

BLOOD TRANSFUSION KNOWLEDGE AND PRACTICES AMONG NURSES IN KIRKUK CITY HOSPITALS

Shelan Qahraman Shakor¹, Hewa Sattar Salih²



Abstract

Background: Red blood cell transfusions are commonly used in palliative care to treat anemia or symptoms caused by anemia. In patients with advanced disease, there is little evidence of benefit to guide treatment decisions in the face of increased risk of harms. Objectives: to assess the level of knowledge and practices of nurses about blood transfusion for adult patients in Kirkuk city hospitals.

Methods: A purposive study design was conducted in the period from 1st June 2019 to 15th November 2019. The sample included (80) nurses who were working at (Gynecology and obstetrics, General medicine, General surgery, intensive care unit, Oncology) at Azadi teaching hospital and Kirkuk general hospital.

Results: The number of nurses' who included in the study was (35%) worked in Gynecology and obstetrics, (25%) worked in General medicine, General surgery, (10%) worked in intensive care unit, (5%) Oncology, generally nurses had low level of knowledge but showed best practice level.

Conclusions: The findings showed that the nurses' knowledge of blood transfusion was insufficient which could be detrimental to patient safety, also practice was optimal in Kirkuk city hospitals.

Recommendation: Nurses have the responsibility to update their knowledge and skills in carrying out blood transfusion. The tool developed in this study may be useful for educators and managers to identify gaps in knowledge and inform decisions to address them.

Keywords: Blood transfusion, Knowledge, Practice.

¹ Assist lecturer-university of Kirkuk, E mail: shelanghraman86@gmail.com

² PhD community health nursing -university of Kirkuk,

INTRODUCTION

Millions of patients want blood and blood merchandise transfusions all round the world (Hijji *et al*,2013) . Blood infusions are outlined because the method by that the blood of 1 person is injected into another one's circulation for medical functions. Within the early twenty century, Blood infusions contributed to varied adverse aspect effects; but, today these effects are preventable through educating medical aid suppliers and screening blood and blood merchandise. (Reza *et al*, 2009). Blood infusions may be a very important want for a few patients, however while not caution, it may be a grievous intervention (Aslani *et al*,2010). it's calculable that in each 13000 cases of Blood infusions one error happens largely because of human errors that are preventable through applicable education and reform in insertion protocols (Bolton,2013). Concerning the vital role of nurses in a very safe and effective Blood infusions, it's necessary to enhance their information and skills (Hijji *et al*, 2013) . Blood infusions may be an advanced procedure and nurses are concerned in making ready blood units, assembling blood packs, activities associated with

before and once transfusion and patient safety observance. Blood infusions are a very important medical intervention which needs enough information and skills (Reza *et al*, 2009). Several studies are conducted on the extent of information and awareness of nurses and physicians concerning Blood infusions. However, concerning the increasing demand for insertion in hospitals and its role in saving patients' lives, it appears necessary to enhance nurses' level of information and performance to make sure the security of this intervention. This study aimed to gauge the impact of instructional programs on blood and blood merchandise transfusion on nurses' level of information and skills in hospitals. (Hijji *et al*,2012) Blood medical aid plays a crucial therapeutic role, being employed to treat varied health issues. Innumerable efforts are created to ensure the standard of the transfusion method and therefore the security of receivers (Pereima *et al*,2007)

The blood, its elements and its derivatives square measure used because the base to treat several diseases and transplants, therapy and surgery, turning them into essential and irreplaceable merchandise. Despite

presenting risks by involving biological merchandise of human origin, transfusion is a vital a part of health care, promotion and recovery (Ferreira *et al* ,2007)

In Brazil, the standardization of transfusion procedures is set by Resolution variety fifty seven of the Board of administrators (RBD), issued on Gregorian calendar month

sixteenth 2010, that determines the Health rules (Ministério and Resolução ,2010) , and by Ordinance variety 1353, revealed by the Ministry of Health (MH) on June thirteenth,

2011. The latter determines the Technical rules for services associated with the rotary production of human blood and its elements and transfusion procedures. These rules establish rules that transfusion professionals got to apprehend and follow Ministério and Portaria ,2011 Nursing has a crucial role in making certain transfusion safety, as a result of the nursing team is answerable for knowing the indications for transfusions, checking information to stop errors, guiding patients on transfusion, police investigation and acting in compliance with transfusion reactions and documenting the procedure (timberland *et al*, 2009).

