



Research Article

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Evaluation of transfusion practices carried out by doctors and paramedics staffs at the Yaounde Central Hospital (Cameroon)

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Abstract

Background: Blood transfusion (BT) is one of the most sensitive activities in a health system due to the nature of the products used. These transfused products can be the vector of several infectious agents and therefore transfusion safety must be strictly controlled at all stages. BT has a prominent place in everyday medical therapy and its use is often urgent. The use of blood products (BP) may be the object of a bad practice by the medical personnel thus the interest of this work, which is to know if the doctors and paramedical personnel's of the Yaounde Central Hospital use good transfusion practices daily. This work aims to evaluate transfusion practices at the Yaounde Central Hospital. **Methodology:** We conducted a descriptive and cross-sectional KAP (knowledge, attitudes and practices) study from November 2016 to May 2017. We retained 79 participants after applying the exclusion criteria. The variables studied were socio demographic data, knowledge, attitudes and practices. The statistical analysis of the quantitative data was done using the SPSS Statistics 23 software. **Results:** Among the 79 personnel selected in the study, 77.2% were paramedics, the most represented were Internal Medical doctors (29.1%) and staff who had practiced between 0 and 5 years, was 39. 2% in majority. All the doctors had good knowledge (83.3%); intensive care unit and emergency ward had the best results on knowledge 90.9%. and 78.6% respectively. Regarding transfusion attitudes, we found out that the majority of participants had approximate attitudes (87.3%) on the realization of BT. For transfusion practices, we did not identify participants with adequate practices. No association was observed between transfusion practices and transfusion attitudes and between transfusion practices and knowledge. **Conclusion:** The level of knowledge of medical staff is good. Attitudes are approximately good. Transfusion practices were not always adequate, no practitioner had fair practices. There was no significant association involving knowledge, attitudes and practices. **Recommendations:** We recommend the implementation of a genuine national BT program favoring basic training that leads to the amelioration of transfusion practice and initiation of continuous staff training session in medicals units.

Keywords: Knowledge, Attitudes, Transfusion practices, Medical doctors, Paramedics.

INTRODUCTION

Blood transfusion (BT) which consists the injecting by intravenous perfusion, of blood or the blood derivatives, is an essential component of the modern health care. Used rightly, transfusion makes it possible to save lives and to improve health. However, it always involves possible hazards for the receiver and must be prescribed only for affections which have an important potential of morbidity or mortality and which can't be prevented nor treated by other means ^[1]. These transfused products, from human origin, can be the vector of several infectious agents ie the viruses of hepatitis B and C, the HIV 1/2 and the syphilis whose prevalence is high in the blood donors at the Yaounde Central Hospital (YCH) in Cameroon as showed by Ankouane and al. in their study 2017 ^[2]. This practice has a remarkable place in the daily medical practice and its use turns out to always be urgent ^[3]. Thus, the use of unstable blood Products (BP) can be the cause of bad practices by medical staff.

The transfusional process brings in the intervention of many actors (medical staffs, support, staff laboratory personnel), who must have a perfect understanding of their role in a global context and their limits. A good coordination between these actors is essential in the transfusional chain and requires constant efforts of communication and mutual understanding ^[1].

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The BT in Cameroon as well as everywhere in the world has known a considerable evolution parallel to the evolution of the national hospital network and scientific progress as regards BT [4].

The perception of the medical staff (ancillary medical doctors and staffs) of all that revolves around the question of the transfusional act remains badly known in Cameroon and would always be the cause of various practices not always in accordance with the necessary recommendations as regards BT. From this report, the objective of our work was to know if the medical doctors and ancillary medical staff of the YCH had daily good practices as regards blood transfusion. Thus, the purpose of this work was to know the level of knowledge, the attitudes and the practices of the doctors and ancillary medical staffs implicated in the process of blood transfusion.

METHODOLOGY

We carried out a KAP (knowledge, attitudes and practices). Transversal, descriptive and analytical study of the practices of the blood transfusion at the Yaounde Central Hospital (YCH) from November 2016 to May 2017. It is a medical structure of the 3rd category of the medical pyramid of Cameroon and our study proceeded in the units of Internal medicine, of Gynaecology-Obstetrics (maternity), of Surgery, Reception and emergency and Anaesthesia-Reanimation which constitute the principal therapeutic poles of the hospital.

The ancillary medical doctors and staffs exerting in the target units of our study having given their free and clear consent were evaluated on the basis of questionnaire auto-managed of 30 multiple choice questions, 3 questions with open answer and made up of 5 topics (sociodemographic, knowledge, attitudes, practices, recommendations).

