IDF Europe Young Advocates International Youth Day Webinar

Transition of Diabetes Care from Pediatrics to Adulthood

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Structure of Webinar

• Introduction
• What is transition in diabetes care?
• Facts and Figures
• Factors affecting transition in care
• Differences in pediatric and adult care, glycemic control...
• Personal sharing
• Summary
Introduction - Entering adult life

- Young adults 18-30 (*emerging adulthood*):
  - Change place of residence.
  - Start studies or work.
  - Start own independent life outside home, and weaken emotional ties with parents.
  - Accept new roles in adult life.

And during that time happens...
...a big change: leaving diabetes clinic and well-known pediatrician to enter a new environment - diabetic care for adults.
Burden of diabetes among young people in United States

• SEARCH data for Diabetes in Youth Study (US):
  ▫ 2001: 154,000 youth (age <20 years) with diabetes
  ▫ 2010: 215,000 youth (age <20 years) with diabetes

• Type 1 diabetes prevalence has doubled worldwide.
  ▫ Expected to double again in 15-20 years.

• Increased rates of childhood obesity are increasing incidence of type 2 diabetes.

Issues related to Transitional Care

- Differences between the pediatric and adult care
- Glycemic control
- Continuity of follow-up care
- Presence of acute complications
- Psychosocial challenges

...many more such as substance use and abuse, chronic complications ...
Pediatric Approach to diabetes care

- Assessment of individual vs. family barriers.
- Customize treatment plans to the needs of the family.
- Encouragement/teaching of self-care skills at appropriate stages of development.
- Diabetes education refresh every few years.
- Working with schools/daycare providers to improve their diabetes education and skills to help care for young children with diabetes.

Differences in diabetes management

**PEDIATRIC**

- Family - centered approach
- Parent-driven approach to address varying stages of cognitive ability and emotional maturity
- Emphasis on fitting diabetes management techniques into family lifestyle

**ADULT**

- Individualized approach
- Shorter visits focusing on medical issues
- Control of access to healthcare information in the hands of the patient
- Autonomy to make own medical decisions
Glycemic Control

- SEARCH data:
  - 32% of youth w/ T1D ages 13-18 years achieve A1C target.
  - 18% of youth w/ T1D age ≥ 19 years achieve A1C target.
  - 56% of adults are able to achieve target A1C.

- Teenagers with T1D or T2D have the highest proportion of A1C ≥9.5%.
  - Estimated at 25%.

Continuity in Follow-Up Care

• Loss of private health insurance.

• Distractions interfere with successful diabetes management - work, school, social.

• High risk of disengagement from health care in emerging adults leads to:
  ▫ **Increased acute and chronic complications.**
  ▫ **Increased utilization of emergency services and hospital services.**

• Higher relative risk of death in young adults with diabetes.

Presence of Acute Complications

• Include:
  ▫ **Hypoglycemia and hypoglycemia unawareness.**
  ▫ **Hyperglycemia.**
  ▫ **Diabetic ketoacidosis.**

• Difficult to balance school and/or work.

• Reduced parental supervision and less frequent medical visits increase the risk of acute complications.

• Data showed higher rates of severe hypoglycemia in adolescents aged 13-17 at study entry and age 20-24 years at study end.

Cardiovascular Risk Factors

• Higher prevalence of CV risk factors in youth with T2D compared to T1D.

• Increase in obesity rates now translating to similar increases in CV risk in T1D patients.

• Obesity is increasing risk of hyperlipidemia, hypertension, and fatty liver disease.

Psychosocial Challenges

• Occur more commonly in patients with diabetes.

• Diabetes-specific stressors:
  ▫ Lack of clear and concrete goals for diabetes care.
  ▫ Feeling discouraged/overwhelmed by diabetes regimen.
  ▫ Uncomfortable interactions with family/friends/coworkers about diabetes.
  ▫ Guilt/anxiety when off-track with diabetes management.
  ▫ Worrying about future and possibility of complications.

