# Psychosocial Screening in children with Type 1 Diabetes in Ireland

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## BACKGROUND

- Psychosocial factors may be fundamental explaining poor glycaemic control in children with Type 1 diabetes (T1DM).
- Anxiety, depression are well described in children with T1DM.
- According to Kauffman FR [1], diabetes management can only be successful if psychosocial needs are assessed and addressed.
- There is a deficit of Clinical Psychologist in Paediatric Diabetes teams around Ireland and psychosocial assessment is rarely conducted in standard paediatric diabetes clinics.

## OBJECTIVES

- To examine the association between glycaemic control and scores on two screening tools measuring psychosocial risk and emotional distress in an Irish cohort of children with T1DM.

## METHODS

- A cohort study including 34 children with T1DM was undertaken.
- Demographic and clinical data were collected from children, parents and clinical notes.
- A psychosocial risk assessment included:

➢ **Risk index for poor glycaemic control** (RI-PGC) a broad assessment of psychosocial risk

**Cut-off scores of Risk for poor glycaemic control** [2]

| | |
|---|---|
| **Low Risk** | **0 - 1** |
| **Moderate Risk** | **2** |
| **High Risk** | **≥3** |

➢ **Paediatric Index of Emotional Distress** (PI-ED) a specific assessment of psychological/emotional risk factors [3]
- Contains 14 items relating to symptoms of anxiety and depression in children and adolescents
- **Score >20** indicates high risk for Emotional distress (ED)

## RESULTS

**Table 1: Sample characteristics**

| | |
|---|---|
| **Sample (n)** | 34 |
| **Age Mean (± SD)** | 12.24 (3.8) |
| **Male (%)** | 55.9 |
| **Age of diagnosis T1DM, years** | 1.3 – 15.9 |
| **Duration T1DM, years** | 0.2 – 12.1 |
| **HbA1c Mean (± SD)** | 69.2 (14.8) |

## RESULTS

**Table 2: Patients with low, moderate and high score on RI-PGC**

| | Low Risk | Moderate Risk | High Risk |
|---|---|---|---|
| **Sample (n)** | 17 | 8 | 7 |
| **Age Mean (± SD)** | 12.8 (2.3) | 13.6 (1.8) | 10.6 (5) |
| **Male (%)** | 64.7 | 62.5 | 42.9 |
| **Age of diagnosis T1DM (± SD)** | 8.4 (3.9) | 7.6 (3.5) | 6.1 (5.5) |
| **Duration T1DM (± SD)** | 4.4 (4.1) | 6 (3.4) | 4.5 (4.2) |
| **HbA1c Mean (± SD)** | 67.4 (17.9) | 70.4 (9.5) | 71.3 (10) |

- Almost half of children (47%) in the study had moderate or high risk for poor glycaemic control (figure 1)

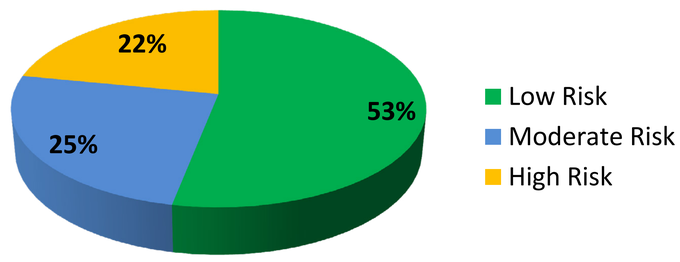


**Figure 1: Percentage of patients with low, moderate & high risk on RI-PGC**

- There was a significant association between higher RI-PGC scores and higher HbA1c (r=0.3, p<0.05) (figure 2)

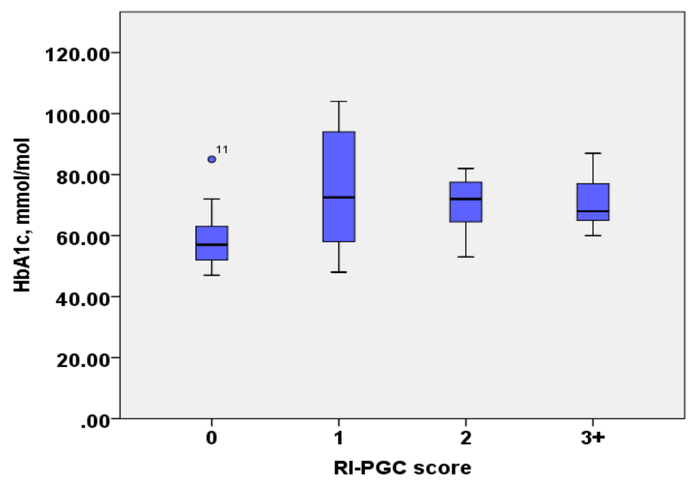


**Figure 2: Boxplot, showing median [solid line] and interquartile range [box] of HbA1c by RI-PGC score**

- There was significant difference (p=0.02) between the level of HbA1c in children with minimal psychosocial risk (score=0) and children with score above 0 (figure 3)

