Disclosure to Participants
• No disclosures

FEAR OF HYPOGLYCEMIA AND IMPLICATIONS FOR CLINICAL CARE: AN EDUCATORS PERSPECTIVE

Objectives
• Define Fear of Hypoglycemia (FOH)
• Risk factors for FOH & Clinical Implications
• Assessing FOH
• Strategies for reducing FOH
Risk factors

- Hx of severe hypoglycemia
- # of symptoms with mild hypoglycemia
- High trait anxiety
- Hypo unawareness
- High Glucose Variability
- Parent of a child with T1D

Clinical Implications

- Poor glycemic control due to hypo avoidant behaviors
  - Under dosing insulin
  - Over treating lows
  - Treating lows before low
- Worsening health and well-being
  - FOH is primary barrier for lack of exercise in adults with T1D
  - Increasing stress levels and sleep impairment
  - Association with anxiety, depression and reduced quality of life

Education is necessary but not sufficient

ADA 2017

MEDICAL STANDARDS OF CARE

ANXIETY

Assessment Tools

- Hypoglycemia Fear Survey (HFS)
  - Behavior and Worry subscale
    - Behavior scale
      - Maintaining High BG*, Avoiding Hypo
    - Worry scale
      - Helplessness, Social consequences
  - Various adaptations to the HFS
    - Parents (HFS-P & HFS-PYC)
    - Children and Adolescents (HFS-C)

FoH survey: Clinical cutoffs

- Maintaining High Blood Glucoses: >7
- Helplessness/Worry About Low Blood Glucoses: >24
- Worry About Social Consequences: >9

PI: Kimberly Driscoll, Ph.D. Study not published
R03DK110459
Preliminary data: Clinic Screening Program

- N parents screened = 156
- 34 parents exceeded clinical cutoff
  - 5 (12.8%) exceeded on 2 subscales
  - 3 (8.8%) exceeded on all 3 subscales
- 19 parents of kids on mdi
- 15 parents of kids on insulin pumps

Fear of Hypoglycemia

STRATEGIES TO REDUCE FOH

Blood Glucose awareness training (BGAT)

- 8 week, Psychoeducation training program to improve ability to:
  - Anticipate, detect, treat and prevent extreme blood glucose levels (hypo or hyperglycemia)
- Effective in reducing hypo unawareness and reducing fear of hypo in adults
- Web-based module also effective (BGATHome)

Clinical Strategies to Reduce FOH

- Assess hypo history and FOH
- Integrate fear management strategies with hypo management education
  - Graduated exposure
  - Cognitive Behavior Therapy (CBT) strategies

Assess for FOH

- How worried are you about the risk of having a low blood sugar?
  - Scaling from 1-10
- During what situations are you most worried about having a low blood sugar?
- How does your worry about hypoglycemia impact your sleep at night?

Assess for hypo avoidant behaviors

- What kinds of things do you do to avoid lows?
  - Increase blood glucose monitoring (>8 times/day)?
  - Constant checking of CGM?
  - Keep blood glucose high intentionally (i.e. >150, >200)?
  - Under dose insulin/give less insulin than bolus calculator recommends?
  - Frequently check at night?
Graduated Exposure: FOH

- Safe range = 230; Hypo avoidant behavior = Child eats snack without insulin if BG < 230 at bedtime.
- Parent agrees to lower that range to 200 and either give insulin with a bedtime snack or no snack if BG is 200 or greater. Then, as anxiety decreases, drop to 170 and then eventually 150.

Cognitive Behavioral Therapy

- Thoughts, feeling and behaviors are interconnected
  - Re-frame catastrophic thinking
  - Self-talk for coping with anxious thoughts and feelings

Example: Challenge catastrophic thinking

Let’s Bring Low BG Worry Down!!

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<th>A</th>
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Case Study

- 21 yo male; T1D duration = “10 years
- Co-existing depression and general anxiety
- Started on CGM
- Intentionally kept BG high
  - Graduated exposure to increase comfort with BG in target range & reduce BG testing

Example: Countering catastrophic thoughts

- “I’ve always been able to handle lows in the past and keep my child safe”
- “The worst case scenario isn’t likely to happen”
- “My child really hasn’t had frequent episodes of low BG”
Education is necessary but not sufficient

Summary
• FOH is common and may result in reduction in QOL and poor glycemic control
• Assess for impact of FOH
  — Clinical cutoffs may help in pediatric/parent population
• Graduated exposure principles may help patients improve glycemic control and reduce hypo worries
• Collaboration is key: Integrate mental health treatment with diabetes education
  — Refer to mental health professional

References