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Original article

Knowledge, attitudes and clinical practice of blood products prescribers in Niamey

Connaissances, attitudes, pratiques des prescripteurs de produits sanguins à Niamey

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Abstract

Aim of the study. – The lack of traceability and monitoring of blood donors and transfused patients constitute a barrier to the most basic rules of haemovigilance and overall good transfusion practices. This study draws up an inventory of knowledge, attitudes and clinical practice of blood prescribers in Niamey.
Materials and methods. – A questionnaire was administered to 180 prescribers of blood products in Niamey in 2011. Questions were related to basic informations on blood transfusion and clinical use of blood. Analyses were performed using SAS 9.3 version.
Results. – The sample consisted of 180 respondents from several professional categories: 51 physicians (28.33%), 10 medical students (5.56%), 84 nurses (46.67%), 15 anaesthesiologist assistant (8.33%) and 20 midwives (11.11%). Among these, 22.2% received training in blood transfusion safety. Half of the respondents (50.8%) got between 50 and 75% of correct answers, 45.8% got less than 50% correct while 3.35% scored more than 75% correct answers. The overall quality of responses was higher among physicians compared to other prescribers ($P < 0.0001$); among respondents who received training in transfusion safety ($P < 0.0001$); and among males ($P = 0.0306$). For some items, subjects with more experience scored the best.
Conclusion. – The level of knowledge is still inadequate. More training in transfusion practices is necessary for prescribers of blood products. Accompanying measures to improve transfusion practice must be considered or strengthened through assessments, knowledge update/upgrade (regular, ongoing training) and establishment of active and motivated hospital transfusion committees.

Keywords: Blood safety; Clinical use of blood; Haemovigilance; Niamey

Résumé

But de l'étude. – L'insuffisance de traçabilité et de suivi épidémiologique des donneurs de sang et des patients transfusés constituent une entrave à l'hémovigilance et aux bonnes pratiques transfusionnelles en général. L'objectif de cette étude est d'établir un état des lieux des connaissances, attitudes et pratique clinique des prescripteurs de produits sanguins à Niamey.
Matériel et méthode. – Un questionnaire a été soumis à 180 prescripteurs de produits sanguins à Niamey en 2011. Les questions étaient relatives aux notions de base sur la transfusion ainsi qu'à l'utilisation clinique du sang. L'analyse a été effectuée grâce au logiciel SAS version 9.3.
Résultats. – L'enquête a concerné 51 médecins (28,3 %), 10 étudiants en médecine (5,6 %), 84 infirmiers (46,7 %), 15 aides-anesthésistes (8,3 %) et 20 sages-femmes (11,1 %). Parmi ces sujets, 22,2 % ont reçu une formation en transfusion sanguine. La moitié des répondants (50,8 %) ont eu entre 50 et 75 % de bonnes réponses, 45,8 % moins de 50 %, et 3,35 %, plus de 75 %. La qualité globale des réponses était meilleure chez les médecins comparés aux autres prescripteurs ($p < 0{,}0001$), chez les participants qui ont reçu une formation en transfusion ($p < 0{,}0001$) et chez les hommes ($p = 0{,}0306$). Pour certains items, les sujets ayant plus d'ancienneté professionnelle étaient meilleurs répondeurs.

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Conclusion. – Le niveau des connaissances étant insuffisant, des formations en transfusion sont nécessaires pour les prescripteurs de produits sanguins. Des mesures d'accompagnement devraient être envisagées ou renforcées au moyen d'évaluations, de remises à niveau (formation continue), et par la mise en place de comités hospitaliers de transfusion actifs et motivés.

Mots clés : Sécurité transfusionnelle ; Utilisation clinique du sang ; Hémovigilance ; Niamey

1. Introduction

Blood transfusion saves lives and improves health [1]. For that reason, nearly 108 million blood donations are collected annually worldwide [1]. However, this practice is not without risk as it can lead to incidents or accidents for both the donor and the recipient. Haemovigilance was introduced in France in the early 1990s [2,3] as a tool specifically dedicated to improving quality and safety of transfusions [4].

