Looking Toward the Future

Overview

Topics

- Nursing science and evidence-based practice
- NIH and NINR missions
- NINR areas of scientific focus
- Looking to the future
- Training
Nursing Science and Evidence-based Practice

The Role of Nursing Science in Health Research

- Leading change in healthcare environments through evidence-based practice
- Fostering cross-disciplinary teams
- Keeping pace with the latest techniques, initiatives, and innovations in science
- Building scientific foundation for clinical practice

Research Translation

Research Utilization in Nursing Protocols

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<th>Selected Survey Question: Elimination of lactose from tube-feeding diets</th>
<th>(n=216)</th>
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<td>Aware of findings</td>
<td>47%</td>
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<tr>
<td>Persuaded that the finding was useful</td>
<td>46%</td>
</tr>
<tr>
<td>Sometimes used intervention</td>
<td>19%</td>
</tr>
<tr>
<td>Always used intervention</td>
<td>20%</td>
</tr>
</tbody>
</table>

Research Translation

The Innovation-Decision Process

Communication Channels


adapted from Rogers EM, 2003. Diffusion of Innovations

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One Definition of Translational Research

“Translation is the process of turning observations in the laboratory and clinic into interventions that improve the health of individuals and the public — from diagnostics and therapeutics to medical procedures and behavioral changes.”

National Center for Advancing Translational Science (NCATS)

Requirements for Successful Translation

- Formulation of research questions
- Large cohorts for generalizable populations
- Effectiveness evaluation
- Care delivery evaluation
- Sustainability planning

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Nurse Involvement in NIH’s CTSA Program

Nurses have made contributions to CTSA efforts in:
- Community engagement
- Implementation science
- Training


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Overview

Topics

• Nursing science and evidence-based practice

• NIH and NINR missions
  • Dissemination and implementation of NINR-supported nursing science
  • Looking to the future

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NIH Mission

NIH: Steward of Medical and Behavioral Research for the Nation

“NIH’s mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.”
NINR Mission

- To promote and improve the health of individuals, families, and communities
- To understand and manage wellness and health across the lifespan
- To improve quality of life for individuals and their caregivers

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NINR’s Areas of Research

Scientific Focus Areas to Implement NINR’s Strategic Plan

- Symptom Science
- Wellness
- Self-Management
- End-of-Life and Palliative Care
- Technology

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Symptom Science

Global Need for Cancer-Related Pain Management

- Barriers to opioid access
  - Poor education of health care workers in pain management
  - High costs
  - Burdensome regulations

- Potential solutions
  - Better, more affordable opioid availability
  - Enhanced education in pain management
  - Palliative care systems for distribution of pain treatment

Dalal S, Bruera E, Nat Rev Clin Oncol 2013

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### Symptom Science

#### Symptom Clusters in Breast Cancer

Co-occurrence of depressed mood, cognitive disturbance, fatigue, insomnia, and pain

- Identified five temporal patterns of these symptoms in breast cancer patients
- Characterization of patterns may facilitate personalized interventions and improved outcomes


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#### Differing Symptom Clusters in Younger and Older Cancer Patients

- Younger: more symptoms related to treatment
- Older: more symptoms related to respiration, digestion, and nutrition


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#### Predictors of Fatigue in Patients Receiving Radiation Therapy

Worsening fatigue during radiation treatment correlated with decreases in blood marker levels and prior androgen deprivation therapy

Factors mediating perceived post-chemotherapy cognitive impairment in breast cancer patients

- Neuropathy, younger age, and higher body mass index were associated with perceived cognitive impairment (PCI)
- Breast cancer patients who exercised frequently reported less severe PCI

Myers JS, et al. Support Care Cancer 2015

Multi-level Approaches to Minority Cancer Health Disparities

The “Kin Keepers” intervention

- Provides education to increase cancer knowledge, awareness, and screening
- Recruits African American, Latina, and Arab women who, in turn, recruit their female relatives


Discharge Decision Support System (D2S2)

- Embedded in electronic health records systems
- Identifies patients in need of follow-up after hospital discharge to:
  - improve health outcomes
  - reduce hospital readmission costs

