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THE SAFE ADMINISTRATION OF BLOOD TRANSFUSIONS AT NIGHT

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ABSTRACT Stevenson, T. (2007) **The safe administration of blood transfusions at night. *Nursing Times;*** 103: 5, 33–34.
This audit, which examines the practice of giving patients blood transfusions at night, found that two-thirds of transfusions could have been delayed until the following morning without any detrimental effects to patient care. The article evaluates the areas of risk and concern associated with administering blood at night, and makes recommendations to improve practice. This is a summary: the full paper and reference list can be accessed at nursingtimes.net.

AIM OF THE AUDIT

During a training session at a hospital in Dorchester it was suggested that transfusions were occurring routinely at night. The researchers decided to find out whether this was the case and if so, the reasons why.

The practice of local hospitals in providing transfusions was audited to determine the level of night transfusion activity. Based on the findings it was decided to widen the investigation and a regional project on night transfusion practices was undertaken. The aim was to evaluate night transfusion practices and, in light of the results, suggest a strategy for improving safe practice for blood transfusions outside of normal hours.

METHODS

Scoping

The audit had two parts. The first part examined the overall percentage of blood transfused at night at each hospital in the region. Eight hospitals were contacted and data collected from six. This was collated to calculate the proportion of transfusions occurring at night for the region as a whole.

Detailed analysis

Once it was established that undertaking blood transfusions at night was common practice, the second part of the project explored the reasons why. Sixty pro formas were issued to regional transfusion practitioners and laboratory managers to collect more details about transfusion practice at night. The pro formas collected the following information:

- Admitting specialty;
- Documented reason for transfusion, and an opinion based on the information available on whether the transfusion could have waited until the next morning;
- Whether the patient was scheduled for surgery the following morning;
- Whether the patient was being prepared for discharge;
- Whether the patient was wearing a wristband;
- Whether the patient was unconscious;
- Whether the correct patient observation procedures were followed;
- Whether the location of the patient during the transfusion made observation during the procedure difficult;
- Staffing numbers during the transfusion and shifts immediately before and after.

RESULTS

Proportion of transfusions at night

The first part of the audit examined the percentage of transfusions taking place at night. Two of the eight hospitals in the region did not participate in this stage of the audit, giving a 75% response rate. This data was collected retrospectively from the transfusion issue information for February 2006.

The results showed that the average proportion of transfusions occurring at night across the region was 25% in February 2006, with 866 transfusions taking place during the night and 2,603 during the day at the six hospitals that provided data. The proportion of night transfusions in hospitals ranged from 13% to 29%. The total number of transfusions performed at each hospital ranged from eight to 928 during the month.

Types of patients transfused at night

The second part of the audit looked in detail at the types of patients who underwent blood transfusions at night and the practices of the hospital. A total of 60 pro formas were issued to the six participating hospitals and 43 were returned from five hospitals; a response rate of 72%.

Patients who had transfusions at night were most likely to have been admitted through the orthopaedics department. Most blood transfusions at night were given to

BACKGROUND

- The British Committee for Standards in Haematology Blood Transfusion Taskforce (BCSH, 1999) guidelines emphasised that visual observation is often the best way of assessing patients during a transfusion and that transfusions should be given in clinical areas where staff could readily observe them.
- Clark et al (2001) identified a continuing failure for vital signs to be monitored in patients receiving blood after 10pm.
- Anecdotal evidence suggests that patients given blood transfusions at night are observed less well by staff. The perceived reasons for this include poor lighting, lower staff-to-patient ratio, patients sleeping, reluctance to wake the patient in order to perform observations, or limited availability of medical staff.