Clearly defined as an epidemiological surveillance system [3], haemovigilance is also "a set of surveillance procedures covering the whole transfusion chain (from the collection of blood and its components to the follow-up of recipients), intended to collect and assess information on unexpected or undesirable effects resulting from the therapeutic use of labile blood products, and to prevent their occurrence or recurrence" [5]. This monitoring and warning system is based on the traceability of blood component and steps involved in the process from donor to recipient and also relies on reporting of transfusion incidents [2]. Traceability, meanwhile, aims to help identify, from a blood component number, either the donor whose blood was used to prepare the product, or the recipient to whom the blood was administered [6].

The existence, structure and operational statuses of haemovigilance in a given country are correlated to the existence of an advanced transfusion system [4]. Thus, apart from local or institutional initiatives, organized haemovigilance is virtually inexistent in developing countries [4]. The same applies for quality assurance systems that may control the transfusion practice [7]. In 2010, only 1.3% of hospitals in World Health Organization (WHO) Africa Region conducted audits on blood transfusion, and only 26% were reporting transfusion incidents [8]. Similarly, less than one of 10 African countries have an adequate policy on clinical use of blood [7].

At the Niamey Regional Blood Transfusion Centre (BTC), quality assurance is being established gradually, but the lack of traceability and epidemiological monitoring of blood donors and transfused patients constitute a barrier to the most basic rules of haemovigilance and overall good transfusion practices. The distribution of labile blood components (LBC) is either nominative, or, since 2011, as blood banking in three hospitals [Hôpital National de Lamordé (HNL), Centre Hospitalier Régional Poudrière (CHR/P) and Maternité Issaka Gazobi (MIG)].

Blood units which are not transfused are retrieved by the BTC only under certain conditions of transport and storage. Because of this situation, coupled with the chronic shortage of blood and medical emergency, clinicians tend to use these units for patients to whom they were not originally intended. Moreover, the majority of services using LBC for transfusion purposes do not have a "transfusion registry".

It should however be pointed out that, in 2005, the Ministry of Public Health of Niger issued a decree on the establishment of hospital transfusion committees (HTC) in reference hospitals and maternity wards, and in regional hospitals. But only two institutions [Hôpital National de Niamey (HNN) and MIG, the two largest consumers of LBC] actually set up these committees in 2007–2008, though they are still not functional. Under these conditions, top-down and bottom-up transfusion investigations remain very often uncertain if not illusive. The same applies for post-transfusion infectious or immunological follow-up on short-, medium- or long-term patients.

This is the context in which, and the reason why, this study was designed: to identify ways of improving the management of LBC recipients. Its objective is to analyze the degree of knowledge in transfusion practice, clinical attitudes and practices of LBC prescribers, especially regarding prescription of blood components, transfusion rules, traceability, rational use of blood and haemovigilance. The conclusions drawn from this analysis will probably lead to solutions aimed at improving transfusion practice in Niamey.

2. Materials and methods

2.1. Study population

An individual questionnaire was submitted to prescribers of blood components working in public or private care facilities (CF) in Niamey.

Sampling was done according to a non-probability technique. Participation in the study was voluntary and anonymous. All institutions that use transfusion were enrolled: pediatrics, maternity wards, medicine, surgery, intensive care and emergency rooms. Respondents interviewed between March and July 2011, were from 18 different CF.

2.2. Assessment tool

To achieve the objectives of the study, an individual questionnaire was developed.

In the first part of the questionnaire, items were related to the socio-professional characteristics of the subject: gender, occupation, facility, unit, specialty, seniority, training in blood transfusion practice. The questionnaire then focused on issues related to the knowledge of certain rules of good transfusion practices including: conservation and transportation of LBC, knowledge of blood types ABORHD, compatibility rules in