Self-Management

Differences in Analgesic Adherence Among Cancer Patients

- African American patients with cancer pain had lower analgesic adherence than Caucasian patients
  - Severe side effects influenced low adherence in African American patients
  - Expectations of pain relief affected low adherence in Caucasian patients

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Self-Management

Nurse Care Coordination Improves Health of Frail Older Adults

Frail older adults who received nurse care coordination and medplanner had better outcomes

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Caregiving

Cancer Patient Quality of Life (QOL) and Caregiver Depression Mediated by Spirituality

- Inverse relationship between advanced cancer patients QOL and informal caregiver depression
- Patient spiritual well-being mediates patient QOL-caregiver depression relationship

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Caregiving

Informal Cancer Caregiving: May 2015, co-sponsored by NINR and NCI

- State of the science
- Gaps in knowledge
- Unique features of cancer caregiving
- Optimal approaches for designing and disseminating interventions

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End-of-Life and Palliative Care

NINR Pediatric Palliative Care Campaign

Goals:
- To raise awareness of and improve communications about pediatric palliative care
- To increase the use of palliative care for children living with serious illnesses

www.ninr.nih.gov/conversationsmatter

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End-of-Life and Palliative Care

Beneficial Impact of Early Palliative Care and Caregiver Support

- Expanded trial of early palliative care in patients with advanced metastatic cancer
  - Preliminary results show improved patient-reported outcomes and survival
- Lower caregiver depression scores with early initiation of caregiver intervention


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End-of-Life and Palliative Care

Infrastructure for Large Scale Studies

Palliative Care Research Cooperative Study: Stopping Statins Benefits Patients with Advanced Illness

- No significant differences in mortality between those stopping and those continuing statin use
- Quality of life improvement reported by those who stopped statin use


End-of-Life and Palliative Care

Hospice enrollment increases Medicare savings and decreases hospital usage

- Significant differences between services of for-profit and non-profit hospices

End-of-Life and Palliative Care

Nationwide Variation in End-of-Life Hospice Use

- Some patterns of hospice use could lead to inadequate and problematic end-of-life care
- There are geographic differences in these patterns of use


End-of-Life and Palliative Care

Lower Ratings for Quality of Death and Dying by Minority Family Members

Survey of families of patients dying in intensive care units
- Lower ratings for quality of death or dying from racial minorities
- Consistent across levels of education attainment
- Higher rates of satisfaction in families with living wills


End-of-Life and Palliative Care

Facilitating ICU Communications Between Families and Clinicians

- Communication facilitators were intermediaries between families and clinicians
- Less depression in families in the communication facilitator intervention cohort
- Lower ICU costs and length of ICU stays if the patient’s family received the intervention

Looking to the Future

Blueprint for Genomic Nursing Science

Moving the genomic nursing research agenda forward

Tully LA, Grady PA. Res Nurs Health. 2015

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Looking to the Future

Innovative Questions

Shaping the Future of Nursing Science

- Designed to initiate a dialogue with NINR stakeholders to develop lists of creative, results-oriented questions to assist in guiding future research directions in nursing science
- Consisted of a series of workshops with leading experts in the field, and a public website
- All questions from the IQ Initiative are now posted on the NINR website as a resource for the scientific community

www.ninr.nih.gov/IQ

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Looking to the Future

NINR Developing New Five-Year Strategic Plan

- Scheduled for Release: September 2016

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Looking to the Future

Data Science Opportunities in Nursing

- Data visualization
- Profiling complex conditions to guide therapies
- Mining social media to discern trends
- Developing learning systems to maximize use of longitudinal and interoperable datasets

www.nih.gov/precision-medicine-initiative-cohort-program

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Looking to the Future

Training Opportunities

NINR Methodologies Boot Camp
“Precision Health: from ‘Omics’ to Data Science”
July 25-29, 2016

www.nih.gov/researchandfunding/datascience

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Training Opportunities

www.ninr.nih.gov/sgi

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NINR Update

Upcoming 30th Anniversary Events

- NINR Director’s Lecture: May 5, 2016
- NINR Director’s Lecture ("Science and the Public")
  September 13, 2016
- 2016 Scientific Symposium: September 14, 2016
- NINR Director’s Lecture: November 1, 2016

www.ninr.nih.gov/30years

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NINR and Nursing Research

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