Anxiety and Depression in Pediatric Patients with Chronic Illness

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Target Audience

• Nurses caring for Pediatric Patients

Biography of Authors

• MSN Students at Nebraska Methodist College
• Rachel Ratekin, RN
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Affiliation with Nebraska Methodist College

This project was completed as a fulfillment of the MSN Program requirements at Nebraska Methodist College.
### Learning Objectives

- Understand the main research findings relating to anxiety and/or depression in pediatric patients with chronic illness.
- Identify the signs and symptoms of anxiety in pediatric patients.
- Identify the signs and symptoms of depression in pediatric patients.

### Learning Objectives

- Recognize when the Child Depression Inventory -2 and/or the State Trait Anxiety Inventory for Children should be used in the clinical setting.
- Define Chronic Illness
- Define Anxiety
- Define Depression

### Definitions

- **Pediatric Patient:**
  - An individual less than 18yrs old (Kogon et al., 2013)
- **Chronic Illness:** Having 4 characteristics
  - Lasting longer than 6mo
  - Not curable
  - Affecting daily functioning and well-being
  - Requiring an inconsistent amount of healthcare resources (Moolla, Faulkner, White & Kirsch, 2014)

### Anxiety

- Fear or nervousness about what might happen
- Expecting the worst without reason for concern
- Diagnosed when there is excessive worry for greater than 6 months and patients have three symptoms

(ADDA, 2016)
Anxiety: Signs & Symptoms

- Muscle tension/Headaches
- Difficulty concentrating
- Restlessness/Agitation
- Sleep disturbance
- Excessive worry
- Irritability

(ADDA, 2016)

Depression

- Feeling “discouraged, sad, hopeless, unmotivated, or disinterested in life in general” (ADDA, 2016)
- Feelings last more than 2 weeks
- Feelings interfere with daily activities

(ADDA, 2016)

Depression: Signs & Symptoms

- Withdrawing from friends or activities
- Difficulty sleeping or concentrating
- Thoughts of death or suicide
- Frequent sadness or crying
- Feeling worthless
- Low self-esteem
- Loss of energy
- Mood swings

(ADDA, 2016)

Reflective Question

Which set of signs and symptoms would suggest to the nurse that a pediatric patient is experiencing anxiety?

a) Fatigue, difficulty concentrating, worrying about future events
b) Excessive sleeping, muscle pain, restlessness
c) Constipation, apprehensiveness, headache
d) Fever, runny nose, itchy eyes
Answer

Which set of signs and symptoms would suggest to you that a pediatric patient is experiencing anxiety?

a) Fatigue, difficulty concentrating, worrying future events
b) Excessive sleeping, muscle pain, restlessness
c) Constipation, apprehensiveness, headache
d) Fever, runny nose, itchy eyes

Reflective Question

What set of signs and symptoms would suggest to the nurse that a pediatric patient is experiencing depression?

a) Thoughts of death, smiling, change in eating habits
b) Irritable mood, loss of energy, high self-esteem
c) Difficulty sleeping, frequent crying, withdrawing from friends
d) Fever, runny nose, itchy eyes

Reflective Question

What set of signs and symptoms would suggest to the nurse that a pediatric patient is experiencing depression?

a) Thoughts of death, smiling, change in eating habits
b) Irritable mood, loss of energy, high self-esteem
c) Difficulty sleeping, frequent crying, withdrawing from friends
d) Fever, runny nose, itchy eyes

Problem

- Chronic Illness may leave children
  - Home from school
  - Separated from peers
  - Unable to participate in activities
  - Feeling isolated and different
  - Stressed (Suryanushi & Yang, 2016).
Problem

- Children with chronic illness are 4 times more likely to have a psychiatric disorder than physically-well children (Bennett, Shafran, Coughtrey, Walker, & Heyman, 2015).
- Depression is reported to be the most common psychiatric manifestation in pediatrics but remains largely undiagnosed (Skokou, Soubasi, & Gourzis, 2012). If left untreated, chronic stress can lead to

  - Behavioral
  - Emotional &
  - Adjustment Disorders

  This can lead to

  - Chronic Anxiety and Depression (Suryaonashi & Yang, 2016).

