EDUCATION TO IMPROVE PATIENT SATISFACTION AND OUTCOMES IN THE NEUROSURGICAL PATIENT

Tara Orgon Stamper CRNP
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INTRODUCTION

Satisfaction
- Outside health care
- Within health care

Knowledge
- Role in health care
- Connection to outcomes

Outcomes
- Used in health care today
- Relevance to satisfaction
INTRODUCTION

Neuroscience
- Complex system
- Patient/family anxiety and fear
- Limited number of studies
BACKGROUND

Patient satisfaction indicator of care quality
Impacts patient outcomes
Education influences satisfaction
DEFINITIONS

Patient satisfaction
- satisfaction with care delivered

Patient knowledge
- knowledge of disease process and surgical care

30 day readmission
- readmitted to inpatient setting prior to thirty days from discharge

Post-operative complications
- presence of surgical site infection, neurological change resulting in admission

Demographic factors
- age, gender, ethnicity, comorbidities, past medical and social histories
PURPOSE

Implement a neurosurgery perioperative education bundle with patients undergoing a craniotomy to improve patient knowledge, satisfaction and outcomes
In the cranial neurosurgery patient (P), how does a cohesive, structured perioperative neurosurgery education bundle (I) compared with the non-structured standard education (C) affect patient satisfaction, knowledge and outcomes (O) over an eight week timeframe (T)?
CLINICAL QUESTIONS

What demographic factors are associated with improved patient knowledge and improved patient satisfaction?

What demographic factors are associated with an improvement in post-operative complications and 30-day readmissions?
CLINICAL QUESTIONS

What effect does a perioperative neurosurgery patient education bundle have on the level of patient satisfaction and patient knowledge of the bundle’s information?

What effect does a perioperative neurosurgery patient education bundle have on post-operative complications and 30 day readmissions?
FEASIBILITY & NEEDS

Need for the project
- Limited patient education, Low HCAPHS scores

Project expenses
- Minimal printing expenses incurred by PI

Implementation issues
- PI has access to sample, no need for technology modifications, no legal concerns

Organizational congruence
- Project supports organizational values
SUBJECT IMPACT

Benefit
- Immediate – individual satisfaction and knowledge
- Long term – departmental culture change

Confidentiality
- Coded master list linking study subjects to designated number, including paper surveys, locked in cabinet
- Study data not stored with master list
- Study data stored in password protected database
- Research data maintained for six years
- Data relayed in congregate

Risk
- No psychological, physical, social or legal harm to participant
- May withdraw from study at anytime

Financial
- Participant not billed any additional services for education bundle
REVIEW OF LITERATURE
REVIEW OF LITERATURE

Patient Education

- Randomized clinical trial of 66 patients receiving post-MI education, support and counseling
- Intervention group with higher scores on Myocardial Infarction Self Care Ability Questionnaire (p<0.0001)

- Oral anticoagulation therapy patient and family education program
- Nurses delivering program found information able to be tailored to individual needs
- Insufficient knowledge jeopardizes a health care regimen⁴
Review of Literature

Patient Education
- 70 ankylosing spondylitis (AS) patients received structured teaching program (STP)
- Author created knowledge questionnaire
- Positive differences in knowledge pre and post education STP implementation
Patient Satisfaction

- Discharge class (n=53) and traditional discharge (n=51) given to postpartum mothers when leaving hospital
- Individualized teaching more satisfying than discharge classes as measured by the Modified Client Satisfaction Tool (p=.0312)

- Orthopedic patients receiving structured discharge education (n=47) were more satisfied than those receiving the standard model (n=48) (p<0.0001)
- Satisfaction with nurse-patient communication, fewer pain complaints, functional status higher in structured discharge education group
Patient Satisfaction

- 122 patients equally randomly assigned to intervention group receiving education sessional on pain education and control group receiving no specific education

- Cancer patients receiving an educational session on pain education were more satisfied than those receiving conventional education; when second week compared to control group (p<0.001)

- Intervention group (n=150) watched a video module on lung resection surgery; control group (n=150) received standard surgery preparation

- Video module group stated better surgical preparation (p=0.006), less anxiety regarding surgery (p=0.0001) and overall satisfaction with their surgery (p=0.02)
Patient Outcomes

- Concept Care group (n=62) received preoperative education plus written materials whereas only written materials was the control group (n=61)

- Concept Care Method delivered to orthopedic patients two weeks preoperatively decreased significantly ($p<0.001$) admissions discussions (13.25 min, 33.36 min, respectively)

- 35 active patients against 115 historical control

- Enrolled patients received pharmacy based counseling on medications and importance; discharge medication list

- Pharmacist initiated HF discharge education program decreased 30-day all-cause readmissions ($p=0.02$) and HF-related readmissions ($p=.11$)
Synthesis of Evidence

Limitations

- Scarce literature on postoperative neurosurgical patient
- No mode of education delivery is supported over others
- Education delivered at different times along the health care continuum
SYNTHESIS OF EVIDENCE

