University Hospital of North Durham Staff Awareness of Trust Policy for Handling & Transporting High Risk Blood Specimens

Davina Wilbraham*, F2
Fiona Day, SHO
University Hospital of North Durham
***Corresponding Author**
Email: dwilbraham@doctors.org.uk

Abstract

Objective: An audit to assess University Hospital of North Durham staff awareness of and adherence to County Durham and Darlington NHS Foundation Trust (CDDFT) policy for the handling and transportation of high risk blood specimens.

Setting: General medical and general surgical wards, University Hospital North Durham, CDDFT.

Method: A pre-designed questionnaire was completed by 50 members of staff qualified to perform venepuncture.

Results: Only 56% of participants were aware of the existence of CDDFT guidelines for the handling and transport of high risk blood specimens. The majority (68%) were aware of the existence of "Danger of Infection" labels but only 40% could correctly identify the label used by CDDFT. Most participants (94%) believe that further training in the handling and transportation of "high risk" blood specimens is required.

Conclusions: Staff awareness and adherence to CDDFT guidelines for handling and transporting "high risk" specimens is sub-optimal. Strategies are required to improve staff awareness and adherence to trust guidelines as the current status is placing both ward staff and laboratory staff at unnecessary risk.

Introduction

Laboratory investigation of specimens is integral to clinical care. Although the process of obtaining specimens from patients and transporting these specimens to the laboratory are considered routine practice, these actions are not without risk. Transmission of infection to a healthcare worker, delay in laboratory testing and inappropriate investigation may arise as a result of suboptimal practice.

CDDFT policy for the handling and transportation of high risk specimens sets out measures that minimise these risks and should be adopted by every health care professional that is responsible for obtaining and handling clinical specimens and working within the trust.

In accordance with CDDFT guidelines it is imperative that collection and transport of pathology specimens should be appropriate and safe and infection risks associated with handling laboratory specimens should be minimised as far as possible.

Aims & Objectives

According to Trust guidelines "High risk specimens" are classified as all specimens known or suspected to contain Category 3 pathogens (figure 1).

Figure 1. *Category 3 Pathogens*

- Bacillus anthracis (anthrax)
- Brucella species (brucellosis)
- Escherichia coli 0157 (E.coli 0157)
- Mycobacterium tuberculosis
- Salmonella typhi & paratyphi
- Shigella dysenteriae (dysentery)
- Human immunodeficiency virus (HIV1&2)
- Hepatitis B, C, D & E viruses
- Yersinia pestis

If a specimen is known or suspected to contain category 3 pathogens the following action must be taken:

- Both the pathology request form & specimen container must be labelled with an appropriate "Danger of Infection" label (figure 2)
- The container of any such specimen must be placed in an individual transparent plastic transport bag as soon as it has been labelled.
- The transport bag must be sealed, however transport bags must not be sealed with staples, pins or metal clips etc…
- The request form must not be placed in the bag with the sample

It is the responsibility of the individual making the request to ensure that the above is complied with.

Figure 2. *"Danger of Infection" Label Used by CDDFT*

The aim of this audit is to assess CDDFT staff awareness of and adherence to trust policy for handling and transporting high risk blood specimens.

The data collected will be used to identify areas which are lacking and what initiatives can be implemented to improve staff awareness and application of the guidelines so that staff safety in CDDFT can be maximised. It will also highlight whether there is a requirement for focused and regular staff training.

Methodology

Target Population:

Staff working on general surgical or medical wards at UHND who are qualified to perform venepuncture.

Data Collection:

A questionnaire was designed to ask specific questions regarding existing trust policy in order to assess staff awareness and adherence. This questionnaire was completed by 50 members of the target population chosen at random during March 2008.

Following completion of the anonymised questionnaire participants were provided with the correct answers to the questions and provided with details of where they could find the guidelines on the intranet. This action was taken as an immediate intervention which could improve awareness and adherence to these guidelines.

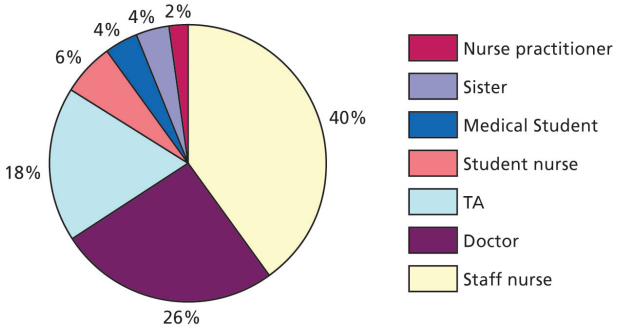
Results

A total of 50 questionnaires were distributed to a random selection of different

health care professionals working on general medical and surgical wards at UHND (figure 3).

The study population was composed mainly of staff nurses (40%) closely followed by doctors (26%) with the remainder split fairly equally between other members of ward staff. This distribution accurately reflects the availability of these healthcare professionals on the wards, with staff nurses and doctors being the most readily available. Team assistants were also readily available, however, only a small proportion of these were qualified in venepuncture and therefore, are represented less in this audit.

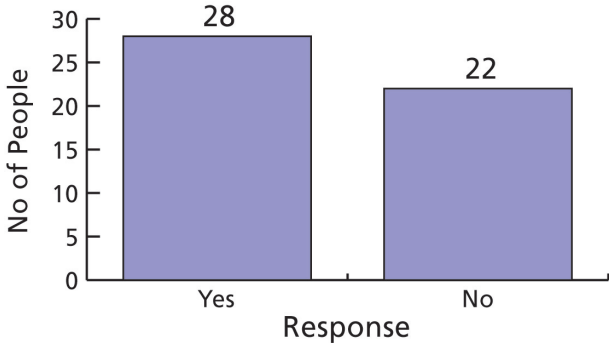
Figure 3. *Study Population*



Less than half of those questioned had received formal training in the handling and transport of high risk blood specimens (42%). The remaining 58% had either received no training or could not recall if this topic had been specifically addressed during their training. It is possible that those individuals who could not remember had in fact received training, however the fact that they could not remember demonstrates that even if they had received specific training it has not been effective. It also possibly highlights the need for refresher training.