Problem

- Pediatric patients suffering from chronic illness face significant daily struggles and experience mental and emotional stress that is inadequately diagnosed (Pao & Ludi, 2011).
- Healthcare must advance beyond the physical illness to care for the emotional well-being of chronically ill children (Pao & Ludi, 2011).

Problem

- Guidelines to treat childhood psychiatric disorders have been established, but few evidence-based interventions have been developed for pediatrics with co-occurring chronic illness (Bennett et al., 2015).
- Priority has been given to children’s physical illness but mental health must not be forgotten (Bennett et al., 2015).
Purpose of this Evidence-Based Project

• To determine whether pediatric patients living with chronic illness are at greater risk for depression and/or anxiety
• To provide updated evidence-based practice for nurses caring for the pediatric patient with chronic illness

Background: Pediatrics & Chronic Illness

• Nearly 14.2 million children in the U.S. are living with a chronic illness
• 1 out of 4 children in the U.S., suffer from a chronic health problem.
• These conditions include but are not limited to: Diabetes, Cancer, Sickle Cell Disease, Asthma, Epilepsy, and Chronic Pain (Compas, Jaser, Dunn, & Rodriguez, 2012).

Background: Pediatric Chronic Illness & Anxiety and/or Depression

• Due to advancements in medical treatment, these children have a greater life expectancy.
• Studies have shown that children living with chronic illness have a higher prevalence of depression (Kogon et al., 2013).
• Approximately 20% of children living with chronic illness have behavioral and emotional symptoms (Pao & Ludi, 2011).

Background

• Anxiety and depression are treatable, but 80% of children diagnosed with an anxiety disorder, and 60% of children diagnosed with depression are not getting treatment (The Anxiety and Depression Association of America, 2016).
• Adolescents ages 13-18 have a 5.9% occurrence of severe depression (ADAA, 2016).
Theories and Models

ACE Star model of knowledge transfer
- Used by organizations to guide changes in practice
- Five steps
  1. Discovery via research
  2. Evidence summary through rigorous systematic review
  3. Translation or creation of a practice tool or change
  4. Integrations of change into practice
  5. Evaluation of implemented change on quality improvement

(Schaffer, Sandau, & Diedrick, 2013)

Theories and Models

John Hopkins Evidence-Based practice model (JHNEBP)
- Used to provide Evidence-based care
- Evidence-based practice as a team
- Search and critique to develop recommendations for change
- Creating a plan to implement recommendations

(Schaffer, Sandau, & Diedrick, 2013)

Theories and models

Stetler Model
- Preparation of priority and evidence
- Validation of evidence
- Comparative evaluation and decision making to identify needs
- Translation and application of change
- Evaluation of goal status

(Schaffer, Sandau, & Diedrick, 2013)

Significance

- Chronic illness in childhood is an indicator of future mental illness
- Pediatric patients with chronic illnesses relate to multiple Quality and Safety Education for Nurses (QSEN) competencies

(QSEN, 2014)
Significance

• QSEN recommendations
  • Patient centered and culturally competent:
    1. Education
    2. Health promotion
    3. Disease prevention
    4. Early detection
    5. Shared decision making with family

(Stevens, 2013)

Significance

• Collaborative care within interdisciplinary teams

• Quality improvement for recommended changes

(Stevens, 2013)

Setting

Care can be provided in multiple settings:

• Outpatient setting
  – Multiple specialists

• Inpatient setting
  – When acute care is needed relating to underlying disease process

• Free, community-based resources

(Stevens, 2013)

Stakeholders

• Children with chronic illnesses

• Parents and Family members

• Educators

• Medical professionals

(Boyse, Boujaoude, & Laundy, 2012)
Cost-Benefit Analysis

- Mental health costs for pediatric patients in the United States reach $247 billion annually
  - Health care services
  - Special education
  - Juvenile Justice
  - Decreased productivity
- Key to decreasing costs is prevention, early detection and education
  (Perou, 2013)

