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Red blood cell transfusion in the ICU: Current research vs. current practice

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Anemia is one of the most common abnormal laboratory findings in the critically ill population. Approximately 95% of patients in the ICU for three days or more become anemic, and approximately 50% of these patients receive an average of five units of PRBCs. Using the PRISMA Statement methodology, an electronic search followed by a manual search and screen was completed. Studies published between 2008 and 2016 were included. A total of 372 studies were retrieved. The majority of study designs were either retrospective or prospective, and only one was a randomized-controlled trial. A common finding among all studies was that transfusion of a single unit of PRBCs increases risk and may lead to higher morbidity and mortality. Following careful analysis of the patient outcomes from each of the included studies, the following four primary clinical findings categories were formulated, 1. No increased risk in single versus double transfused PRBCs, 2. Risk increases as the number of transfused PRBCs increases, 3. Immune changes occur due to transfusion of PRBCs, and 4. Patient survival following a transfusion of PRBCs is not increased. The evidence demonstrates the occurrence of health risks associated with receiving a PRBC transfusion. The findings reveal that in some at-risk patients, even a single unit of PRBCs may result in acute respiratory distress syndrome, acute renal injury, cardiogenic shock, infection, and higher mortality and morbidity rates. This systematic review demonstrates the need for more rigorous research studies of this common therapeutic intervention to ascertain relative risk and benefit

Biography

Douglas Sutton has completed his Doctorate degree in 2004 from Florida International University in Miami. He is currently a Board Certified Adult Nurse Practitioner and Clinical Nurse Specialist in Flagstaff, AZ, USA. He is an Associate Clinical Professor at Northern Arizona University, School of Nursing. He has published more than 30 papers in peer-reviewed journals and textbooks, and currently serves as a Reviewer for the *Journal of Rehabilitation Nursing*.

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