Thanks to the complexness of the

transfusion method and therefore they would like for experience throughout its development, this method needs competent and trained professionals to attain transfusion safety. Nursing professionals square measure directly concerned within the care of patients submitted to transfusion. Therefore, the proper storage of blood and its identification while not failures depends for the most part on the performance of the nursing team that highlights the importance of the knowledge base on transfusion and therefore the technical skills of the nursing workers very important Knowledge is crucial for humans, as a result of it permits attributing intending to the multiplicity of phenomena that surround them, whether or not those concerning physical objects, people, events or abstract concepts .A number of studies during this space show deficient data of the nursing workers and therefore the inappropriateness of the approaches used throughout the transfusion. There square measure few studies, however, that time out the factors which will be associated with the data deficits during this space. Based on the higher than, the target of this analysis was to see whether or not there's Associate in Nursing

association between the data of the nursing team skilled regarding transfusion and therefore the variables associated with professional aspects. (Ângulo, 2007)

Objectives:

1. Assess the level of knowledge about blood transfusion for adult patients.
2. Evaluate practices of nurses about blood transfusion in Kirkuk city hospitals

. Table 1: number of nurses worked in settings for blood transfusion practice ($N=80$).

NO.	Areas of observation	Frequency	Percentage %
1-	Gynecology and obstetrics	25	35
2-	General medicine	20	25
3-	General surgery	20	25
4-	Intensive care unit	10	12.5
5-	Oncology	5	6.25

Table (2) Knowledge of nurses regarding blood transfusion ($N= 80$)

Items	correct		incorrect		MS	sig
	F	%	F	%		
Collecting of blood from blood bank should take place before the administration of any prescribed medication	20	25	60	75	1.25	NS
Information to ensure collecting the right blood (Patient's identification details are on the blood bag and blood request form).	23	28.7	57	71.2	1.28	NS
Three aspects of information giving to patient. (Reasons for blood transfusion, risk of blood transfusion, and reaction symptoms).	25	31.2	55	68.7	1.3	NS
Knowledge of basic ABO terminology. (Check details with another nurse then transfuse the unit).	10	12.5	70	87.5	1.12	NS
Blood handling after delivery to ward. (Start immediately).	15	18.7	65	81.2	1.18	NS
Clinical indications for blood warming. (Exchange transfusion for infant, rapid transfusion, patient with cold agglutinins)	27	33.7	53	66.2	1.33	NS
Suitable filter size of transfusion set.	21	26.2	59	73.7	1.2	NS
The first action the nurse should take with mild allergic transfusion reaction. (Slow the transfusion rate and notify the doctor)	26	32.5	45	67.5	1.3	NS
Complication of rapid administration of cold blood.	22	27.5	58	72.5	1.2	NS
Indications for slow blood transfusion. (Patients with heart disease, severe anemia)	28	35	52	65	1.3	NS

Table (3) practices of nurses before starting blood transfusion (N= 80)

Items	Done		Not done		MS	sig
	F	%	F	%		
Explained patient about Reasons for transfusion (blood loss, low hemoglobin, and anemia)	70	87.5	10	12.5	1.8	S
Explained Risk of blood transfusion	63	78.7	17	21.2	1.7	S
Explained Benefits of blood transfusion	44	55	36	45	1.5	S
Documentation the explanation on Reasons for transfusion	79	98	1	1.25	1.9	S
Documentation of Patients name that matched the cross-match results and other record sheets (Blood bag number. Date. Group)	48	60	32	40	1.6	S
Documentation Risk of blood transfusion	66	82.5	14	17.5	1.8	S
Documentation Benefits of blood transfusion	71	88.7	9	11.2	1.8	S
Take baseline set of vital signs (pulse, respiration, BP temperature)	52	65	28	35	1.6	S

