN

Descriptive Cross-sectional study design was used in this study because cross sectional study design provides a better understanding about any event or situation. It is easier to describe the inferences of the study in a limited time by applying cross sectional study design.

POPULATION

Study population for this research work was the nurses working at the Mayo hospital Lahore.

SAMPLING

For recruiting the study participants, a convenient non probability sampling methods was applied.

DATA GATHERING PROCEDURE

Self-prepared 5 point Lekert scale questionnaire adapted from thesis of Ebenezer Tetteh [14]. "Knowledge and practice of blood transfusion among nurses in Ghana: experiences from the cape coast teaching hospital, this questionnaire was help to collect data from the respondent. Questionnaire consists of 2 parts first focusing on demo-graphic data of participant and second is lekert scale questionnaire which is further divided into 5 sub parts consequently focusing on Patient Preparation, Blood Pack Collection, Administering the Transfusion, Post Transfusion Nursing Activities and Issues , Complications Related to Blood Transfusion and Blood transfusion protocols.

METHODS USED TO ANALYZE DATA

Data analysis was done by entering the data on SPSS software version 21. Tables were designed for representation of frequencies, percentages and averages. ANOVA tests were applied to check the difference of awareness among different groups of health care professionals.

STUDY TIMELINE

The data was collected from February, 2018 to April, 2018.

ETHICAL CONSIDERATION

Ethical clearance to conduct the study was obtained from the Ethical Review Committee of National Hospital AND Medical Center College of nursing. Permission was al; so granted from the MS of Mayo hospital Lahore. The study was conducted in Mayo hospital by getting permission from head of department of the institute. No personal identity of participants was revealed. A consent from was attached with each questionnaire. The rules and regulations of national hospital were followed. No participant was forced to take part in research work. All the confidential data treated with confidentiality.

RESULTS

PROFILE OF THE RESPONDENTS

Respondents were taken from different selected groups of DHQ Hospital Faisalabad.

Table number-1 show Gender of the participants. The male participant's score were 0 % and the female participant's score were 100 %, the age of 21-25 years participants score were 28.8%, 26-30 years participants score were 32.2%, 31-35 years participant's score were 20.3 % and above 35 years participants score were 14.4%., the qualification of the participants. General nursing participant's score were 37.3 % and BSN/ post RN participants score were 62.7 %. The marital status of the participant score were 48.3 % married and 51.7 % were unmarried.

Table-1: Demographic frequency

Variables	n	%
Gender		
Female	118	100.0
Male	0	0
Age		
21-25 years	34	28.8
26-30 years	38	32.2
31-35 years	24	20.3
Above 35 years	17	14.4
Education		
General nursing	44	37.3
BSN/PRN	74	62.7
Marital status		
Single	57	48.3
Married	61	51.7

Table-2: The score of the participants in transfusion process

Statement	True always	True Sometimes	Not At All
Section B: Patient Preparation			
The most important phase of the transfusion process is identifying client identity and confirming blood compatibility	70.3%	22.9%	6.8%
Ensure that informed consent has been obtained	8.5%	40.7%	50.8%
Check vital signs before transfusion	23.7%	23.7%	47.5%
Section C: Blood Pack Collection			
The blood bag tag, label and requisition form are assessed to ensure that ABO and Rh types are compatible.	22.9%	41.5%	35.6%
Assess blood bag for expiration date	11.0%	45.8%	43.2%
Inspect blood bag for leaks, abnormal color, clots, excessive air and bubbles.	19.5%	33.9%	44.9%
Section D: Administering the Transfusion			
Identify the right patient	18.6%	41.5%	39.8%
Maintain standard(universal) precautions	26.3%	31.4%	39.8%
Section E: Post Transfusion Nursing Activities And Issues			
Documentation of relevant information including vital signs	16.1%	45.8%	37.3%
Observation for transfusion reaction	14.4%	46.6%	39.0%
For the first 10-15 minutes it is essential to physically observe the patient for possible transfusion reaction.	21.2%	45.8%	33.1%
Section F: Complications Related to Blood Transfusion			
Patient identification error is the most commonest cause of fatal transfusion reaction	9.3%	64.4%	26.3%
Starting the transfusion within 20 minutes after collection from blood bank minimizes complications	19.5%	49.2%	31.4%
Delayed transfusion reaction occurs days to years of transfusion.	21.2%	43.2%	35.6%
Section G: Blood transfusion protocols.			
There is a unit protocol guide for administering blood transfusion.	15.3%	62.7%	22.0%
Protocol is clear, concise and simple to follow	11.0%	57.6%	31.4%

