

STRATEGIES TO IMPROVE DIABETES MANAGEMENT IN TYPE 1 TEENS

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Epidemiology of Type 1 Diabetes

- Diabetes is a leading cause of death in the US
- Mortality rate 5.6 times higher than general population
 - This is an improvement in recent decades (Stanger et al, 2013)
- Incidence of Type 1 among teens has increased significantly in the past 25 years
 - Approximately 1 in every 500 adolescents age 12-19 have Type 1 Diabetes
- Teens have worse glycemic control than adults correlating to higher A1C averages
- Less than 15% of teenagers are estimated to be at or below A1C goal

Teenagers – who are they?

- Piaget –
 - Concrete operations (ages 7-11): follow the rules
 - Formal operations (age 11-adult): abstract thinking can make judgments.
- Erikson's stages of psychosocial development
 - Moving from Industry vs. Inferiority
 - Toward Identity vs. Role Confusion

Teen Challenges

- Knowledge deficit is rarely the challenge
- Poor compliance despite knowledge is a significant issue in adolescents with poorly controlled T1D
- Difficult to engage
- Often demonstrate a poor awareness in need for change
- Nonadherence is linked to poor glycemic control
 - Obstacles to adherence include developmental behaviors, family dynamics, social pressures, relative insulin resistance due to puberty

Converging factors creating Teen Struggle

- Social context and peer concerns
- Premature shift of responsibility for management from parents to teens
- Developmental tendencies toward risk taking
- Lack of thorough knowledge and understanding of treatment plan
- Physiologic changes that lead to greater insulin resistance during puberty
- Adherence to intensified regimens can inadvertently result in increased burden and reduction in health-promoting behaviors

Interventions that may help

- Nonjudgmental family support in daily tasks (BG monitoring and insulin administration)
- Motivation Interviewing and problem solving skills
 - Goal setting
 - Coping skills
- Flexibility in dietary recommendations
- Extending provider outreach
- Support with technology

The word cloud features 'insulin' as the most prominent word. Other significant words include 'body', 'diabetes', 'control', 'glucose', 'fat', 'melittu', 'patients', 'liver', 'metabolism', 'hormone', 'blood', and 'pancreas'.

Stages of Change

Stages of Change

The diagram illustrates the Transstheoretical Model of Change as a spiral moving inward. The stages are:

- pre-contemplation**: No intention of changing behavior.
- contemplation**: Serious thoughts of action.
- preparation**: Taking small steps toward change.
- action**: Making overt and visible changes.
- maintenance**: Sustaining the new behavior.
- relapse**: Falling back into old patterns of behavior.

 The spiral indicates that individuals can move forward, backward, or even stay in a stage for a period.

Transstheoretical Model of Change
Prochaska & DiClemente

Stages of Change

- Once teen has made a decision to make a change as provider we can:
 - Praise the decision to make a change.
 - Help prioritize what teen is willing to change first – i.e. check BG in the morning- what is a “morning habit” already in place? Brush teeth, take shower, drink coffee – take BG at that time. Encourage small steps that teen can be successful at in 4-6 weeks.

Coach/Consultant:

- Using questions with clients effectively is an important way to help a teen move through the stages of change and help them better set goals. It is important to not ask too many questions causing the teen to feel as if he is being grilled. Use open-ended questions to help teen problem solve.
- “[Questions] can help clients turn what is abstract and vague into something concrete and clear – something you can get your hands on and work with” (Egan, 2006)
- Ask “What can you do? What can you do differently, not what can you do better?”

Coach/Consultant:

Using questions with teens is a powerful tool to help them know we are interested in them as well as encourage them to think and find new answers they may have never come to if not questioned.

- “...Ask questions and offer choices. Instead of telling [teens] what to do, put the burden of decision-making on their shoulders . . . Establish options within safe limits” (Cline and Fay, 2006)



Case Study #1

Case Study #1

BB age 14 11/12yr male diagnosed with Diabetes mellitus type 1 at age 8yr. Transfers care to our practice in Nov 2015 and meets with the Pediatric Endocrinologist. He uses an insulin pump to manage diabetes. His Ha1c is 12.3% is to return to office in 6 weeks.

- December 2015 now 15yrs old follow up with Pediatric Endocrinologist Ha1c = 12.2%
- February 2016, 2 month follow up with Nurse Practitioner. Ha1c = 10.5%. Testing blood glucose 2.9 times daily.
 - Goals: Test BG at dinner time
 - Continue to do well putting carbs into pump with meals

Case Study #1

June 2016 Visit with Nurse Practitioner. Ha1c = 10.1%. Testing 2.5 times daily. BB states he is guessing on carbs and portion sized. Mom is frustrated as she feels he is snacking often and doesn't realize how many carbs he consumes.

