Facilitating Adherence in Adolescent Diabetes: Focus on Mental Health

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Introduction
Disclosures

• I have no financial disclosures

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Upon completion of the learning activity, participants will be able to:

• Discuss the impact of mental health comorbidities on diabetes management
Adolescents and Adherence
• 75% of all cases of type 1 diabetes (DM1) are diagnosed in those <18 years

• About 18,000 new cases/yr of DM1 diagnosed in <20 years


Pediatric Nonadherence

- Averages about 50% across chronic health conditions.
- Inadequate coping or maladjustment to illness is associated with nonadherence in multiple medical conditions (e.g., DM, CF, transplantation)

Morbidity

- Cardiovascular (stroke, myocardial infarction)
- Renal (kidney disease, end stage renal disease):
- Limb (amputations)
Mortality

- Acute metabolic complications is the most common cause of death in people with IDDM under age 30
- Complications from Diabetes is the 7th leading cause of death in the US

Bio-Psycho-Social Adolescent Development

• Hormones (make everything worse)
• Body Image
• Experimentation (and high risk behaviors)
• Problem solving/reasoning/cognitive bias
• Family conflict
• Parent monitoring versus independence/autonomy
• Peer relationships
Influences on Adherence

• Improved adherence with:
  • Increased self esteem
  • Perceived competence
  • Improved social functioning
  • Internal locus of control
  • Good adjustment

Mental Health and Diabetes
Risk factors for emotional disruption

- Premorbid psychopathology
- Inadequate preparation for admission or invasive procedures
- Inadequate comprehension of illness
- Poor parent-child relationship
- Psychiatric disorder in either parent
- Debilitating reaction by parents
- Severe or ambiguous medical diagnosis
- Chronic illness with multiple admissions
- Multi-system/CNS involvement

Risk for Psychiatric Disorders

• Psychiatric disorders increase in longitudinal assessments from childhood to young adulthood from 16% to 28%
• Psychiatric disorders in adolescence predict both later psychiatric disorders and risk for diabetic ketoacidosis (DKA)

• Negative affect is associated with negative perception of competence
• Poor coping is related to poor metabolic control
• Depression and diabetes-related distress predict episodes of diabetic ketoacidosis

Helgeson (2010); Dweck (1999); Kovacs et al (1992)
• T1DM is a risk factor for development of depression in adolescents and young adults:
  • Rates range from 20-30%
  • Generally 2-3x greater risk than age-matched comparisons


Disordered Eating

• May involve binge eating, caloric restriction, insulin omission
• Range in adolescents with DM1 8-30% (other adolescents 1-4%)

• ~40% of adolescents with DM1 have used illicit substances
• Risk for blood glucose lability (highs and lows)
• Risk for poor compliance

Trauma and Stress

- Life stressors in the past year affects glycemic control
- Diabetes-specific stress has a bigger impact on adherence behaviors than general stress


Family Conflict

• Diabetes-related family conflict PREDICTS poor adherence, glycemic control, and coping

• Shared responsibility leads to better self-care

Quality of Life

• Presence of psychiatric conditions increases risk for poor functioning

• In the relationship between chronic illness and quality of life, depressive symptoms and contextual variables explain a significant proportion of the variance

Addressing mental health is addressing adherence
Why think about resilience?

• Stress influences the severity of physical symptoms, disability, adherence, and quality of life associated with medical illness.

• Resilience is a strength-based framework that focuses on supporting positive coping

• Coping successfully requires mobilization of support, role flexibility, emotional expression, and problem solving in patients and families.
“...Highly resilient people are flexible, adapt to new circumstances quickly, and thrive in constant change. Most important, they expect to bounce back and feel confident that they will. They have a knack for creating good luck out of circumstances that many others see as bad luck.”

- Al Seibert

*The Resiliency Advantage*
Resilient Adolescents and Young Adults
Promoting Resilience

• **Active Coping Style:** Problem-solving and managing emotions that accompany stress
• **Positive Outlook:** Enhancing optimism; embracing humor
• **Cognitive Flexibility:** Finding the good in adverse situations
• **Moral Compass:** Developing and living by meaningful principles
• **Social Support:** Developing and nurturing relationships
• **Physical Exercise:** Engaging in activity to improve mood and health

“Active Coping Style”

- Practical and emphasize immediate obstacles that must be conquered, before visualizing a remote resolution
- Select from a wide range of potential strategies and are resourceful
- Heed various possible outcomes and are aware of consequences
- Generally flexible and open to suggestions, but they do not give up the final say in decisions

• Adolescents who have high levels of self-efficacy (e.g., “I can do it!”) have better glycemic control

Feelings are not the enemy

Mind-Body Techniques:

• Mindfulness: goal to cultivate present moment awareness without judgment.
  • Separates bodily sensations from accompanying thoughts and emotions
“Diabetes is Taking Over My Life!”

When do you test (4x/d)?
- Go to the meter (if you know where your meter is)
- Calibrate strip (30 seconds)
- Lancet out of the package
- Wipe skin with alcohol prep
- Stick self with lancet
- Put drop of blood on strip
- Put strip in meter
- Press button and wait 5 seconds for results
- Total = 1 minute, 4x day

When do you give insulin (4x/d)?
- Syringe out of package
- Wipe insulin bottle with alcohol
- Draw up insulin AND recheck (assume 2 minutes)
- Wipe skin with alcohol
- Inject insulin
- Toss sharps in water jug
- Total = 2 minutes, 30 seconds x 4

“Wow! That’s only 14 minutes! Maybe it’s taking over your life because you’re thinking about it the other 23 hours?”

“Cognitive Flexibility”
Peer group support: focus on stress management, coping, and problem-solving

- Improves glycemic control
- Improves quality of life

Families: Teamwork!

• Goal for adolescence is INTERDEPENDENCE not independence in diabetes management

• Clear and consistent expectations
• Set limits with consequences
• Negotiate involvement and support
• Gradual transfer of responsibility

Stress among Caregivers

• High levels of parental distress can be associated with higher depression and anxiety in chronically ill children
• High parental stress is also associated with poor disease management

Building Resilient Families

• Child Illness Resilience Project (Australia):
  • Positive Parenting
  • Open Parent-Child Communications
  • Inclusion of siblings in information sharing
  • Parental support for older children to manage their illness/symptoms
  • Parental encouragement of children to engage in relaxation activities

Caregiver Self-Care

• Encouraging parents to care for their physical and emotional needs
• Encouraging support and community connection
• Parents who use problem solving have less anxiety than parents who avoid facing children’s illness

Resilient Health Care Systems
Providing Education

• Gauging understanding
• Developmentally appropriate
• Ongoing
• Implications for participation in classes and activities
• Special attention to transitions

Innovative Educational Methods

• Use of the internet or video games is an emerging method to deliver education
• “Experience journaling”
• Text message reminders
• Artificial intelligence and automated systems

Transition to Adult Care

• Very critical period
• Loss to follow up is a predictor of complications and mortality

Health Care Providers

• “Health-care providers can play an important role as their professional skills are founded on **attitudes, commitment, optimism, and realism.**”

Broader Considerations

• Finances
• Cultural issues
• Religious/spiritual concerns
• Travel
• Access to mental health care
Questions?
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