Table number-2 show the score of the participants about 'The most important phase of the transfusion process is identifying client identity and confirming blood compatibility' 70.3% participants score were not at all, 22.9% participants score were sometimes and 6.8% participants score were always, the score of the participants about 'Two registered nurses are needed to check physician's order, client's identity ID band, and number and compared to blood bag details.' 16.1% participant's score were not at all, 39.8% participant's score were sometimes and 44.1% participant's score were always, the score of the participants about 'Client is assessed to determine previous reactions to blood transfusions' 14.4%

participant's score were not at all, 55.1% participant's score were sometimes and 28.8% participant's score were always, the score of the participants about 'Ensure that informed consent has been obtained' 8.5% participant's score were not at all, 40.7% participant's score were sometimes and 50.8% participant's score were always, the score of the participants about 'The blood bag tag, label and requisition form are assessed to ensure that ABO and Rh types are compatible.' 22.9% participant's score were not at all, 41.5% participant's score were sometimes and 35.6% participant's score were always, the score of the participants about 'Inspect blood bag for leaks, abnormal color, clots, excessive air and bubbles.' 19.5% participant's score were not at all, 33.9% participant's score were sometimes and 44.9% participant's score were always, the score of the participants about 'Return blood not administered longer than thirty (30) minutes to blood bank' 12.7% participant's score were not at all, 50% participant's score were sometimes and 37.3% participant's score were always, the score of the participants about 'Check vital signs and lung sounds first fifteen minutes and every hour until completion.' 18.6% participant's score were not at all, 39% participant's score were sometimes and 42.4% participant's score were always, the score of the participants about 'For the first 10-15 minutes it is essential to physically observe the patient for possible transfusion reaction.' 21.2% participant's score were not at all, 45.8% participant's score were sometimes and 33.1% participant's score were always, the score of the participants about 'Carry out emergency treatment in case of transfusion reaction as ordered' 13.6% participant's score were not at all, 44.9% participant's score were sometimes and 41.5% participant's score were always, the score of the participants about 'Starting the transfusion within 20 minutes after collection from blood bank minimizes complications' 19.5% participant's score were not at all, 42.2% participant's score were sometimes and 31.4% participant's score were always, the score of the participants about 'There is a unit protocol guide for administering blood transfusion.' 15.3% participant's score were not at all, 62.7% participant's score were sometimes and 22% participant's score were always.

DISCUSSION

Descriptive Cross-sectional study design was used in this study. In this study convenient study was used. This study was conducted among 118 nurses in national hospital Lahore for the purpose to knowledge and practice of blood transfusion among nurses. To determine nurses knowledge involving the four phases of blood transfusion. To identify common errors associated with blood transfusion practice. The result of the study show about 'The most important phase of the transfusion process is identifying client identity and confirming blood compatibility' 70.3% participants score were not at all, 22.9% participants score were sometimes and 6.8% participants score were always, the score of the participants about 'Two registered nurses are needed to check physician's order, client's identity ID band, and number and compared to blood bag details.' 16.1% participant's score were not at all, 39.8% participant's score were sometimes and 44.1% participant's score were always, the score of the participants about 'Client is assessed to determine previous reactions to blood transfusions' 14.4% participant's score were not at all, 55.1% participant's score were sometimes and 28.8% participant's score were always, the score of the participants about 'Ensure that informed consent has been obtained' 8.5% participant's score were not at all, 40.7% participant's score were sometimes and 50.8% participant's score were always. In another study the author explain the transfusion risk. In his study 8.3% respondent said that transfusion is never dangerous, 16.7% respondent do not know that transfusion is risky and 25% respondent unaware that blood transfusion has reverse reaction. Thus the hazard of blood transfusion is misunderstood which may cause high risk to the patients, to prevent the patients from risk or further complication the precautionary measured are necessary for safe transfusion.(Hashmi, & Moss, A. 2008). the score of the participants about 'Return blood not administered longer than thirty (30) minutes to blood bank' 12.7% participant's score were not at all, 50% participant's score were sometimes and 37.3% participant's score were always, the score of the participants about 'Check vital signs and lung sounds first fifteen minutes and every hour until completion.' 18.6% participant's score were not at all, 39% participant's score were sometimes and 42.4% participant's score were always, the score of the participants about 'For the first 10-15 minutes it is essential to physically observe the patient for possible transfusion reaction.' 21.2% participant's score were not at all, 45.8% participant's score were sometimes and 33.1% participant's score were always, the score of the participants about 'Carry out emergency treatment in case of transfusion reaction as ordered' 13.6% participant's score were not at all, 44.9% participant's score were sometimes and 41.5% participant's score were always, the score of the participants about 'Starting the transfusion within 20 minutes after collection from blood bank minimizes complications' 19.5% participant's score were not at all, 42.2% participant's score were sometimes and 31.4% participant's score were always. A Study conducted in Africa which indicates the blood transfusion in the developing countries. About 80% of transfusions are performed due to severe anemia or hemorrhage, but here the high risk factor is inadequate knowledge about the transfusion of blood. All clinical departments which have need to transfer blood to other patients have no proper refrigerator to store blood the best alternative to safe blood is unused blood bags

returned to BTC within one hour after receipt [6]. The score of the participants about 'There is a unit protocol guide for administering blood transfusion.' 15.3% participant's score were not at all, 62.7% participant's score were sometimes and 22% participant's score were always.

LIMITATIONS

- Less sample size 118 due to which, the findings cannot be generalized.
- Time was too short, to see any prospective events or detailed associations of awareness and practices
- Convenient sampling technique was used which may have some biasness

CONCLUSION

Descriptive Cross-sectional study design was used in this study. In this study convenient study was used. Study population for this research work was the nursing students of Generic and post RN in national college this study was conducted among 118 nurses in Mayo Hospital Lahore for the purpose to knowledge and practice of blood transfusion among nurses. The overall result show there is more knowledge of the nurses towards blood transfusion.

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