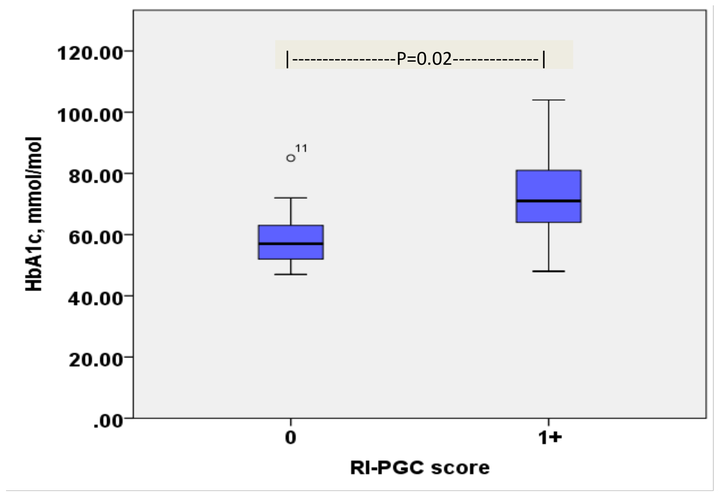


**Fig 3: Boxplot, showing median [solid line] and intra-quartile range [box] of HbA1c by RI-PGC score of 0 vs. 1+.**

## RESULTS

**Table 3: Patients with low and high risk for emotional distress on PI-ED**

| | Low risk for ED | High risk for ED |
|---|---|---|
| **Sample (n)** | 29 | 3 |
| **Age Mean (± SD)** | 13.2 (2.3) | 13.7 (2) |
| **Male (%)** | 58.6 | 0 |
| **Age of diagnosis T1DM** | 8.6 (4.1) | 7.3 (4) |
| **Duration T1DM** | 4.7 (3.9) | 6.4 (5.1) |
| **HbA1c Mean (± SD)** | 68.8 (15.4) | 72.7 (17) |

- 9.4% of patients showed a high risk for emotional distress; all of them were female
- Higher HbA1c values were not significantly correlated with higher PI-ED scores (p>0.05)
- There was a significant association between higher RI-PGC scores and higher levels of emotional distress (PI-ED scores) (r=0.4, p=0.01) (figure 4)

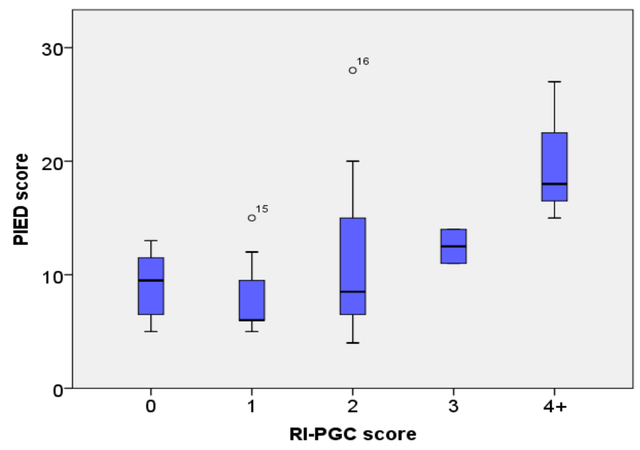


**Figure 2: Boxplot, showing median [solid line] and interquartile range [box] of PIED score by RI-PGC score**

## CONCLUSIONS

- High psychosocial risk is associated with poor glycaemic control
- High psychosocial risk is associated with emotional distress
- Screening tools for psychosocial risk and emotional distress (RI-PGC and PI-ED) may have utility in routine clinical practice
- The ability to predict higher risk of diabetes related complications and psychological distress would allow for early intervention by trained clinical Psychologist
- Further prospective assessment of the predictive power of these screening tools is warranted

## REFERENCES

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3. O'Connor, S., Carney, T., House, E., Ferguson, E., Caldwell, F., and O'Connor, R.C. // Revision of the Hospital Anxiety and Depression Scale (HADS) to produce the Paediatric Index of Emotional Distress (PI-ED). Patient Reported Outcomes Newsletter, 43, pp. 2-4. 2010

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