Strengths

- Despite lack of generalizability to neurosurgery, evidence exists that shows education impacts outcomes
  - Outcomes = satisfaction, knowledge, postoperative complications, 30-day readmissions
METHODOLOGY
METHODOLOGY

IRB Roadblocks

- Allegheny Health Network (AHN) approval BEFORE Georgia College and State University approval
- AHN Nursing Research Council input/question session/presentation prior to AHN approval
- Informed Consent verbiage
- Four surgeons needing to be co-investigators
- Utilizing clinic/hospital personnel to help deliver intervention
- Question regarding necessary study sample given average cases/month
- Patient knowledge survey length, time to complete
Subjects and Recruitment

- Purposive sampling

- Inclusion Criteria
  - > 18 years of age
  - undergoing a cranial surgery
  - Proficient in English
  - Non-emergent

- Exclusion Criteria
  - < 18 years of age
  - Not proficient in English
  - No POA (if cognitively impaired)
Subjects and Recruitment

- Informed consent obtained by PI in person
- Power analysis = 102 participants
- Complete survey = bundle + $5 VISA gift card
- No complete survey = bundle but no gift card
- IRB approval from Georgia College and State University and Allegheny Health Network
METHODOLOGY

Setting
- Academic level one trauma center
- Four cranial neurosurgeons
- Perioperative implementation
  - Once decision for surgery is made
- Postoperative implementation
  - At hospital discharge
- Postimplementation assessment
  - At first postoperative visit
METHODOLOGY

Measurement Tools
- Strength evaluated by validity and reliability
- Validity
  - External
  - Content
- Reliability
  - Test-retest
  - Interrater reliability
  - Internal consistency

- Related to current study
  - No patient population specific tools pertaining to knowledge and satisfaction ascertained
METHODOLOGY

So then what is a PI to do?
METHODOLOGY

Measurement Tools
- Demographic Questionnaire
  - Developed by PI
  - Validity, reliability not a concern
  - General demographics
    - Age
    - Gender
    - Ethnicity
    - Current height and weight
    - Where do you live
    - Co-morbidities
METHODOLOGY

Preoperative Teaching Interview Guide (PTIG)

- 32 item questionnaire; scored Likert scale
- Cronbach’s alpha = 0.83
- Contains five distinct subscales
  - situational/procedural information related to the procedure itself
  - sensation/discomfort information related to sensations and pain the patient may feel before, during and after the procedure
  - patient role information related to the expected behavior of patients as participants in their health care goals
  - skills training related to postoperative care such as wound care and dressing changes
  - psychosocial support defined as “the interaction between patients and providers which is aimed at helping patients deal with anxiety, concerns and fears” about their upcoming surgery and care
Client Satisfaction Questionnaire 8 (CSQ-8)

- Abbreviated version of Client Satisfaction Questionnaire
- Originally implemented in mental health practice
- 8 item questionnaire (abbreviated from 18)
- Cronbach’s alpha = 0.83 – 0.93
- Copyrighted
- $.55 per use
- Questions focus on overall satisfaction, meeting patient’s needs, did services help you with your problems, recommend services, did you get the type of services you wanted
METHODOLOGY

Measurement Tools

- Strengths
  - Established validity and reliability (CSQ-8)
  - Generalizability
- Limitations
  - Not neuroscience specific
  - Little established validity and reliability
INTERVENTION TOOL

Perioperative Implementation

- One on one counseling session
- Ten minutes, in a private clinic room
- Going over written materials personalized to patient
- Verbal and visual materials
- Allows adequate time for questions and answers
INTERVENTION TOOL

Discharge Implementation

- Study material incorporated as standard of care
  - *Cranial Discharge Education Instructions*
- One on one counseling session as standard of care using study materials
- Registered nurse going over materials specific to patient’s course
- Verbal and visual materials
DATA ANALYSIS

What demographic factors correlate with the level of patient satisfaction and patient knowledge after implementation of a neurosurgery perioperative education bundle?

What demographic factors correlate with the effect a perioperative neurosurgery education bundle has on 30-day readmissions and postoperative complications?
DATA ANALYSIS

To explore these two clinical questions, demographic factors will be collected at the time of admission into the study.

Level of patient knowledge and satisfaction will be collected at the postoperative visit.

Data will be analyzed for correlations between demographic factors and the level of patient knowledge and satisfaction.
DISCUSSION

Expectations

- Sufficiently answer clinical questions
- Positive feedback
  - Patient
  - Department
- Network-wide implementation
- Continue to monitor for long term impact
Lessons Learned
- Appropriate research protocols should be vetted and vetted AGAIN!
- Have an IRB expert/resource on speed dial!
- Build a study team with professionals of similar interest

Practice Implications
- Positivity is contagious!
- Overcoming obstacles to nursing research
REFERENCES


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