



# The Impact of Chronic Medical Illness on Behavior and Learning in Children and Adolescents

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5/13/2014

CRCBH Telehealth Behavioral Series

# Objectives

- o Appreciate the complex relationship between childhood chronic illness and behavioral/psychological concerns
- o Consider the challenges posed by two particular illnesses, asthma and diabetes
- o Understand means of prevention and intervention for psychological/behavioral concerns in this population, in multiple settings

# Chronic medical illness

- o “A disorder with a protracted course that can be fatal, or associated with a relatively normal life span, despite impaired physical or mental functioning”
- o Treatable yet not curable
- o Affects ~20 % of school age population (nearly 12 million children)

# Common Chronic Medical Illnesses in Children

- o Asthma
- o Insulin Dependent Diabetes Mellitus (IDDM)
- o Juvenile RA
- o Sickle Cell
- o Hemophilia
- o Cystic Fibrosis
- o Cancer
- o HIV
- o Epilepsy

# What are risk factors in illness management/coping?

- o Degree of functional impairment
- o Brain involvement
  - o Structural/autoimmune processes
- o Nature of illness
  - o Course, lethality, life span
- o Type of medical procedures and hospital/non-hospital experiences
  - o Intensive outpatient vs chronic outpatient

# Psychological risk factors related to illness

- o Interference with non-illness related aspects of life
  - o School absences, friendships
- o Family functioning
  - o Pre-existing and coping
  - o Cohesion, flexibility, clear/open communication
- o Individual characteristics and internal resources
  - o Pre-existing psychological history and illness

# Psychological risk factors related to illness

- o Demographic variables
  - o Sex (boys > girls)
  - o Age
  - o Social class
- o External Resources and Support Systems

# Incidence/cause of psychosocial adjustment problems

- o Affects ~ 9-37% vs 5-15% general population
  - o Difficulty in accurately assessing data
- o Can be tricky to discern between organic psychological issues and manifestations of illness (and interrelationships between)

# Common Psychological Problems

- o Internalizing (anxiety, depression)
- o Externalizing (aggression, noncompliance)
- o Somatic (pain, impaired functioning)
- o Self-concept (poor self-image, low self-esteem)

# Common School Issues

- o School avoidance (cycles of absenteeism, anxiety, physical discomfort)
- o Acting out (generalized frustration)
- o Learning issues or drop in grades
  - o associated with pain, sleep, cognitive issues
  - o From illness, meds, treatment

# Post-Traumatic Stress Disorder

- o Can occur from medical procedures/experience (acute/chronic)
- o Can explain reactions/avoidance children (and adults) have about medical experiences

# Illness through development

- o Infant/toddler: developing trust/security
  - o challenged by pain, restriction of motion, separation.
  - o Parents can help by being present, holding, soothing as possible.
- o Preschool: developing independence
  - o often don't understand cause/effect.
  - o May counter lack of control by challenging limits. Be firm, offer choices in flexible aspects.

# Early School Age

- Developing sense of mastery over environment
- May employ magical thinking (eg illness from bad thoughts, hitting brother)
- Allow children to help with illness, reassure it is not their fault

# Through the Lifespan

- o Older School Age
  - o More capable of understanding illness/tx
  - o Often feel left out when missing activities
  - o Parents can help child participate in school
- o Adolescence
  - o Developing separate identity, self-image
  - o Periods of denial, complications re: growth
  - o Help teen gain control of their disease

# Management and Intervention

- o Many variables to consider
- o Target source and feelings
- o Medical (remedy medical problem -> improve other concerns)
- o Coping skills, CBT, targeted therapy
- o Grief processing

# Asthma: case presentation

- o 9 yo male; ddx with chronic asthma; presenting to ER for “asthma attack”
- o Several prior admissions for asthma exacerbations
- o Strong family hx of asthma
- o Currently on 2 forms of inhalers
- o 3<sup>rd</sup> grade, enjoys sports

# Case presentation

- o Concerns: pt is also very anxious and becomes worried/scared when it feels “hard to breathe”
- o This episode started when yelled at in a soccer game
- o Mother with hx of anxiety
- o Fighting amongst parents when his asthma worsens about care/triggers

# Asthma

- o One of most common chronic childhood disorders; affects 7.1 million (4.1 million with asthma attack in one year)
- o 3<sup>rd</sup> leading cause of hospitalization in children under 15
- o About 774,000 emergency room visits due to asthma in children under 15
- o One of leading causes of school absenteeism

# What do we consider with a child with asthma?

- o Psychological issues
  - o Fear/anxiety, PTSD
  - o Depression
  - o Sleep disturbances
- o Can be difficult to determine psychological vs physical (symptom and trigger overlap)
- o Stress, medications, compliance