- Goals: Test BG at lunch more consistently
- Use measuring cup for common snacks to help calculate portion sizes and carbs more consistently.

Case Study #1

September 2016 Follow up with Nurse Practitioner. Ha1c = 9.4% Testing BG 7.3 times daily. Both BB and his Mom are very excited that Ha1c is improved and in "single digits." He feels he has measured snacks and calculated carbs better.


- Goals: Maintain good BG checks.
- Continue counting carbs/measuring portions or use same bowl with snacks.
- New goal: Rotate pump site and give abdomen a break to help with lipohypertrophy
- NP sends a "Congrat" card with confetti praising BB for his hard work and caring for himself

Case Study #1

- December 2016 – Follow up visit with Nurse Practitioner BB has turned 16yrs old. Ha1c = 8.9% and testing BG 7.7 times daily. BB and mom very happy that Ha1c continues to improve. Praised him for good BG monitoring and putting carbs into pump well. He states if he puts all his carbs into the pump he is dropping too low.
 - ▣ Goals: Adjustments to pump settings made and to trust pump. Call office with BG if continues to have lows so we can make more adjustments.
 - ▣ Continue to maintain hard work

Case Study #1

- March 2017 – Visit with Nurse Practitioner Ha1c = 8.3% Testing BG 11.2 times daily. Discuss doesn't need to test this frequently and mom states, "Keep testing! I don't mind paying for the test strips." Praise BB for all his hard work. Mom thanks me which I reply BB is doing all the hard work. BB states – "We're a Team!"



Motivational Interviewing (MI)

What is Motivational Interviewing (MI)

MI is not a list of techniques but rather a method or style of communicating with patients. The foundation of which is its spirit.



Motivational Interviewing:

- Listening for change talk
 - Desire: Statements about preference for change
 - Ability: Statements about capability
 - Reasons: Specific arguments for change
 - Need: Statements of feeling obliged to change
 - Commitment: Statements about the likelihood of change
 - Taking Steps: Statements about action taken

Motivational Interviewing:

- Asking
 - Closed Questions or Open Questions
 - Agenda Setting
 - Use 1-10 Scale Ruler
 - Assessing Importance and Confidence
- “You’re working on testing your blood glucose more consistently. What would be most helpful for us to talk about today?”

Motivational Interviewing:

- Listening
 - General Considerations
 - Helps you gather important information you might otherwise miss
 - Small amounts of high quality listening greatly promote your relationship. Patient's whose providers listen to them are more comfortable and more satisfied with their care.
 - Taking time to listen promotes honesty
 - Opening the Door
 - Asking is not listening
 - Silence
 - Listening by reflecting
 - Summary

Motivational Interviewing:

- Informing
 - Ask permission
 - Offer Choices
 - Talk about what others do
 - Strategies for informing
 - Chunk-Check-Chunk
 - Elicit-Provide-Elicit
 - Beware the Righting Reflex
 - Promoting Adherence

Studies using MI for T1D Teens

- MI has had promising results in several small uncontrolled studies
- It has been further examined in a randomized control trial from the UK
 - Compared teens 14-17 years
 - 12 months of MI vs 12 months of simple supportive visits
 - Significant reduction in A1C at 1 year and maintained at 1 year post intervention

(Channon et al, 2007)

KM A1C since diagnosis with T1D

- Add graph
- A1C has never been well controlled
- Addition of CGM improved control for a short period of time, but was abandoned when feelings of lack of support and being overwhelmed and burn out emerged

Case Study – A work in progress(cont)

- Interventions tried
 - Technology change of addition
 - Change in pump model
 - She has a CGM available, but has not been wearing it recently
 - Goal setting
 - Short term goals vs. long term goals
 - Manageable, specific, attainable
 - Motivational interviewing focusing on change and self awareness of what needs to change
 - Counseling recommendation and initiation to help her manage her depression symptoms
 - Communication strategies to use with her parents

Case Study – A work in progress(cont)

- Existing challenges
 - Mom and Dad are divorced and only communicate via Text message very little
 - KM is working, a senior in HS, involved in dance as an extracurricular,
 - KM is driven and does very well in school
 - KM is planning to go away to college this fall
 - KM verbalizes lack of parental involvement and concern
 - KM verbalizes burn out/depression symptoms
 - KM's mother does not want her to be on Zolof
 - Dad and mom do not attend appointments together with KM
 - KM discusses frustration with communication with mom and their overall relationship



Discussion and Questions

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