Advanced Nursing Research in Critical Care

Yeonsoo Jang RN, PhD.
Assistant Professor
Yonsei University College of Nursing
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Scientific Research in Critical Care Nursing

- Scientific Research in critical care nursing
  (Eastwood et al., 2012)
  - To evaluate clinical practice
  - To develop new knowledge
  - To establish best evidence to guide patient care

- Despite continuing research internationally, there remain many unanswered questions about prevention, diagnosis and treatment of severe illness and the care of the critically ill.
Scientific Research in Critical Care Nursing

• **Past Nursing research focus**
  (Nursing Research in Europe, 2005)
  - For playing to a professional rather than patients or scientific agenda
  - For being overly concerned with inward-looking issues such as the status of nursing as a profession rather than patient needs

• **Recent Nursing research focus**
  - Patient - led research
  - Improvement of quality of care
Nursing Research Direction in Health
(National Institute Nursing Research, 2011)

• Enhance health promotion and disease prevention
• Improve quality of life by managing symptoms of acute and chronic illness
• Improve palliative and end-of-life care
• Enhance innovation in science and practice
• Develop the next generation of nurse scientists
• **Explore the mechanisms underlying symptoms and develop personalized treatments** that address these mechanisms through symptom science research.

• **Enhance wellness in diverse groups through culturally-appropriate interventions** designed to prevent illness and promote health.

• **Engage individuals as active participants in their own health**, especially those with chronic illnesses and conditions through self-management.
• **Improve quality of life for patients** with advanced and life-limiting illness, as well as their caregivers and families, through evidence-based palliative and end-of-life care

• **Develop new technologies** that facilitate self-management, improve clinical care, and lead to better communication, care coordination, and clinical practice.
Research Agenda in Nursing  
(American Nurses Association, 2012)

• The value of nursing contributions to safety, reliability, quality and efficiency
  - The value of nursing care outcomes, quality measures to assess patient’s outcomes

• Factors that increase the impact of nurses of quality and efficiency
  - Innovative care deliver models to improve patient outcomes
  - Measure that demonstrate the role of nurses in care coordination
Research Agenda in Nursing
(American Nurses Association, 2012)

• To facilitate patient safety, quality care and efficiency
  - Intervention to promote improve patients outcome

• Nurse workforce issues
  - Roles and settings in which nurses work
  - Nurse satisfaction and retention
  - Effect of workplace stress on nurses

• Population health issues
  - Nurses’ contributions to reducing health disparities
  - Nurses’ application of genetic and genomic information and technology in practice
General principles of Research priorities in Critical Care (US Critical Care Societies Collaborative, 2012)

• Unpack critical illness: classify and separate clinical entities

• Identify and test novel biomarkers including protein markers, metabolites, RNA, DNA

• Develop better models of critical illness and incorporate novel approaches in bench research to account for variations in patients, care strategies, and therapeutic interventions
General principles of Research priorities in Critical Care (US Critical Care Societies Collaborative, 2012)

- Enhance access to clinical research data
- Integrate new areas of research, scientific disciplines, and technology into the study of critical illness
- Develop and apply rigorous methodology to basic, clinical, health services and translational research experimental design and to the evaluation of evidence
Research Priorities for intensive care in the UK (Arulumaran, et al., 2014)

• How can patients who may benefit from intensive care be identified early and admitted to the ICU at the right time?

• How can patients and families be best supported as they start living at home again?

• What is the best way to identify patients with, or at risk of delirium, or agitation?
Research Priorities of adult intensive care nursing in Europe (Blackwood & Latour, 2010)

- Patient safety issues
- Impact of evidence based practice on outcomes
- Impact of nursing workforce on patients outcomes
- Wellbeing of patients and relatives
- Impact of end-of-life on nursing staff and practice
Research priorities in Pediatric Critical Care Nursing

• End-of-life care and decision making
• Caring for patient’s families
• Communication clinical assessments and improving teamwork
• Diagnosing and managing life-sustaining physiologic functions: nursing competencies

(The World Federation of Pediatric Intensive and Critical Care Societies, 2015)
Research priorities of Neonatal Critical Care Nursing in Europe (Wielenga et al., 2015)

- Identifying effective interventions to prevent or reduce pain and stress
- Identifying and evaluating strategies to reduce medication errors
- Improving end-of-life care for neonates and their families
- Identifying strategies to support the needs of parents and family members
- Identifying interventions to implement evidence into NICU nursing practices
Directions for Nursing Research in Critical Care

• Research priorities in critical care nursing are progressive.

• Research priorities in critical care nursing have embraced the outcomes of clinical intervention and the needs of individual patients.
  - Symptoms management
  - Improvement of health outcomes

• Development of evidence-based practice
The Future for Nursing Research in Critical Care

- Build capacity and capability in the nursing research workforce
  - Develop higher educated nursing scientists (e.g. Master and PhDs)

- Develop the academic infrastructure for research
  - The creation of a suitable infrastructure and fostering a research culture or environment
The Future for Nursing Research in Critical Care

• Increase funding for nursing research
  - Financial support for research

• Increase international collaboration
  - The importance of large-scale studies and international comparisons
  - Multidisciplinary research approach

• Consider ethical issues: vulnerable population
  - Research design, data collection, research outcomes