# Asthma and Mental Health Triggers

- o Stress: increases constriction of smooth muscle – increased reactivity
  - o Worries, family, school
- o Medications
  - o Albuterol (B receptor agonists) can cause feelings of anxiety
  - o Steroids: affect mood, sleep, anxiety

# Asthma and Mental Health

- ↑ Higher rates of anxiety disorder diagnosis, including separation anxiety
- 2-5 x higher incidence of short stature, skeletal retardation and delayed puberty
- Anxiety ↔ increased severity of asthma, health service use and functional impairment
- Mothers of patients with asthma: higher rates of anxiety/OCD

# Asthma Interventions

- o Adequate care
- o Medication compliance
- o Accommodations as needed
- o Family Support
- o Stress/anxiety management techniques
- o Mindfulness of anxiety and psychosocial triggers in treatment

# Case presentation: Diabetes

- 14 yo Hispanic female; referred to School Health clinic because of concerns of recent DKA hospitalization and poor grades
- Hx of multiple hospitalizations for DKA in past several years
- Diagnosed with T1DM at 7
- Blood sugars range from 50-500

# Case presentation

- o Patient lives with mother and siblings; frequent conflict at home
- o Reports when very upset with mom, will sometimes intentionally inject too much insulin
- o Intermittent compliance with diet and treatment; doesn't like to follow when with friends

# Case presentation

- o Patient at times binges and then too little insulin
- o No other medical issues
- o Has stopped attending class regularly, had many absences with hospitalizations/appointments

# Diabetes factoids

- o 1 in 400 children under 18 has Diabetes; rates increasing
- o Type 1 vs 2
- o Bimodal onset (4-6 yrs and adolescence)
- o Prone to other autoimmune conditions
- o Young children struggle more with hypoglycemia and associated symptoms
- o Older with pubertal changes (insulin resistance, difficulty with care)

# Mental Health and Diabetes in Children/Teens?

- o Hypo-hyperglycemia
- o Depression
- o Suicidal ideation
- o Self harm
- o Eating disorders
- o Cognitive challenges
- o Long term sequelae

# How do psychological issues with diabetes manifest?

- o Lack of compliance with care
- o Isolation/withdrawal
- o School avoidance
- o Eating disordered behavior
- o Aggression and defiance
- o Cognitive slowing

# Psychological manifestations of Blood Sugar Changes

- o Hypoglycemia

- o Acute: confusion, poor concentration, seizures
- o Chronic: lower IQ, decreased spatial intelligence, delayed recall

- o Hyperglycemia

- o Acute: externalizing behavior
- o Chronic: decreased verbal intelligence, decreased brain volume

# Diabetes and Mental Health

- o Diagnosis: can be a shocking experience
  - o About 30% of newly diagnosed children experience an adjustment disorder
- o Prevalence of Psych Disorders in children with diabetes: about 2-3x higher than general population
  - o Increased substance use as well