The data analysis was analyzed according to the groundwork of data analysis in an investigation KAP [5]. As for what concerns the score of knowledge: each right answer on the questionnaire was worth 1 point and each bad answer 0 points; the level of knowledge was quantified and restored in 4 levels: bad, insufficient, average and good (less than 50% of good answers = Bad, 50 to 65% of good answers = Insufficient, 65 to 85% of good answers = Average and + of 85% of good answers = Good). The attitudes were restored and qualified as Juste, approximate, erroneous and harmful (less than 50% of good answers = harmful, 50 to 65% of good answers = erroneous, 65 to 85% of good answers = approximate and + of 85% of good answers = just). The practices were judged based on the conformity to the recommendations of WHO [6]; each practice in conformity was worth 1 point and each practice in non conformity was worth 0 points, then we calculated the full number for each participant. The level of practice was quantified in 3 levels: bad, insufficient, average and good (less 65% of good answers = bad, 65 to 85% of good answers = average and + 85% of good answers = good) then we made a comparison between the scores of knowledge, the attitudes and the score of practices. As for the distribution of the score according to the rank, we calculated the average of the scores and repartitioned them according to the rank. Software SPSS 23 and the CHI square test were used to determine the existence of a correlation with a threshold at a of significance of $p < 0.05$.

RESULTS

On the whole, we gave 109 questionnaires to the staffs shared to all the selected units. We collected 92 of the questionnaires and only 79 filled our selection criteria (rate of answer estimated at 86.11%), ancillary medical staffs were the most represented 61 (77.2%) against 18 doctors ie 22.8%. Most of the participants, (23 (29.1%)) came from the unit of Internal medicine unit and the staff who have practiced between 0-5 years accounted for 39.2%. In our sample 11 (61.1%) out of the 18 doctors taking part in the investigation said to have received

a training on BT same as 41 (67.2%) of the ancillary medical ones, which accounted for 65.8% of trained participants. Badly tolerated Severe anaemia was the most current indication in all the units of the study giving a grand total of 93.7% of the indications. Amongst doctors taking part in the investigation, 83.3% had good knowledge on the monitoring of the BT. The reanimation units and of the emergency were those that had better knowledge making 90.9% and 78.6% respectively. On the whole, Our study realized that 72% of staff had good transfusional knowledge, 24.9% averages and 3% presented insufficient knowledge. With regard to the attitudes, few participants carried out the verification of the realization of serological tests 16 (20.5%). (Fig. 1)

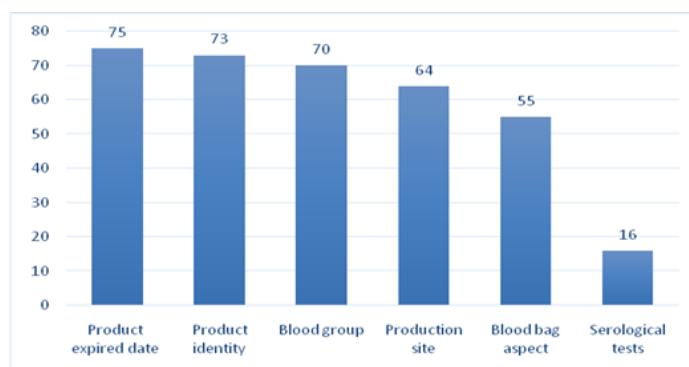


Figure 1: Representation per percentages of the variables checked by staff after reception of the unstable blood products

In our series, of 62.3% of the cases, ancillary medical staff called on the blood bank personnel in case of any abnormal reaction (agglutination) during the cross-match test. We found that 2.5% of participants presented right transfusional attitudes, 87.3% approximate attitudes and 10.1% had erroneous attitudes.

As regards transfusional practices, 31.6% of ancillary medical staff affirmed using plastic bags for the transportation of unstable blood products. Amongst 79 subjects from our series, 8 (11.4%) answered that they used a tray, for the transportation of platelets concentrates, In the collected answers, the cross-match was done systematically in 96.2% of the cases and was carried out by the staff which carried out the BT in 98.7% of the cases (Table 1).

Table 1: Representation showing the ready elements of checks

Variable	n	%
Cross-match réalisation		
Yes	69	87.3
No	10	12.7
If yes,		
Systematic	75	96.2
Not always	3	3.8
Staff that realizes cross-match		
By prescriber	1	1.3
By nurse posing the transfusion act	79	98.7

The respiratory frequency, the shivers and the temperature were respectively the elements most supervised during the transfusional act, the immediat stop of the BT was the practice most found in 83.5% of transfusional incident or of abnormal transfusion reaction (Table 2).