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IMPLICATIONS FOR PRACTICE

- Protocols should be instituted that comply with the Serious Hazards of Transfusion Steering Group (2003) recommendations that routine transfusions do not take place at night because staffing levels are lower.
- These protocols could include the nurse challenging the need for night-time transfusions to ensure they are clinically urgent and establishing a checklist for nursing staff, such as whether the patient is bleeding or experiencing chest pain.
- Policies should include a clear statement promoting safe night practice and this could be backed up by a poster campaign.
- Hospital practices should be audited regularly to ensure that best practice protocols are being followed.

patients admitted to medical wards, followed by general surgery, then elderly care and haematology. More patients admitted to these wards were given a blood transfusion at night than those admitted to the ICU and the emergency department.

It was found that two-thirds (67%) of transfusions given to patients at night could have been delayed until the next morning without any detrimental effects. In addition, only 14% of the patients transfused at night were scheduled for surgery the next day and none were being discharged the day after their transfusion. A total of 84% of patients were conscious during their transfusion and 16% unconscious.

Hospital practices

The audit revealed that one patient who underwent a blood transfusion was not wearing a wristband. The correct observations were made by staff in only 60% of cases; 40% of patients who underwent blood transfusions at night did not receive these observations. In addition, only 30% of patients received their transfusions in view of the nurses' station, while 44% received them in side rooms and 26% were located in another bay.

The audit confirmed that staffing levels were considerably lower at night. Staffing levels were generally at least 50% lower during the night, which could be one of the reasons why the correct observations were not made.

DISCUSSION

The results of this project demonstrated that within the Dorchester region a quarter of all blood transfusions were occurring overnight and that two-thirds of these were being performed at this time despite there being no clinical necessity.

The orthopaedic wards were of particular concern because they performed the highest number of transfusions at night but only about 10% were considered appropriate to be performed at this time. General surgery and medicine also demonstrated higher levels of night transfusions but were judged appropriate in approximately 50% of cases.

Given the impetus within the NHS to reduce hospital stays, it was interesting to note that 14% of patients were having blood overnight to prepare them for surgery the next day. Conversely the audit found that no patients were receiving a transfusion at night to hasten the discharge process.

Although 16% of patients were unconscious at the time of transfusion, all their transfusions given to these patients were felt to be appropriate and they were on the whole being cared for on a one-to-one basis in the ICU or an operating theatre.

It is well documented that patient observation is crucial to safe transfusion practice (RCN, 2005; British Committee for Standards in Haematology Blood Transfusion Taskforce, 1999). The findings of this current audit raised concerns because of the lack of patient observations for 40% of the cohort. It is difficult to assess how night observations differ from daytime practice in this study. However, indications from the National Comparative Audit of Blood Transfusion (2005) on bedside transfusion practice, where observations nationally are recorded in 85% of patients, suggest that observations at night are inferior to daytime practices.

An issue of major concern was that most patients receiving transfusions during the night were located in areas where potentially they could not be readily observed by the nursing staff. Most patients were located in side rooms or in a bay and these were not in view of the nurses' station.

The data gathered also confirmed that staff-to-patient ratios were lower at night than during the day.

CONCLUSION

The audit confirmed that a number of avoidable factors were putting patients who received blood transfusions at night at greater risk than those who received them during the day. These factors included receiving a blood transfusion at night despite no clinical necessity, being transfused in a side room away from the view of nursing staff, not receiving the required observations and reduced staffing levels at night. n

For the full version of this paper including results, full methodology, discussion and recommendations, log on to nursingtimes.net, click NT Clinical and Archive and then Clinical Extra



REFERENCES

British Committee for Standards in Haematology Blood Transfusion Taskforce (1999) The administration of blood and blood components and the management of transfused patients. Transfusion Medicine; 9: 3, 227–238.

Clark, P. et al (2001) Effect of a formal education programme on safety of transfusions. British Medical Journal; 323: 7321, 1118–1120.

National Comparative Audit of Blood Transfusion (2005) *http://blood.co.uk/hospitals/safe_use/clinical_audit/National_Comparative/index.asp.*

RCN (2005) Standards for Infusion Therapy. London: RCN.

Serious Hazards of Transfusion Steering Group (2003) Serious Hazards of Transfusion Annual Report. London: SHOT.