Desired Outcomes

- Find applicable evidence regarding anxiety and/or depression in pediatric patients living with chronic illness
- Create a call for change in regards to the care of the pediatric patient living with chronic illness

Desired Outcomes

- Make recommendations on caring for the emotional ailments of pediatric patients with chronic illness
- Prevention, education, early treatment, and advancements in this field were the overall goals

PICO Question

Are pediatric patients with chronic illness, relative to children without chronic illness, at a greater risk of developing depression and/or anxiety?
Search Plan Method

• Database Search
  – MEDLINE
  – Cumulative Index to Nursing and Allied Health Literature (CINAHL)
  – Cochrane Collaboration
    • Cochrane Central Register of Controlled Trials (CENTRAL)
    • Cochrane Methodology Register
    • Cochrane Database of Systemic Reviews (CDSR)
  – PubMed
  (Melnyk and Fineout-Overholt, 2015)

• Keyword Search
  – chronic illness* (729 results)
  – chronic disease* (6,681 results)
  – chronic sickness* (9 results)
  – chronic illness* OR chronic disease* OR chronic sickness*
    – 7,051 results
Search Plan Method

• Outcome (O)
  – anxiety (5,216 results)
  – depression (9,236 results)
• anxiety OR depression
  – 11,648 results

65 Total Results

Inclusion and Exclusion Criteria

• Articles written in English
• Peer-reviewed
• Research Based
• Full Text
• Publication Date between 2011-2016
Exclusion Criteria

- No correlation to the proposed PICO question
- Duplicates
- Population of caregiver, parent or adult
- No focus on anxiety and/or depression
- No relation to pediatric chronic illness

Analyzing the Literature

Five articles acquired from the literature review

1. Kogon et al. (2013)
3. Pinquart and Shen (2011)
4. Reigada et al. (2013)
5. Williams, Sharpe and Mullan (2013)

(Melnyk and Finehout-Overholt, 2015)

Levels of Evidence

- Kogon et al. (2013): Level IV
- Pinquart and Shen (2011): Level III
- Reigada et al. (2013): Level II
- Williams, Sharpe and Mullan (2013): Level IV
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<tr>
<td>&quot;Depression and Its Associated Factors in Pediatric Chronic Kidney Disease&quot;</td>
<td>“The Psychological and Social Impact of Camp for Children with Chronic Illnesses: A Systematic Review Update”</td>
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<tr>
<td>• Children’s Depression Inventory – 2 (CDI-2)</td>
<td>• Database Search and Review – 21 articles</td>
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<tr>
<td>• Depression plays a role in long-term CKD outcomes</td>
<td>• Findings suggested that camps for children with chronic illnesses do offer short-term benefits, and qualitative data indicated high satisfaction with camp experiences</td>
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<tr>
<td>• Depression was common in children with CKD, particularly those with diagnosed stage III CKD greater than 3 years</td>
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<tr>
<td>“Anxiety in Children and Adolescents with Chronic Physical Illnesses: A Meta-Analysis”</td>
<td>“Integrating Illness Concerns into Cognitive Behavioral Therapy for Children and Adolescents with Inflammatory Bowel Disease and Co-Occurring Anxiety”</td>
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<tr>
<td>• 322 studies included</td>
<td>• Pre and Post intervention data collected</td>
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<td>• Chronic fatigue syndrome</td>
<td>• Implementation of CBT in adolescents with IBD and anxiety demonstrated a decrease in pain, physician-rated disease severity and anxiety</td>
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<td>• Chronic migraine/tension headache</td>
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<td>• Sensory impairment</td>
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<td>• Epilepsy</td>
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Critical Appraisal — Williams, Sharpe & Mullan (2013)

“Developmental Challenges of Adolescents with Type 1 Diabetes: The Role of Eating Attitudes, Family Support and Fear of Negative Evaluation”