Table 2: Action to be taken in the event of incident or of abnormal reaction during the BT

What to do	n	%	
Valide	Call the doctor	4	5.1
	Sent the blood product to blood bank	4	5.1
	Reinsure the patient	3	3.8
	Stop the transfusion	66	83.5
	Collect sample for blood group control	1	1.3
	Total	78	98.7
Lacking	1	1.3	
Total	79	100.0	

In sum, we did not find adequate transfusion practices (Fig. 2)

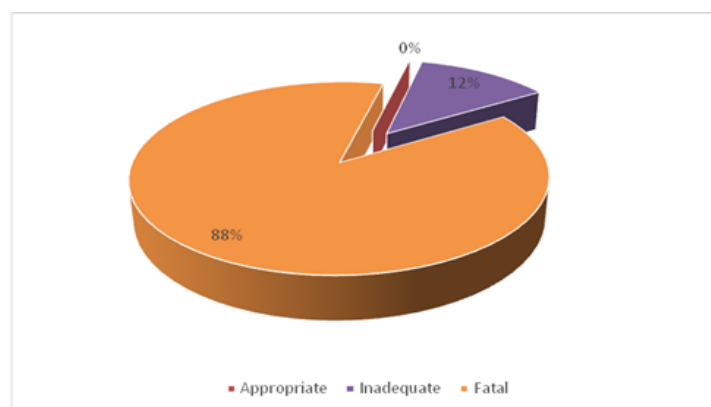


Figure 2: Score of the transfusion practices

Our investigation did not find a relation between the transfusion practices and the transfusion attitudes in the same way between the practices and knowledge (Table 3).

Table 3: Analysis of the practice compared to knowledge and to the attitude (test of chi 2)

	Pratics				P
	Harmful		Inadequate		
Knowledge evaluation	n1	%	n2	%	
Insufficient	2	100.0	0	0.0	0.773
average	18	90.0	2	10.0	
good	49	86.0	8	14.0	
Attitude evaluation					
Erroneous	7	87.5	1	12.5	0.861
Approximatif	60	87.0	9	13.0	
Juste	2	100.0	0	0.0	

DISCUSSION

The act of transfusion causes diverse practices not always in conformity with BT recommendations. The evaluation of knowledge and of the practices of medical staff, as regards BT, is an essential precondition for the good progress of the transfusion acts. The risks can be raised by the insufficiency in the qualification, the aptitudes of medical staff and the practices of non conformity; this can compromise the transfusion security in our hospitals. Our sample consisted of 79 participants with a majority of ancillary medical staffs (77.2%). The unit of internal medicine was the most represented at 29.1% and

staffs whose professional practice time lay between 0 – 5 years were majority to 39.2%. Our results on the prevalence of ancillary medical staffs and the unit of internal medicine can be justified by the fact that the unit of internal medicine is the unit requiring most ancillary medical staff from the diversity of pathologies that it deals with. In our study, 65.8% of the participants were said to have received a formation on the BT and 57.7% during their studies, because BT is one of the topics treated during medical studies and paramedical study programs in cameroon Our results differ from those de F. Z. Lahlimi *et al* who found in 2015 at CHU Mohammed VI de Marrakech in Morocco that only 40% of the nursing staff of the service of onco hematology had had a formation on the BT against 67.2% of nursing staff in our séries and of those of M. Diakité *et al* in Mali who found out that only 29,1% of medical staff had received a formation on the blood transfusion [7,8]. Z. Mayaki *et al* on a population of 160 medical staffs in Niamey, found that only 22.2 % had received a training on blood transfusion [9].

We found that the doctors had good knowledge on the monitoring of the BT (83.3%), this could be explained by the fact that the initial medical formation in Cameroon included a formation on the BT. For Z. Mayaki *et al* the evaluation of the quality of knowledge on BT was better with the doctors compared to the other actors of the transfusion chain [9]. As a whole, good knowledge on the BT was found in 72% of the participants, this could be explained by this formation received For. M. Letaief *et al* in Tunisia in 2005, only 15 % of ancillary medical staff had knowledge and practices considered to be sufficient (10). M.Diakité *et al* in Mali, found out that the knowledge of the blood transfusion was insufficient in 37.6 % and ignored in 30.3 % of the cases, the basic concepts on the blood products, their indications and the accidents related to their use were not sufficiently controlled [8]. Ancillary medical staffs adopted rather good attitudes on the monitoring of the transfusion parameters is 73.3%. For F.Z. Lahlimi *et al*, 70 % of nursing staff controlled the principal rules of the checking and the documentation of the transfusion [7]. Mr. Diakité *et al* found that the stages of the transfusion and the clinical monitoring were known in respectively 88% and 98% of the cases by the people interviewed [8]. The intensive care unit in our study was that which adopted the best attitude 90.9%. Broadly our population study presented approximate attitudes in 87.3% of the cases. Nevertheless 2.5% of participants presented right transfusion attitudes.

