Mario Alberto Rivas Carro.
Diabetes Nurse Educator and Psychologist. Master's in Therapeutic Education in Diabetes.
Nursing School of Lugo – Affiliated Center, Universidad de Santiago de Compostela (Galicia, Spain)
Hospital Universitario Lucus Augusti (HULA).
Department of Endocrinology and Nutrition, Diabetes Education Service.

When Attachment Influences Glucose:

Emotional Management and Diabetes Control

In recent years, attachment theory has served as a framework to understand developmental processes and personality changes in people with diabetes. This theory describes how the type of bond established with parents or caregivers in early life determines both emotional management and the quality of relationships in adulthood.

Attachment style may be modified through structured diabetes education programs delivered by diabetes educators, focusing on positive emotional management to promote a secure attachment style.

In the early 1960s, John Bowlby proposed the existence of an evolutionarily motivated attachment system designed to maintain closeness with an "other-regulating" adult who serves as a model for subsequent internal and social regulation (1). In the 1970s, Mary Ainsworth expanded the theoretical and methodological model, emphasizing the fundamental need for contingent, nurturing emotional bonds with others for adequate psychoemotional regulation—an issue of vital importance for people with diabetes (2).

Two primary attachment types have been described: secure and insecure. Some authors further divide insecure attachment into anxious and avoidant, while others also add disorganized attachment. They can be summarized as follows:

1. **Secure attachment:**

   Emotional stress is calmed by the caregiver's presence, decreasing stress by deactivating hyperactivation of the autonomic nervous system (ANS). This helps maintain glucose within target ranges by avoiding the effects of stress-related hormones.

2. **Insecure–anxious attachment:**

   Emotions are poorly regulated by caregivers who do not provide security or calm, leading to an intense ANS response both physically and emotionally. Elevated adrenaline and cortisol result, increasing glucose levels.

3. **Insecure–avoidant attachment:**

   Overregulation or suppression of emotional stress occurs. Individuals anticipate rejection of emotional expression and avoid seeking closeness during negative experiences. This affects adherence to diabetes care with healthcare professionals, family, friends, and partners. Persistent cortisol activation, hypervigilance, and fear responses contribute to increased glucose levels.

4. **Disorganized attachment:**

   An inconsistent pattern develops, often the result of threatening or emotionally unavailable caregivers. This produces chronic ANS activation and negative emotional states.

Validated methodologies now exist for evaluating attachment across the life cycle —childhood, adolescence, and adulthood— through highly reliable studies (3).

HOW DOES ATTACHMENT STYLE INFLUENCE EMOTIONAL MANAGEMENT AND GLUCOSE CONTROL IN DIABETES?

Attachment style affects how emotions are managed, which may directly influence health, particularly in chronic diseases such as diabetes. Understanding this link between emotions and health may provide a more humanized and effective approach to diabetes care.

From our experience as Diabetes Educators in the Endocrinology Service at Hospital Universitario Lucus Augusti in Lugo, and at the Nursing School of Lugo, University of Santiago de Compostela, we have developed a project presented at the SED Congress in April 2025, called EMODIAB-APEGO.

In this study, attachment style of 156 adults with diabetes was analyzed and classified as secure or insecure using the validated and standardized CaMir-R questionnaire (4, 5).

Participants' predominant emotions (security, joy, fear, anger, and sadness) were assessed in relation to secure versus insecure attachment styles. Main findings include:

- Security and joy were associated with better glycemic control and predominated in secure attachment.
- Fear was more prevalent in insecure attachment, worsening glucose levels.

These findings are consistent with previous studies:

- Individuals with secure attachment collaborate more effectively with health »

ALTHOUGH FURTHER RESEARCH IS NEEDED ON THESE RELATIONSHIPS, CURRENT EVIDENCE SUGGESTS AN ASSOCIATION BETWEEN EMOTIONS, ATTACHMENT STYLE, AND GLUCOSE LEVELS IN RELATION TO METABOLIC CONTROL AND DIABETES MANAGEMENT

» care professionals, achieving better outcomes in diabetes care.

- Treatment adherence is lower in insecure attachment compared with secure attachment (6).
- Among parents of children with diabetes, insecure attachment was associated with poorer glycemic outcomes and higher stress compared with secure attachment.
- In children, maternal insecure attachment was linked to unfavorable diabetes outcomes (7).
- Secure childhood attachment correlated with favorable diabetes outcomes (8).
- Insecure attachment in adults was associated with poorer glycemic outcomes (9).

Although further study is required, evidence suggests that emotions, attachment style, and glycemic control are interrelated. Better diabetes management may be achieved by regulating unpleasant emotions such as fear and fostering positive emotions such as security and joy.

Is Attachment Style Immutable or Can It Be Modified?

Attachment begins in childhood but can be evaluated across the entire life span. Longitudinal studies show a 69–75% concordance between childhood and adulthood.

The most important finding is that insecure attachment may be modified over time toward secure attachment in adulthood.

Such change must be supported by diabetes education, which promotes healthy social connections through structured therapeutic education in diabetes (10). D

ATTACHMENT STYLE MAY BE MODIFIED THROUGH STRUCTURED DIABETES EDUCATION PROGRAMS DELIVERED BY DIABETES EDUCATORS, FOCUSING ON POSITIVE EMOTIONAL MANAGEMENT TO PROMOTE A SECURE ATTACHMENT STYLE

CONCLUSIONS

1. Attachment style appears to influence self-management and glycemic control in diabetes.
2. Secure attachment is associated with better glucose management, while insecure attachment is linked to worse glucose outcomes.
3. Emotions and attachment style play an influential role in diabetes management and glycemic profiles.
4. Attachment style may be modified through structured diabetes education programs.

Health care services and multidisciplinary teams led by Diabetes Educators should prioritize positive emotional management to foster secure attachment.

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