• Questionnaires and blood glucose diary
• Fear of Negative Evaluation (FNE) and eating attitudes both predicted depressive symptoms in adolescents with T1DM
• Levels of anxiety were predicted by FNE and family support, but not eating attitudes in adolescents with T1DM

Reflective Question

Which of the following chronic illnesses have been documented in the research literature to increase the rate of anxiety?

a) Asthma  
b) Epilepsy  
c) Cerebral Palsy  
d) Cystic Fibrosis

Synthesis Discussion of Evidence

• All five articles promoted the need for practice change
• 4 out of 5 articles promoted the need for further research
New Understandings

• Practice Change
  – Only 4 of the 13 depressed patients had a clinical diagnosis (Kogon et al., 2013)
  – Camp interventions based off of evidence based practice (Moola, Faulkner, White and Kirsh, 2013)
  – Screen for anxiety symptoms in high-risk populations (Pinquart and Shen, 2011)

• Further Research
  – Research to discover ways to decrease the burden of depression in pediatric patients with chronic CKD (Kogon et al., 2013)
  – Stronger research designs, use of control groups, longer evaluation period (Moola, Faulkner, White and Kirsh, 2013)
  – Longitudinal Randomized Trial (Reigada et al., 2013)

• Practice Change
  – Anxiety screening protocols combined with mental health referrals and/or interventions (Reigada et al., 2013)
  – Adolescents should be screened regularly by health professionals for anxiety and/or depression (Williams, Sharpe and Mullan, 2013)

• Further Research
  – Healthy control groups
  – More comparative research on anxiety in illnesses not included in the study
  – Analyzing which aspects of illnesses accounts for changes in anxiety levels
  – Interaction effects of moderators
  – Relating progress of treatment to anxiety levels
  – The development and evaluation of psychosocial interventions (Pinquart and Shen, 2011)
### Limitations

- Limited amount of articles relating to PICO question
- 5 articles included, 4 calling for further research
- Several chronic illnesses reviewed
- Studies reviewed anxiety or depression, not both
- Levels of Evidence

### Implications Related to the Setting

- Regular screening by healthcare professionals in the outpatient setting for anxiety and/or depression (William, Sharpe and Mullan, 2013; Pinquart and Shen, 2011)
- Research not included in review that related to the inpatient setting
- Camp settings should include an evidence-based psychosocial intervention (Moola, Faulkner, White and Kirsh, 2013)

### Implications Related to Stakeholders

- Parents identified only 4 of the 13 children experiencing depression in the study (Kogon et al., 2013)
- Education on screening tools and signs and symptoms (Reigada et al., 2013)
- Communication (Reigada et al., 2013)

### Implications R/T Cost Benefit-Effectiveness Analysis

- Early identification and treatment help to decrease healthcare costs for the patient and family (Perou, 2013)
Implications Related to QSEN Competencies

- Patient Centered Care
- Interdisciplinary Teams
- Quality Improvement

(Reigada et al., 2013; Aspen University, 2016)

Future Recommendations

- Nursing Research
  - Control groups
  - Larger sample sizes
  - Longitudinal studies
  - Stronger research designs
  - Relate progress of treatment to levels of anxiety
  - Evaluate interventions

(Reigada et al., 2013)

Future Recommendations

- Nursing Education
  - Screening tools
  - Correlation between chronic illness and depression and/or anxiety
  - QSEN competencies

(Reigada et al., 2013; Stevens, 2013)

Future Recommendations

- Nursing Administration
  - Education of Nursing Staff
  - Protocol(s)
  - Implementation of validated screening tool(s)
  - Collaboration between nurses and physicians
    (Reigada et al., 2013)
  - Psychological assessment costs from $750 - $2800 or a rate of $150/hr (American Health & Wellness Institute, 2016)
Future Recommendations

• Nursing Practice
  – Early Identification and Routine Checks (Reigada et al., 2013)
  – Regular screening in high risk groups (Williams, Sharpe and Mullan, 2013; Pinquart and Shen, 2011)

Reflective Question

Current research findings suggest that (select all that apply):

a) Further research needs to be performed regarding depression and/or anxiety and pediatric chronic illnesses.

b) There is a need for practice change regarding screening pediatric patients for depression and/or anxiety.

c) Pediatric patients with certain chronic illnesses are found to be at greater risk for developing depression and/or anxiety.

d) There is not a correlation between pediatric chronic illness and depression and/or anxiety, and there does not need to be further research.