Teenage Stress

1. School
2. Family/parents
3. Friends
4. Work
5. Sports
6. Homework
7. Lack of sleep
8. Lack of love life
9. College
10. Appearance
11. Extracurricular activities
12. Grades
13. Relationships
14. Tests
15. Lack of time

http://www.drsharma.ca/does-teenage-stress-cause-weight-gain
Teenagers are reporting stress levels rival that of adults.

Mental Health Concerns

• Diabetes self-care is affected by:
  ▫ **Anxiety**
  ▫ **Depression**
  ▫ **Eating disorders** – anorexia, bulimia, disordered eating behaviors

• Compounded by insulin omission and fear of hypoglycemia.

Substance Use & Abuse

• Alcohol:
  ▫ Increases risk of severe hypoglycemia.
  ▫ Worsens glycemic control.

• Tobacco:
  ▫ Increases CV risk.
  ▫ Increases microalbuminuria risk.

• Need to discuss importance of abstaining from substance use/abuse, especially while driving.
• Also need to address importance of BG monitoring prior to driving.

Emergence of Chronic Complications

- Clinically apparent diabetes complication rates are low, but there is evidence of early microvascular complications:
  - **Microalbuminuria**
    - 10% of adolescents w/ T1D
    - 30% of adolescents w/ T2D
  - **Hypertension (T2D > T1D)**
  - **Retinopathy (T2D > T1D)**
  - **Neuropathy: ~20% adolescents w/ diabetes**

- **Macrovascular complications:**
  - **Early atherosclerotic disease seen in children/adolescents with elevated LDL, reduced HDL, tobacco use, and higher A1C levels.**
  - **Complications are infrequently treated in pediatrics, but should be addressed prior to transition.**

“We cannot accomplish all that we need to do without working together”
Example of a successful project of the American Diabetes Association

- 81 patients from 3 clinics
- Control Group – standard care
- Intervention Group - structured transition program with tailored diabetes education, case management, group education classes, and access to a newly developed young adult diabetes clinic and transition website

- At month 12, IG compared with CG participants had:
  - Improved glycemic control
  - Improved incidence of severe hypoglycemia
  - Improved global well-being

Summary

- Pediatric to adult diabetes care transition is difficult and there is no standardized approach.

- Preparing the patient and their family well in advance is important for an optimal transition.

- Pediatric and adult diabetes providers need to work together for this transition to be successful.

- Establishing transitional diabetes care clinic is necessary.

- More research is needed to develop best practices for a successful transition.
Heat and Diabetes

Lauren Quinn
IDF Europe Young Diabetes Advocate
Final Year Medical Student, University of Birmingham
Holiday Time...
Flying with diabetes
Tips for flying with diabetes
Tips for flying with diabetes [2]

Civil Aviation Authority:

"If you use an insulin pump, it is therefore important to contact the manufacturer of the particular pump that you use for advice. It is also sensible to contact your airline and the airports you will travel through, to find out their requirements if the manufacturer advises that your pump cannot go through some screening equipment."

"It is essential that diabetic passengers carry adequate equipment (glucose meters, lancets, batteries) and medication in their hand baggage. It is also important that insulin not being used in the flight is not packed in the hold baggage as this may be exposed to temperatures, which could degrade the insulin. In addition, there is also the potential that luggage may be lost en route."

Caution around insulin pumps and CGM onboard aircraft is due to wireless functionality, which may interfere with aircraft communication and navigation systems. If your pump or CGM cannot function without a wireless signal, then you may need to be prepared to remove your CGM and pump and administer insulin with an insulin pen for the journey. You would also need to test your blood glucose levels manually with a standard blood glucose meter."
Checklist

1. Contact your diabetes care team
2. Contact your diabetes equipment manufacturer
3. Contact your airline
Hold vs Hand Baggage:
Heat and diabetes
Tips for coping with the heat

- Take supplies with you always
- Talk to your diabetes team about changing your insulin dosage
- Caution with neuropathy-wear sandals
- Stay hydrated
- Keep insulin cool
Cold and diabetes
Links

- https://www.diabetes.org.uk/travel
- http://dreambigtravelfarblog.com/authors/cazzy-magennis
Bon Voyage
Thank you :)  
Q & A