# Depression and Mental Health

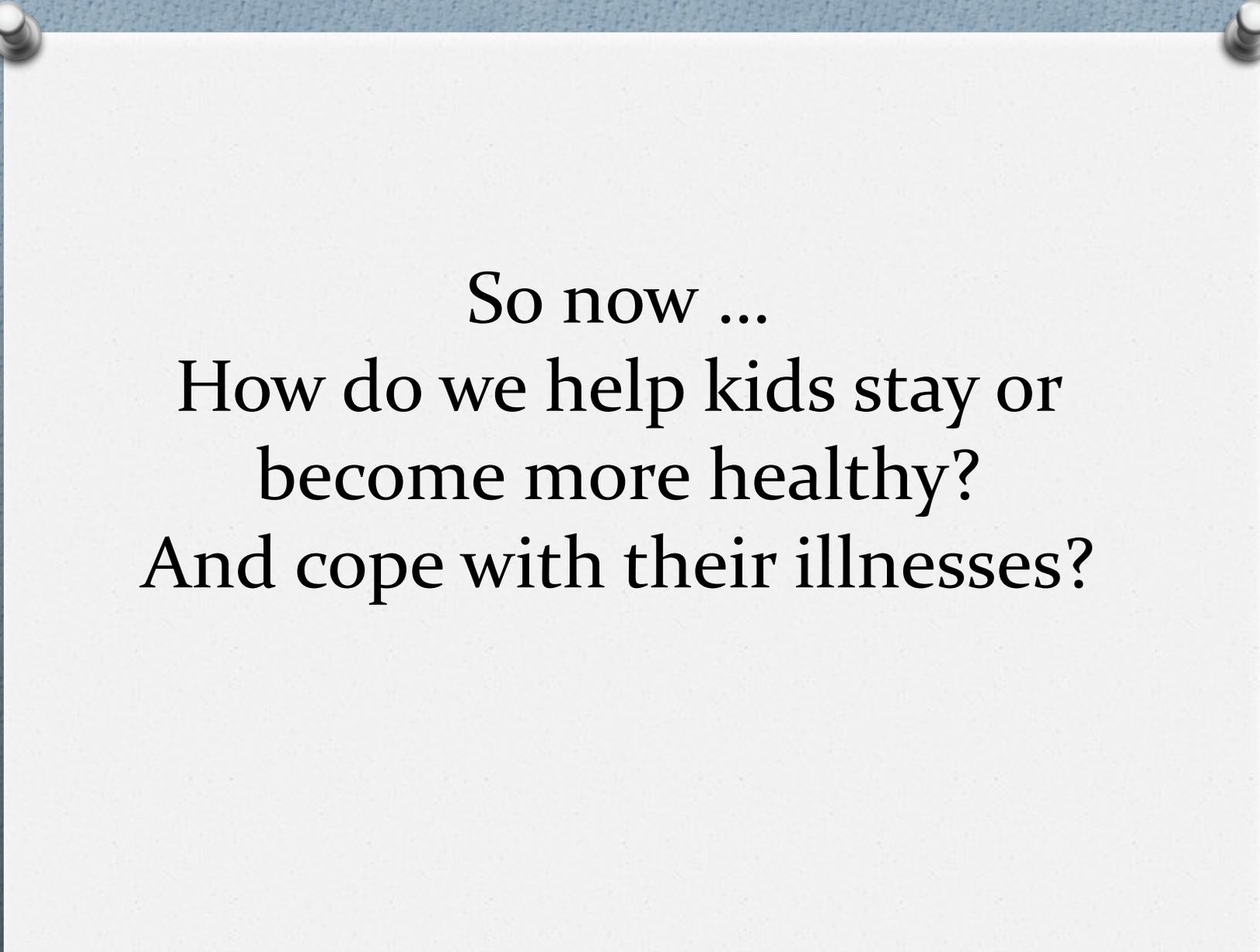
- o Suicide/suicidal ideation: 10 fold increase for adolescents with T1DM
  - o Coupled with ready access to lethal means (insulin)
- o Eating disorders: more common (decrease insulin to lose weight, or counterbalance binging)
  - o This increases HgA1c – increased other risks

# Diabetes and Family Functioning

- 22% of mothers with children with T1DM report clinically significant depression
- Factors that influence poor metabolic control:
  - High family conflict
  - Low family cohesion
  - Psychiatric illness, premorbid disruptive behaviors

# Mental Health and Diabetes Care

- o Assessment / understanding
- o Medications: some may worsen symptoms or block (B blockers, sleep meds with hypoglycemia)
- o Treatments:
  - o Meds
  - o Behavioral therapy, coping skills training
  - o MI



So now ...

How do we help kids stay or  
become more healthy?  
And cope with their illnesses?

# Chronic Illness Considerations

- o Diagnosis
- o Impairment
- o Support systems, Stressors
- o Medications / Side Effects
- o Psychiatric Co-Morbidities
- o Developmental stage
- o Meaning of School

# Goals of Targeted Intervention

- o Mastery of anxiety and fears related to the illness and its management
- o Developmentally appropriate understanding of the illness (age ≠ chronological)
- o Compliance with treatment regimens
- o Integration of the illness into family life
- o Successful adaption to the important systems (hospital, school, peers)

# Cognitive-behavioral strategies

- o Help identify stress, change perceptions, teach new behaviors
- o Explore link between thoughts and actions
- o Train in more helpful ways of thinking about problems
- o Behavioral components: breathing, systematic desensitization, rehearsal, hypnosis, play

# Positive Psychotherapeutic Interventions

- o Character Strengths
- o Gratitude
- o Hope / Optimism
- o Meaning
- o Teaching Others

# Other interventions

- o Social skills training
- o Remediation and rehabilitation
- o Family therapy and group work

# School integration/re-entry

- o Multifaceted in assisting child, staff, classmates
- o IEP or other behavioral plans
- o Consider modifications (shortened day, food)
- o How and what information to share?
  - o How it will be shared with whom?

# Conclusions

- o Many children are affected by Chronic Medical Illness
- o There are multiple factors to consider in assessing a child's resiliency/coping capacity
- o Children can benefit from targeted individual, family, and school interventions
- o Psychological issues and medical illnesses can often overlap in presentation

# For Future Direction

- o Many children in families with chronic illness (parents, siblings) are also affected
- o Treating chronic illness is often best done within a system, so consideration of how to improve larger systems can be of use, too

# References

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