As far as transportation of unstable blood products is concerned, 30.3% participants affirmed to do it in a plastic bag or on trays from the blood bank to the service user; this practice was described as bad, taking into account the recommendations of the literature [6], could be justified by a defect of sensitizing on the need for maintaining the cold chain and sometimes by the lack of adequate equipment for the transport of UBP. For F. Z. Lahlimi *et al*, only 65 % of nursing staff observed the good conditions of conservation of the unstable blood products [7]. Ultimate control by the patients bed was done systematically for 96.2% of the ancillary medical people interviewed and was carried out by the staff which carried out the BT. In the transfusion process, ancillary medical staffs were in charge of most transfusion activities after the indication and the establishment of the blood command sheet which were done by the doctor. Only 12.7% of medical staffs of our series had good practices in the event of incident. Mr. Diakité *et al* found that the knowledge of the action to be taken in the event of transfusion accident was good in 42.9 % of the cases [8]. F.Z. Lahlimi *et al* found that the adequate management of the transfusion incidents was acquired only by 40 % of the questioned nurses [8]. Gouezec *et al*, in 2005, found a good control of the concepts on the blood products, the management of the accidents and incidents at respectively 60%,40% of medical staff [11]. Our study did not list out participants having a score of adequate transfusion practices, this can be explained by the defect of not updating the levels of the staffs and an absence of protocols drawn up on the matter of transfusion practices in the various services. We did not find out any relation

between the transfusional practices and the transfusion attitudes as well as between the practices and knowledge. In the same way, Mr. Diakité *et al* found that there did not exist any true link between the formation received, the level of knowledge of the basic concepts on the blood transfusion, the quality of the transfusion practice or the action to be taken in the event of accident or incident [8].

CONCLUSION

Although the basic level of knowledge as regards blood transfusion of staffs of the YCH was found to be satisfactory due to the teaching on BT during medical programs in cameroon, we noted that the transfusional attitudes and practices were not always in harmony some with the standards prescribed as regards transfusional practice. The defect of upgrading the level of staffs (training) and an absence of protocols drawn up as regards transfusional practice in the various units could be the original cause of this state. Accompanying measures should be considered or reinforced by means of evaluations, of retraining to level, and by the installation in hospitals of active and motivated committees.

Conflict of Interest

The authors state not to have conflicts of interests in relation to this article.

REFERENCES

1. Zohoun I, Latoundji S, Bigot A, Anani L, Ahlonsou F, Gbetie R *et al*. Service national de transfusion sanguine. Memento de l'acte transfusionnel 2nd édition. Cotonou ; Benin ; 2007
2. Ankouane F, Noah Noah D, Atangana MM, Geukam PR, Kamgaing S, Biwolé Sida M, *et al*. Séroprévalence des virus des hépatites B et C, du VIH-1/2 et de la syphilis chez les donneurs de sang de l'hôpital central de Yaoundé, région du centre, Cameroun. *Transfu Clin Biol*. 2016; 23 (2): 72-77.
3. Organisation Mondiale de la Santé. L'usage clinique approprié du sang et des produits sanguins. 2009; 8(2):36-40.
4. Projet Agence de Recherche National pour Santé. Approche historique et anthropométrique de la transfusion sanguine au Cameroun et en Ouganda. 2009:01-43
5. Essi MJ, Njoya O. L'enquête CAP (connaissances, attitudes et pratiques) en recherche médicale. *Health Sci. Dis*. 2013;14 (2).
6. Organisation Mondiale de la Santé. (Page consultée le 11/03/17). Utilisation clinique du sang. [en ligne]. http://www.int/blood_transfusion/en/
7. F. Z. Lahlimi, I. Tazi, M. Sifsalam, M. Bouchtia, L. Mahmal. Evaluation de la pratique transfusionnelle : enquête au sein du personnel infirmier du centre d'oncologie-hématologie du CHU Mohammed VI de Marrakech, Maroc. *Transfu Clin Biol*. 2015; 22 (1):12-16.
8. M. Diakité, S. I. Diawara, N. Tchiengoua Tchogang *et al*. Connaissances et attitudes du personnel médical en matière de transfusion sanguine au Mali. *Transfu Clin Biol*. 2012; 19 (2):74-77.
9. Z. Mayaki, R. Kabo, M. Moutschen, A. Albert, N. Dardenne, D. Sondag, C. Gérard. Knowledge, attitudes and clinical practice of blood products prescribers in Niamey. *Transfu Clin Biol*. 2016; 23 (2) : 78-85.
10. Letaief M, Hassine M, Bejia I, Romdhane FB, Salem KB, Soltani MS. Connaissances et pratiques du personnel soignant en matière de sécurité transfusionnelle. *Transfusion clinique et biologique*. 2005;12(1):25-9.
11. Gouëzec H, Jegou P, Bétrémieux P, Nimubona S, Grulois I. Les indications des produits sanguins labiles et la physiologie de la transfusion en médecine. *Transfus Clin Biol* 2005;12:169-76.