Table (4) practices of nurses during blood transfusion (N= 80)

Items	Done		Not done		MS	sig
	F	%	F	%		
Used special tray to bring blood from laboratory	40	50	40	50	1.8	S
Equipments1. Cannula 18G or 19G catheter2. IV set of 0.9% normal saline solution						
Blood warmed in clean hospital linen	77	96.2	3	3.75	1.9	S
Asked patient for cross-match sheet	53	66.25	27	33.7	1.6	S
Perform hand hygiene Put on clean Sterile Gloves	61	76.2	19	23.7	1.7	S
Confirmed patency of intravenous cannula. Start IV with 18 or 19 gauge catheter if not already present keep IV open by starting flow of normal saline10	73	91.2	7	8.75	1.9	S
Asked patient to state full name	62	77.5	18	22.5	1.7	S
Documentation of Patients name that matched the cross-match results and other record sheets	50	62.5	30	37.5	1.6	S
Documentation Blood bag number	78	97.5	2	2.5	1.9	S
Documentation Blood collection date	44	55	36	45	1.5	S
Documentation Blood group Blood component Blood volume	51	63.7	29	36.2	1.6	S
Preformed pretransfusion assessment within 30 min prior to blood transfusion and take baseline set of vital signs	55	68.7	25	31.2	1.6	S
Recorded pretransfusion vital signs in record sheet	72	90	8	10	1.9	S
Used appropriate blood administration set	63	78.7	17	21.2	1.7	S

Table (5) practices of nurses after starting blood transfusion (N= 80)

Items	Done		Not done		MS	sig
	F	%	F	%		
Transfusion started at rate \leq 2ml per min. start administration slowly stay with the patient for the first 5 to 15 minutes of transfusion.	45	56.2	35	43.7	1.5	S
Documented starting time	55	68.7	25	31.2	1.6	S
Stay for initial 10–15 min	73	91.2	7	8.75	1.9	S
Monitored and recorded at 15min vital sings	60	75	20	25	1.7	S
Advice patient/visitor to report any unwanted symptoms: allergies, itching, flushing, fever, and back pain	79	98.7	1	1.25	1.9	S
Advise patient to report any chills, itching, rashes, or unusual symptoms	65	81.2	15	18.75	1.8	S
Use a blood warming device, if indicated especially with rapid transfusions through CVP catheter	77	96.2	3	3.75	1.9	S
When transfusion is complete, clamp off blood and begin to infuse 0.9% normal saline	66	82.5	14	17.5	1.8	S
Remove gloves and Wash hands	70	87.5	10	12.5	1.8	S
Record administration of blood and patient's reactions	73	91.2	7	8.75	1.9	S

DISCUSSION

Overall, nurses had important information deficits of the many facet of introduction, as proven by the terribly low mean score they achieved. These results area unit worst than reportable earlier from the United Arab Emirates (Hijji *et al.* 2012). Preventing and recognizing a response needs nurses to possess adequate information. The problem of assessing and guaranteeing the readiness of the patient to receive an introduction isn't at nurses. Fifty of nurses reportable

that they might assess the supply and patency of intravenous access line once blood bag assortment as opposition thirty ninth during a UAE study (Hijji *et al.* 2012), most of the sample would administer a prescribed premedication, as opposition majority of nurses within the UAE (Hijji *et al.* 2012) once blood delivery to the ward. In either case, the implication is that this may eventually delay the initiation of the transfusion that may lead to microorganism contamination of the unit (McClelland,

