Sigma's 30th International Nursing Research Congress
Nurses Apply Translational Research Skills to Implement EBP Solutions for Detection of Blood Transfusion Reactions
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Purpose: The purpose of this project was to ensure five regional hospitals located in the southwestern United States blood administration policies, processes, and practices align with current evidence for detection of adverse blood product reactions.

Aim: The aim of this project was to align policies, processes, and practices around blood product transfusion reaction detection in five acute care hospitals with current synthesized evidence obtained from an Integrated Research Review methodology.

Background/Significance: 20,933,000 blood products transfused in the U.S. during 2011 with a 0.24% adverse event rate (Gehrie, Hendrickson, & Tormey, 2015; Sullivan et al., 2015). Reported blood transfusion reaction rates ranged from 0.14-2.1% in reviewed literature (Cortez-Gann, 2017; DeYoung et al., 2015; Gehrie, Hendrickson, & Tormey, 2015; Hardwick, Osswald, & Walker, 2013). Five acute care regional organizations located in the southwest United States recorded 51/12,077 (0.422%) transfusion-related adverse reactions in 2017, thus highlighting the importance of identifying evidence to support vital sign frequency to detect transfusion reactions. Blood transfusions may result in severe complications including death (Battard Menendez, 2016; Cortez-Gann et al., 2017). Adverse reactions may occur immediately or within several hours post transfusion according to reviewed literature (Battard Mendez, 2016; Cortez-Gann et al., 2017; Hardwick, Osswald & Walker, 2013; Goodall, 2014). Nurses enrolled in a Research Academy designed to increase confidence in research skills and research capacity conducted an Integrated Research Review of published peer-reviewed literature to identify what frequency of vital signs should be used to detect a blood product transfusion reaction. Due to lack of high level evidence and guidelines in peer-reviewed literature to inform nurses in how frequently vital signs should be monitored and what components should be included in “vital signs” to identify transfusion reactions, an answer to the clinical question was not found. Consistently throughout the literature, vital signs were noted to not be enough to detect blood transfusion reactions. Physical assessment changes occur prior to vital sign changes in reviewed literature. In one reviewed study, 40% of sample had vital sign changes after patient reported symptoms (DeYoung Sullivan et al., 2015). Current vital sign monitoring
at start, 15 minutes after, and at the conclusion of a blood product transfusion do not
detect delayed reactions.

**Methods:** Research Academy participants compared findings from a literature review
using Integrated Research Review methodology to current blood administration policies
and processes to ensure evidence-based practices are employed for early detection of
blood product transfusion reactions. Stevens Star Model of Knowledge Transformation®
was used to guide the Research Academy fourth cohort project work for translation of
research into practice. Three clear themes emerged from synthesized literature review
findings: inclusion of respiratory assessment, inclusion of a physical assessment, and
engaging family and patients as partners in detecting blood product transfusion
reactions. The three emerging themes were used to guide policy, process, and practice
change recommendations by the group of direct care nurses with Research Academy
faculty to guide and mentor them. Consensus was reached for changes to relevant
policies, electronic health record, and implementation steps. Meetings were scheduled
with nurse leaders from nursing informatics, nurse policy and procedure, compliance,
laboratory, education, regional hospitals, and executive teams to present suggested
changes for approval. Research Academy participants presented suggested changes to
their peers for approval in the Staff Nurse Professional Practice Council.

**Results:** Two process changes associated with blood product administration were
made based on literature findings. An assessment was added to be completed with
every set of vital signs during transfusion and patient education will be printed with
every blood administration consent automatically to be provided to patient and family.
All five recommended electronic health record changes were approved through proper
authorization channels. Numerous policy changes were approved. Primarily multiple
policies for each hospital were combined into a regional blood administration policy.
Three blood administration policies around administration, laboratory labeling, and
reaction were combined into one policy. The direct care nurses shared their evidence-
based practice findings and practice change work through two local and one national
dissemination opportunities.