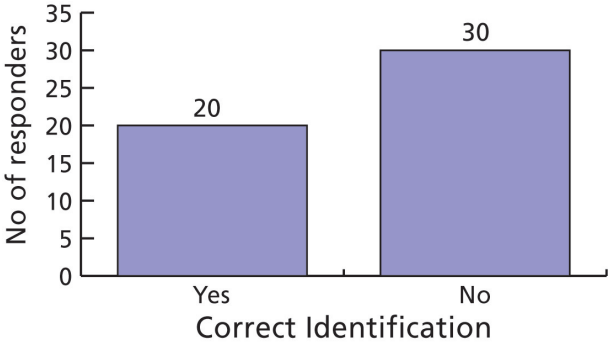
Only 56% of participants were aware of the existence of CDDFT guidelines for the handling and transport of high risk blood specimens (figure 4).

Figure 4. *Awareness of CDDFT guidelines*



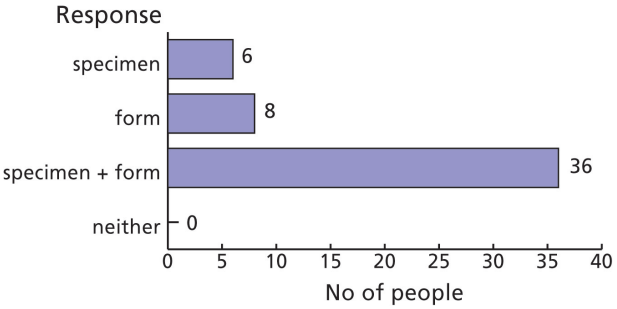
The majority of those questioned (68%) were aware of the existence of "Danger of Infection" labels, however less than half (40%) of the study population could correctly identify the correct "Danger of Infection" label used by CDDFT when presented with a choice of three different labels (figure 5). Two of these three labels were not used at all within the trust. Furthermore, only 40% of responders could accurately locate these stickers on their ward.

Figure 5. *Correct identification of "Danger of Infection" labels*



The majority of individuals (72%) correctly identified that both the blood specimen container and the request form should be labelled with the "Danger of Infection" label (figure 6).

Figure 6. *Awareness of correct labelling of "High Risk" specimens*



The study population were almost equally split between the two options for transport of the high risk specimens with 52% correctly identifying that the specimens should be labelled and transported separately in individually labelled transport bags.

The responders were asked whether they had ever obtained a blood sample from a patient they believed to be "High Risk". More than half (56%) of those questioned believed that they had handled specimens which could potentially be hazardous. Those who were identified as having obtained a blood specimen from a patient considered to be high risk were asked specifically about the action they took with regards to handling and transport of the specimen. This question was intended to assess adherence to trust guidelines. Of the 28 participants who believed they had obtained a "high risk" specimen, just over half (53%) of these individuals adhered to trust policy with regards to handling and transporting the specimens. Among those individuals who did not adhere to trust policy, 36% made some attempt to highlight or inform laboratory staff that the samples were considered "high risk", even though the actions were non-compliant with trust guidelines. Disappointingly, 11% of the responders did nothing even though they deemed the specimens to be potentially hazardous.

Reassuringly, participants were able to identify that there is a deficiency in the awareness of and adherence to trust policy with 94% of participants believing that further training in the handling and transportation of "high risk" blood specimens would be useful.

Conclusions

From the results detailed above it is evident that awareness and adherence to CDDFT guidelines for handling and transporting "high risk" specimens is sub-optimal among UHND staff. This highlights that strategies are required to improve staff awareness and adherence to trust guidelines as the current status is placing both ward staff and laboratory staff at unnecessary risk.

This audit demonstrates that the deficiencies in awareness and adherence are due to ineffective training and lack of awareness as opposed to individual poor compliance/ practice. Reassuringly, the audit has highlighted that the staff involved in the obtaining, handling and transport of "high risk" specimens would value more training and information in this area.

Recommendations

The need for improvement in staff awareness of and adherence to trust guidelines for the handling and transport of "high risk" specimens is evident. The scope for improvement in this area is huge. Detailed below are areas where improvements can be made:

Training:

- Compulsory inclusion of trust guidelines in the handling and transport of "high risk" blood specimens into existing venepuncture/ cannulation training. Refresher training should be available to all staff undergoing this initial training at regular intervals so that good practice is maintained.
- Inclusion of location of safety stickers and guidelines in staff induction to clinical area
- Specific guidance needs to be produced to aid staff in the identification of potentially high risk patients as it is not always easy to establish. A patients HIV or hepatitis status is not always known

Promotion:

- Produce posters which could remind staff carrying out venepuncture to assess a patient's risk status and take appropriate measures. These could be displayed on all wards next to blood collection equipment
- Improve trust intranet so that guidelines can be easily located and are in a relevant section of the intranet site
- Request forms and specimen bottles could be adapted to have a specific site for the "danger of infection" labels to be attached if indicated. This would potentially remind staff to assess whether the patient is high risk prior to sending the specimens to the laboratory.
- "Danger of Infection" labels need to be kept in a common location on all hospital wards so that they are readily available and easy to locate.

If any strategy is implemented with the intention of improving staff awareness and adherence to trust policy then the audit process needs to be repeated to assess the effectiveness of this strategy and the impact it has made to staff awareness and adherence to CDDFT guidelines.