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

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Objectives

Appreciate the complex relationship between childhood chronic illness and behavioral/psychological concerns

Consider the challenges posed by two particular illnesses, asthma and diabetes

Understand means of prevention and intervention for psychological/behavioral concerns in this population, in multiple settings

Chronic medical illness

"A disorder with a protracted course that can be fatal, or associated with a relatively normal life span, despite impaired physical or mental functioning"

Treatable yet not curable

Affects ~20 % of school age population (nearly 12 million children)

Common Chronic Medical Illnesses in Children

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

What are risk factors in illness management/coping?

Degree of functional impairment

Brain involvement

- Structural/autoimmune processes

Nature of illness

- Course, lethality, life span

Type of medical procedures and hospital/non-hospital experiences

- Intensive outpatient vs chronic outpatient

Psychological risk factors related to illness

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

Psychological risk factors related to illness

Demographic variables

- Sex (boys > girls)
- Age
- Social class

External Resources and Support Systems

Incidence/cause of psychosocial adjustment problems

Affects ~ 9-37% vs 5-15% general population

- Difficulty in accurately assessing data

Can be tricky to discern between organic psychological issues and manifestations of illness (and interrelationships between)

Common Psychological Problems

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

Common School Issues

School avoidance (cycles of absenteeism, anxiety, physical discomfort)

Acting out (generalized frustration)

Leaning issues or drop in grades

- associated with pain, sleep, cognitive issues
- From illness, meds, treatment

Post-Traumatic Stress Disorder

Can occur from medical procedures/experience (acute/chronic)

Can explain reactions/avoidance children (and adults) have about medical experiences

Illness through development

Infant/toddler: developing trust/security

challenged by pain, restriction of motion, separation.

Parents can help by being present, holding, soothing as possible.

Preschool: developing independence

often don't understand cause/effect.

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

Older School Age

- More capable of understanding illness/tx
- Often feel left out when missing activities
- Parents can help child participate in school

Adolescence

- Developing separate identity, self-image
- Periods of denial, complications re: growth
- Help teen gain control of their disease

Management and Intervention

Many variables to consider

Target source and feelings

Medical (remedy medical problem -> improve other concerns)

Coping skills, CBT, targeted therapy

Grief processing

Asthma: case presentation

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

Case presentation

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

Asthma

One of most common chronic childhood disorders; affects 7.1 million (4.1 million with asthma attack in one year)

3rd leading cause of hospitalization in children under 15

About 774,000 emergency room visits due to asthma in children under 15

One of leading causes of school absenteeism

What do we consider with a child with asthma?

Psychological issues

- Fear/anxiety,PTSD
- Depression
  - Sleep disturbances

Can be difficult to determine psychological vs physical (symptom and trigger overlap)

Stress, medications, compliance

Asthma and Mental Health Triggers

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

Asthma and Mental Health

- Higher rates of anxiety disorder diagnosis, including separation anxiety
- 25 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

- Adequate care
- Medication compliance
- Accommodations as needed
- Family Support
- Stress/anxiety management techniques
- 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

Patient lives with mother and siblings; frequent conflict at home

Reports when very upset with mom, will sometimes intentionally inject too much insulin

Intermittent compliance with diet and treatment; doesn’t like to follow when with friends

Case presentation

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

Diabetes factoids

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

Mental Health and Diabetes in Children/Teens?

Hypo-hyperglycemia

Depression

Suicidal ideation

Self harm

Eating disorders

Cognitive challenges

Long term sequelae

How do psychological issues with diabetes manifest?

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

Psychological manifestations of Blood Sugar Changes

- Hypoglycemia
  - Acute: confusion, poor concentration, seizures
  - Chronic: lower IQ, decreased spatial intelligence, delayed recall
- Hyperglycemia
  - Acute: externalizing behavior
  - Chronic: decreased verbal intelligence, decreased brain volume

Diabetes and Mental Health

Diagnosis: can be a shocking experience

About 30% of newly diagnosed children experience an adjustment disorder

Prevalence of Psych Disorders in children with diabetes: about 2-3x higher than general population

Increased substance use as well

Depression and Mental Health

- Suicide/suicidal ideation: 10 fold increase for adolescents with T1DM
  - Coupled with ready access to lethal means (insulin)

- Eating disorders: more common (decrease insulin to lose weight, or counterbalance binging)
  - 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

Assessment / understanding

Medications: some may worsen symptoms or block (B blockers, sleep meds with hypoglycemia)

Treatments:

- Meds
- Behavioral therapy, coping skills training
- MI

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

Chronic Illness Considerations

Diagnosis

Impairment

Support systems, Stressors

Medications / Side Effects

Psychiatric Co-Morbidities

Developmental stage

Meaning of School

Goals of Targeted Intervention

Mastery of anxiety and fears related to the illness and its management

Developmentally appropriate understanding of the illness (age chronological)

Compliance with treatment regimens

Integration of the illness into family life

Successful adaption to the important systems (hospital, school, peers)

Cognitive-behavioral strategies

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

Positive Psychotherapeutic Interventions

Character Strengths

Gratitude

Hope / Optimism

Meaning

Teaching Others

Other interventions

Social skills training

Remediation and rehabilitation

Family therapy and group work

School integration/re-entry

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

Conclusions

Many children are affected by Chronic Medical Illness

There are multiple factors to consider in assessing a child’s resiliency/coping capacity

Children can benefit from targeted individual, family, and school interventions

Psychological issues and medical illnesses can often overlap in presentation

For Future Direction

Many children in families with chronic illness (parents, siblings) are also affected

Treating chronic illness is often best done within a system, so consideration of how to improve larger systems can be of use, too

References

Children with a chronic illness: the interface of medicine and mental health. NYU Child Study Center Letter; volume 5 number 4, march/april 2001. New York NY

Asthma and Children Fact Sheet, American Lung Association, October 2012. Accessible http://www.lung.org/lung-disease/asthma/resources/facts-and-figures/asthma-children-fact-sheet.html

Diabetes, Mental Health, and Improving Adherence to treatment in Children. Kristi Kleinshmit MD, Presentation 2012. Accessible at Chooshealth.utah.gov

Psychiatric Issues in Children and Adolescents with Diabetes. Psychiatric Times, Oct 6 2011, accessible online

Children and Chronic Illness Handout: University of Michigan. http://www.med.umich.edu/yourchild/topics/chronic.htm