

Transfusion practice on the intensive care unit; an international online survey – The TRACE Survey

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Introduction:

During the last decades more awareness has been raised concerning the side effects of transfusion. Since the equivalence of a restrictive and liberal transfusion strategy for red blood cells was proven¹⁻⁴, the transfusion practice of red blood cells has been shifted from a liberal to a more restrictive strategy^{5,6}. Guidelines are now recommending a haemoglobin threshold of <7 g/dl in most of ICU patients. Unfortunately the optimal transfusion strategy still remains debatable for several subpopulation such as patients older than 65 years and patients with acute coronary syndrome^{7,8}. Furthermore, guidelines specific for ICU patients are lacking. This discussion regarding the optimal transfusion strategy does not only apply to red blood cell products, but also concerns platelets, plasma and other coagulation factors. Where multiple large randomized trials have been performed regarding red blood cell transfusion, evidence for the optimal transfusion strategy for platelets and plasma is more limited, especially in the intensive care setting. As a result heterogeneous transfusion practice exists for these products as is shown in a study performed in the UK 2011⁹. This study showed an inconsistent transfusion practice regarding indications and number of transfused units of plasma. In addition, the benefit of a large amount of the transfused plasma units has never been proven⁹. Another study performed in Australia showed similar results, about 27-51% of all plasma transfusion were given without a proper indication¹⁰. The same holds true for platelet transfusion, 29-51% of all platelet transfusions in South-Wales Australia were transfused without a reasonable indication¹¹. Due to the complexity and heterogeneity of the ICU patient population, current guidelines such as the NICE are not always applicable to critically ill patients¹². At current, an ESICM taskforce is preparing specific blood component transfusion guidelines for the non-bleeding intensive care setting. It will be useful to determine current transfusion practice which can be compared in a few years after implementing this new guideline.

Aim:

In this survey we aim to map the heterogeneity in transfusion practice within but also between worldregions. We believe that this information can improve future guidelines, patient care and set new goals for research. We believe that this information can improve future guidelines, patient care and set new goals for research. We would like to launch the survey prior summer 2018 as the guideline will be finished end of 2018. In this way we have a baseline measurement of transfusion practice prior implementing the guideline.

Methods:

Intensivists are asked to fill in an online questionnaire regarding transfusion practice on the intensive care unit. This survey contains questions about red blood cell, platelet and plasma transfusion in non-bleeding patients. This includes questions regarding transfusion triggers and threshold for different blood products in different subpopulations on the intensive care unit. Transfusion practice differences within and between countries and regions will be tested. Data will be checked for distribution. Normal distributed data will be analyzed using students t-test and ANOVA analysis. Non-parametric data will be analyzed with Mann Withney U-test or Kruskal-Wallis. Categorical variables will be tested using the Chi-squared test.

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