**Discussion/Conclusion:** More research needs to be completed to answer how often
vital signs should be done to detect blood transfusion reactions to guide nursing
practice. Early detection potentially prevents adverse outcomes, increased lengths of
stay, higher costs to treat, and promotes customer satisfaction. Although a clinical
question may not be answered in peer-reviewed literature and only low level of
evidence may be found to address a clinical question, changes to policies, processes,
and practices may be indicated based on additional findings in reviewed literature. Role-
modeling research skills by nurse leaders in academic and acute care organizations
empowers direct care nurses proficient application of research, evidence-based
practice, and quality improvement concepts and promotes an increased research
confidence and capacity. Mentoring and role-modeling how to be a change agent
through evidence-based practice implementation should continue to the point of patient
care by changing policy, protocols, and practice alongside direct care nurses.

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Keywords:
Change Agent, EBP Implementation and Implementation Science

References:


**Abstract Summary:**
At the conclusion of this session participants will be able to discuss direct care nurse application of literature evidence synthesis to institutional practice, protocol, and policy resulting from role-modeling being a change agent by Research Academy (RA) faculty.

**Content Outline:**
1. Introduction to academic and acute care partnership to change policies, processes, and practices based on literature findings
   1. Discuss purpose of Research Academy’s application of current evidence for detection of adverse blood product reactions
   2. Identify aim of Research Academy project to apply newly acquired translational research skills to changes in nursing policies, processes, and practices
   3. Discuss how application of evidence synthesis from reviewed literature represents significance and relevance to clinical practice
2. Method used to facilitate development of change agent skills in Research Academy participants
   1. Describe use of translational research model to guide practice change
   2. Identify steps taken to change policies, processes, and practices
   3. Results of empowering direct care nurses as change agents
      1. List changes to institutional policies, processes, and practices
      2. Align changes with synthesized evidence from literature review
   4. Conclusion
      1. Identify implications to nursing practice of empowerment of Research Academy participants as change agents influencing policies, processes, and practices

First Primary Presenting Author

*Primary Presenting Author*
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Author Summary: Hold American Nurses Credentialing Center certification in Nursing Professional Development and American Association of Critical Care Nursing Adult Critical Care. Completed a Nursing Education focused master's program. Serve currently on the nurse planning committees for American Critical Care Nurses Association's National Teaching Institute and Texas Public Health Association's Public Health Conference. Have presented internationally, nationally, locally, and at state level. Published author.

Second Secondary Presenting Author
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Author Summary: Lauren as been able to present the work of her Research Academy project orally at the Providence Saint Joseph Nursing Clinical Scholarship Symposium. She also presented the findings of her group in two poster presentations at the Lubbock Christian University Scholars Colloquium and Llano Estacado Oncology Nurses Society symposium.

Third Secondary Presenting Author
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Author Summary: Michella wanted to learn more about translational research and grow her research capacity through enrollment in Research Academy cohorts four and five. She was integral to conducting an Integrated Research Review and changing practice, policy, and processes based on findings from peer-reviewed literature.

Fourth Secondary Presenting Author
**Author Summary:** Beth wanted to learn more about translational research and grow her research capacity through enrollment in Research Academy cohorts four and five. She was integral to conducting an Integrated Research Review and changing practice, policy, and processes based on findings from peer-reviewed literature.

**Author Summary:** Christi wanted to learn more about translational research and grow her research capacity through enrollment in Research Academy cohorts four and five. She was integral to conducting an Integrated Research Review and changing practice, policy, and processes based on findings from peer-reviewed literature.

**Author Summary:** This Elaine Emery she has been a Registered Nurse for 30 years and for the past 25 years she has been a certified Diabetes educator. Her passion is translational research in bringing best practices to the bedside in an effort to increase patient outcomes.
Author Summary: Emelia Garcia is a former Lubbock Christian University Master's in Science of Nursing graduate. Emelia is now Covenant Children's Hospital Neonatal Project Coordinator. She has also obtained her RNC-NIC.

Eighth Author
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Author Summary: Chief Nursing Officer supporting the development of the Research Academy collaborative. Acute care nurse executive approving and overseeing project. Key nurse leader in implementing research activity being presented.