Audit Report ‘Blood transfusion practice at Shree Birendra Hospital’

Maj

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1. Good afternoon to all. After taking permission from the commandant, we conducted an audit on blood transfusion practice at Shree Birendra hospital, the report of which was presented to commandant. He has then advised us to present this audit report to all the hospital staffs. So, I on behalf of department of pathology am presenting an audit report on ‘blood transfusion practice at Shree Birendra hospital today.

2. I will be talking on these headings starting from ..... 

3. Blood transfusion is a mini-transplant that also considered as an organ transplant unit. It is a Double edge sword which has got benefits along with immediate and long term consequences.

4. Blood transfusion is an important part of modern health care. However, like other clinical therapies, it is also associated with significant clinical risk. Audit and feedback is widely used as a strategy to improve professional practice

5. A proposal was carried out on criterion based audit on structure and process of blood transfusion services in the hospital to support the safe and effective transfusion activity. The criteria were selected from National guidelines on blood transfusion services in Nepal.

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7. Proposal contained clear objective to evaluate the four definite criteria. It included ....

8. Based on national and international guidelines in relation to our present audit

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10. Data collection for the audit process was done for one month of Asoj. Audit on blood transfusion practice started with the formation of audit team which was led by Prof Dr Dibya Shree Malla. Followed by preparation and pretesting of questionnaire and training of the data recorder by observing the activities in the wards

11. Data recorder confirmed the findings by inquiring the staffs involved, patients and patient’s relatives and observing the activities in the blood transfusion process. The collected data were compiled and analysed.

12. I’m going to proceed Result of Audit and overview on safe blood transfusion practice by covering each objective of audit report

13. Covering the first objective – We will be presenting on four sub-headings - namely

14. There were 44% males and 56% females who received transfusion during our audit period

15. On assessing use of blood and blood components

16. Almost all the departments used the blood for transfusion while majority of the blood were requested from HD unit.
17. During the study period, 100 requisition forms were received at blood transfusion centre for transfusion of 196 blood and blood products.

18. Out of total 196 units of blood transfused, 41% received whole blood, 55% received Packed cells. Minimum no. of components transfused were Platelet Rich Plasma and Fresh Frozen Plasma. This data clearly shows that the use of components during the study period was minimum, while nearly half of the blood products transfused comprised of whole blood.

19. On analysing the use of the components with various indications, 18% of the cases received whole blood and only 6% received packed cells, while whole blood are contraindicated in chronic anaemia as per WHO and national guidelines and packed cells are strongly indicated in anaemic patients. Platelet rich Plasma is indicated for the use in treatment and prevention of bleeding.

20. 33% of the recipients were transfused with only one unit of blood while sixty-seven present used two to six units of blood and blood products. Use of single unit of blood transfusion should not be practiced and stopped.

21. On assessing risk vs benefits of transfusion, Haemoglobin is taken as one of the most important transfusion trigger. The criteria selected for Hb in our study according to national and international guidelines on an average was 8 g/dl. Around 50% of the recipients had Hb level <8g/dl and similarly almost 50% had > 8g.dl.

22. Assessing risk or benefit of transfusion with less or more Hb should be decided clinically. With lower Hb, if benefit is more than risk - then the question comes why not to transfuse but with higher Hb then risk surpasses benefit, one should be aware about the question ‘why to transfuse?’ According to WHO and national guidelines, transfusing PRBCs has benefits of increasing oxygen carrying capacity in anaemic patients. While, transfusing any components raises the risk of transfusion reactions and Transfusion transmitted infections.

23. Covering the second objective............The subheadings are....

24. On observing the requisition form, Blood groups were present in 100% of blood requisition forms. Almost half of the requisition forms had not mentioned clinical diagnosis. However, we were happy to have indications mentioned in 10% of the forms. WHO and national guidelines clearly states that, the blood requisition form should be clearly labelled with .......The clinical diagnosis with indications should be mentioned. And the blood requisition forms ....

25. Clinicians are also required to assess the patient’s need for transfusion, whether; the blood is required for the later use or for emergency. Based on these, the blood bank should be asked to hold the blood to be provided at the stated time, or to be issued urgently.

26. While analysing the sample brought for cross-matching, all had recipients name labelled, 97% had not mentioned age and none had gender labelled. Date was also missing in all cases.