2007). Another finding was that nurses during this study would act on an incomplete introduction order. The implication is that nurses could take fallible selections that area unit at intervals the medical domain and that they're not however prepared; this could bear uncalled-for risks to patients. Correct identification, at bedside, of a patient supposed for transfusion is vital to the interference of latest errors and detection of these that would have taken place earlier (Harris *et al.* 2009). Improper identification of patient is that the main explanation for incorrect transfusions (Harris *et al.* 2009) that ends up in patient mortality and morbidity. Nurses, therefore, hold full responsibility for patient identification as a core competence. Nurses thought of that patient identification is that the most vital action before transfusion initiation. This finding indicates that patient identification occupies the smallest amount priority; the nurses knew the right steps they need to perform to spot the patient. Failure to adjust to this easy task has been reportable in alternative studies (Hijji *et al.* 2012; Saillour - Glénisson *et al.* 2002) increasing the danger of microorganism proliferation may be a

continual theme initially. This is often as a result of claimed that every unit of blood must be warm before administration victimization ancient, invalid, and risky strategies. This is often a long and wide unfold thought control by nurses and was earlier reportable from Turkey (Bayraktar & Erdil 2000) and also the UAE (Hijji *et al.* 2012). What nurses ought to grasp is that they need to stop this habitual apply (McClelland 2007) and understand that there are unit clinical indications for blood warming (WHO, 2002). Nurses ought to ne'er use quandary and microwave to heat blood as this might lead to lysis that may be grievous.

The nurses used ancient gravity-flow administration sets, that there's anecdotal proof of unreliable infusion time and clogged blood transfusion catheters (Houk&Whiteford,2007) Uncertainty among nurses surfaced with regards to slow initiation of transfusion and frequency of significant signs recording. Nurses who worked on adult patient areas wards knew the right rate to initiate the transfusion. Each nurse ought to remember that almost all severe reactions occur throughout the primary quarter-hour of putting in a transfusion

(Atterbury,2001), and therefore the severity of a reaction is proportional to the number of blood infused (Tylor *et al*, 2005). While not correct data, however, nurses could initiate a transfusion at a rate either slower or quicker than suggested

The outcome of this might be either prolongation of the transfusion period with an increased risk of microorganism contamination (McClelland, 2007) or the prevalence of severe reaction (Janatpour *et al*, 2008). Another finding was that nurses provided the right responses regarding the frequency of recording very important signs. This finding indicates that nurses weren't responsive to the WHO (2002) recommendations; it might be a mirrored image of lack of agreement and confusion within the literature regarding this side (McClelland 2007; Atterbury 2000;; Harris *et al*,2009). Nurses were additionally found to own serious data deficits of the preventive practices that require being at the same time thought-about to reduce the danger for patient developing acute reaction. Administering compatible blood is required; low to forestall a reaction if the period of transfusion is prolonged or if incompatible solutions area unit co-

administered with blood. Acute transfusion reactions could occur in I Chronicles to twenty of patients and will be fatal (WHO, 2002). What would create a distinction to a patient's life may be a wakeful nurse WHO has the power to promptly acknowledge and with success manage hemolytic reaction. Only some numbers of nurses failed to evoke cross-match sheet before initiating transfusion, while not that the compatibility result and patients' identification wouldn't are pointed out. This observes might be labeled because the act of negligence on a part of the nurses providing intromission, that may, at times. Similar finding has been rumored by. (Hijji *et al*,2010), Error associated with transfusion of incorrect blood element to the patients may well be complex . (Callum *et al*, 2001) and it remains one in all the biggest risks associated with transfusion. Nurses will increase compliance in unsound areas of the transfusion method and scale back the likelihood of errors by developing accessible intromission policies, auditable performance standards and coaching, and academic initiatives (grey *et al*,2005). Quite half the proportion wore gloves before initiating intromission, that is lesser

than in different studies (Hijji *et al*, 2010). The patency of the intravenous tube before initiation of transfusion was checked by. Generally, most of the tending suppliers use the business intromission set out there within the market with intravenous tube. Most cases of transfusion were started at a rate cut or adequate 2ml per minute, that was in accordance with the suggested pointers. Virtually eighty percent mentioned commencement. Regarding common fraction stayed with the patient in initial quarter-hour. This can be slightly but another study

wherever common fraction stayed with patients in initial fifteen minutes

CONCLUSION

The findings showed that the nurses' knowledge of blood transfusion was insufficient which could be detrimental to patient safety, also practice Was optimal in Kirkuk city hospitals

RECOMMENDATIONS

1. Educational program to improve knowledge of blood transfusion
2. The need to place guidelines and teaching program to be perform in Kirkuk city hospitals

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