Screening Tools

Let’s discuss anxiety and depression screening tools that could be implemented in the work area!
State-Trait Anxiety Inventory for Children

• STAIC

• Instrument used to measure anxiety in both adults and children.

• Purpose: “To measure via self-report the presence and severity of current symptoms of anxiety and a generalized propensity to be anxious” (Julian, 2011, p.2)

State-Trait Anxiety Inventory for Children

• Two subscales within this screening tool
  • S-Anxiety
  • T-Anxiety

• S-Anxiety evaluates current anxiety symptoms

• T-Anxiety evaluates “relatively stable aspects of anxiety” (Julian, 2011, p.2)

State-Trait Anxiety Inventory for Children

• 40 items total, 20 within each subscale, each answered on a 3 point Likert scale for children.

• Scores range from 20-80

• Higher the score indicates greater anxiety (Grubenhoff, 2014)

Children’s Depression Inventory - 2

• Used to evaluate depressive symptoms in children and adolescents
  • Ages 7-17
  • Self Report (CDI-2:SR)
  • Teacher (CDI-2:T)
  • Parent (CDI-2:P)

(Kovacs, 2004)

Children’s Depression Inventory - 2

- Aids in the early identification of depressive symptoms
- Aids in the diagnosis of depression and related disorders
- Aids in the monitoring of treatment effectiveness

(Kovacs, 2004)

Children’s Depression Inventory – 2

- CDI-2:SR
  - 28 item self assessment
  - Scales
    - Emotional Problems
    - Functional Problems
  - Subscales
    - Negative Mood
    - Negative Self Esteem
    - Ineffectiveness
    - Interpersonal Problems

(Kovacs, 2004)

Children’s Depression Inventory - 2

- CDI-2:T and CDI-2: P
  - Correspond to self-report version
  - Maximize validity

(Kovacs, 2004)

Case Study A

Henry is an 11-year old patient with a history of epilepsy. He is in the clinic for a regular visit when the nurse notices that he seems agitated and worried. His father reports that he has had a one-month history of headaches and difficulty sleeping. At school, he had been earning straight “A” grades in the past, but he has recently been earning “C” and “D” grades. His teacher reports that he is having difficulty concentrating in the classroom. What tool might the nurse use to identify what may be going on with Henry?
Case Study A

a) M-CHAT  
b) Children’s Depression Inventory – 2  
c) Ages and Stages Questionnaire (ASQ)  
d) State Trait Anxiety Inventory for Children

Case Study A

a) M-CHAT  
b) Children’s Depression Inventory – 2  
c) Ages and Stages Questionnaire (ASQ)  
d) State Trait Anxiety Inventory for Children

Case Study B

Molly is a 16 year old patient with Type 1 Diabetes Mellitus who has been well controlled and taken good care of herself with the help of her parents, since she was diagnosed at age 7. Recently, Molly has been admitted to the hospital twice for high blood sugars. She reports that she “just doesn’t feel like taking care of herself anymore because none of the other kids have to do it”. Molly’s parents also report that she hasn’t been herself lately. Molly is having a hard time sleeping and has been crying at night. She does not want to do the things she usually enjoys, such as hanging out with her friends and going to dance class. What tool might the nurse use to identify what may be going on in her life?

Case Study B

a) M-CHAT  
b) Children’s Depression Inventory – 2  
c) Ages and Stages Questionnaire (ASQ)  
d) State Trait Anxiety Inventory for Children
Case Study B

a) M-CHAT  
b) Children’s Depression Inventory – 2  
c) Ages and Stages Questionnaire (ASQ)  
d) State Trait Anxiety Inventory for Children

Conflict of Interest

There were no conflicts of interest in the literature review and in the making of this webinar.

References


References Continued


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