27. As for eg. In this sample sent for cross matching in a syringe, name, ward and bed no. are given. Instead, the sample should be sent in an appropriate sample bottle, properly labelled with

28. Over viewing the quality service at blood transfusion unit, we will be covering on space requirement/ equipments/ Activities in BTSC
35. This is a hospital blood bank .......Not only the screening for infectious agents of the blood bags done here, also all the infectious serology of the whole hospitals are done here...which might be one of the cause of transfusion of infections to the healthy blood bags....Minimum WHO requirement of space .......Minimum required areas . Donor complex Laboratories for blood grouping, cross-match and serology....No trained staffs for the blood banking system are present in blood bank of our hospital..Stores

36. This photograph shows Standard blood bank in the developed/other developing countries. Reception area, Donor complex with various rooms for various purposes, Standard electric blood refrigerators with glass doors showing the digital temperature logger

37. Blood bank refrigerators → standard blood bank refrigerators. Temperature maintenance. Temperature is not recorded properly

38. This photograph shows one of our staff performing blood grouping in the designated station, Usually, blood grouping is done by slide method as has been shown and are properly labeled.......however at times we see these kind of activities too. This is a proper grouping method which are properly labeled for cell grouping and serum grouping. Only forward grouping is done here, and reverse grouping is done rarely. Compatibility test is done by major crossmatch method while rarely, minor crossmatching done in our blood transfusing unit

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40. This is the photograph of the patient’s visitor carrying blood bag in a bare hand to be taken to the patient bed side. The compatibility label should be checked for unique compatibility no./expiry date before taking the blood bags out of blood bank which seems to be missing in our context since most of the blood bags are being taken by the patient’s visitors. The proper labelling of the compatibility is shown here

41. Ideally, blood should be carried in a transport box which maintains the proper temperature of blood and blood products. As for Packed Red Blood Cells, the temp..............For FFPs, ..the temp...For Platelet rich plasma ..temp....The temperature logger used in transport box as shown here. These are the transport boxes available in our hospital...however, the temperature logger is not available...

42. This photograph shows maintenance of the blood cold chain even in rural areas

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44. At the patient bed side, most of the blood bags were wrapped in the towel and kept in the patient bed. Ideally, the blood should be transfused as soon as it is dispatched from the blood bank. However, if the delay is anticipated, then it should be stored in a proper refrigerator maintaining proper temperature for each component.

45. The thumb rule of 30 min to 4 hours should be remembered. Whole blood and PRBCs should be transfused within 30 min and should be completed within 4 hours. If the transfusion cannot be started within 30 min then it should be stored in the proper refrigerator and if the transfusion is not completed within 4 hours then the blood bag comprising remaining volume of blood should be discarded. However, the blood bags which are out from the blood bank for more than 30 minutes should not be returned back. The same thing applies for FFPs and Platelet concentrate.....Pause............

46. Covering the third objective,

47. The identification of the recipient was carried out in 66% of recipients only, majority of which formed asking name. The other important questions like verifying name along with blood group, verifying name and order in the cards, and verifying requested form and label in the blood bag
48. The final check at the patient’s bedside is the last opportunity to detect an identification error and prevent a potentially incompatible transfusion, which may be fatal.

49. The risk of mistransfusion is considerable as shown in various studies on Serious Hazards of Transfusion, which contains a large amount of information about failures in bedside transfusion. Majority of the ‘wrong blood’ events occur in clinical areas with the most common being due to failure of pre-transfusion bedside checking procedure. Patients are vulnerable to misidentification for many reasons: transfer between wards and medical/surgical teams, the shift systems for doctors and nurses along with improper handovers, resulting in loss of continuity of care.

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51. As the part of the last objective, we also studied the adverse events recordings. 12 cases of the recipients had an adverse reactions like allergy, rashes all over body, fever, rigor, reddish urine. But the record of the reporting to the blood transfusion unit and investigations of transfusion reactions were not done.

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54. The infections being screened in blood bags regularly are .......However, apart from these, there are many other infectious agents present in blood that are not screened for – and has got the risk of transfusion transmitted infections as well..

55. According to DART and SHOT, Maximum Risk factor for blood transfusion adverse events are due to increased blood component transfusion, followed by immune complications and TTI. These are the data given in developed countries where all the modalities for preventing transfusion reactions are applied, The same data must be much higher in our scenario....... 

56. 4 questions should be asked before transfusion

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58. Criterion based audit was carried out based on structure and process of blood transfusion services in the hospital was selected. Criteria were selected from National guidelines on blood transfusion services in Nepal. The Audit process was carried out......

59. 196 blood and blood components were transfused. Whole blood and packed cells comprised of the maximum blood and blood components used. Out of 83 recipients, 33% recipients received single unit of blood transfusion

60. HD unit used maximum no. of blood and blood products. Almost all the forms received were incompletely filled. Almost all the samples received for cross-matching were incompletely filled

61. Pre-transfusion Hb was ≥ 8 g/dl in almost half the recipients. Blood transfusion unit have only a single room – all the procedures are carried out. Bed side transfusion – incomplete identification procedure

62. Improper storage at the bed side. No recording and reporting of adverse events after transfusion

63. This audit has given the insight into the exiting blood transfusion service at Shree Birendra Hospital. There are many areas of concern at different levels of transfusion chain, in relation to recording and reporting including identification of the patient and safe storage of blood and blood products, but this is only the tip of an iceberg. This study mandates us that there is an urgent need to form a hospital transfusion committee for safe blood transfusion practice.
64. After review of the audit report, the commandant of the Shree Birendra Hospital has issued a directive to
65. References
66. Thank You
67. Empty