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Analysis of transactional processes in siblings of children with type 1 diabetes

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Introduction and Objectives

- **Type 1 diabetes (T1D) =** Autoimmune disease leading to an insulin deficiency that causes hyperglycemia and associated symptoms
- **296 500 children with a T1D in Europe aged 0 to 19 years old** (IDF Diabetes Atlas, 2019)
- **Treatment** = Insulin therapy, Glucose monitoring, Food control and Medical Care
- **T1D =** A stressful situation for all members of family

What about transactional processes in siblings of children with type 1 diabetes ?

Method and Participants

- Completion of an online questionnaire via LimeSurvey including self-administered questionnaires:
  - Revised Children's Anxiety and Depression Scale (*RCADS*)
  - Sibling Perception Questionnaire (*SPQ*) : Intrapersonal difficulties, Interpersonal difficulties, Fear of the disease and Difficulties of communication about the disease
  - KidCope (*KidCope*)
  - Emotion Regulation Questionnaire (*ERQ-CA*) : Cognitive reappraisal and Suppressive expression
- **62 siblings recruited aged 8 to 18 years old** (M = 12,60 ; SD = 3,02) including :
  - 40 sisters (Mean age = 12,67 ; SD = 3,08)
  - 22 brothers (Mean age = 12,63 ; SD = 3,03)

Results

Background

Correlation between fear score and age of participants (ρ = - .366)**

Correlation between RCADS score and Hb1Ac (ρ = .391)**

Stressful situations

Lived by children aged 8 to 11 years old (N = 26)

- Treatment (38,46 %)
- Hypoglycemia / Hyperglycemia (30,77 %)

Lived by adolescents aged 12 to 18 years old (N = 36)

- Hypoglycemia / Hyperglycemia (38,89 %)
- No stressful situations (30,55 %)

Correlation between ERQ-CA – Frequency of Suppressive Expression score and age of participants (ρ = .316*)

Correlation between ERQ-CA – Efficacity of Suppressive Expression score and age of participants (ρ = .434)**

Coping

Cognitive restructuring (80 %)
Wishful thinking (70 %)

Social support (87,5 %)
Cognitive restructuring (75 %)
Wishful thinking (75 %)

Resignation (85,7 %)
Social withdrawal (42,8 %)

Schema 1 : Adaptation of the transactional, integrative and multifactorial model (TIM) (Bruchon-Schweitzer, 2002)

A non-parametric test was applied
*The correlation is significant at the 0.05 level / **The correlation is significant at the 0.01 level

Discussion

- Siblings are also affected by T1D
- Adjustment to the disease seems to depend on age of sibling of children with T1D
- T1D = chronic and fluctuating disease → emotional coping more functional (Stroebe, Schut and Stroebe, 2005)
- Adolescents use more avoidance strategies → effect of age ? (Lummer-Aikey and Goldstein, 2021)

Conclusion

- Health care professionals report a lack of resources to meet the needs of siblings (O'Shea and al., 2012)
- Understanding their adjustment means understanding their needs
- Importance of knowing how siblings adjust to the disease to better support them
- **Clinical perspective** : Offer personalized care

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