

# The psychological impact of T1D on glycaemic control in affected Saudi children at different developmental age groups

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NOTHING TO DISCLOSE

## INTRODUCTION

- T1D: is the 3<sup>rd</sup> commonest chronic disease of childhood.
- In newly diagnosed patients, adaptation to a new life is usually a challenge for the whole family.
- Specific challenges posed by T1D on the affected children, and their families, at different developmental age groups.
- The correlation between HbA1c and age specific psychological challenges, to our knowledge, has not been previously explored in the Middle East.

## OBJECTIVES

- To assess the correlation between children's HbA1c and the psychological impact of T1D on affected Saudi children and their parents at King Khalid University hospital, Riyadh, Saudi Arabia.
- To explore variations, if any, between children and their parents and between children themselves at different age groups, in the psychological impact scores of different aspects of the disease and its management.

## METHODS

- Cross sectional pilot study at KCUH, KSA (October-December 2013). A standard quality of life diabetes specific questionnaire for children – (PedQoL DM™ V3.0 - Arabic translation) was used.
- The total and individual impact scores of different domains in the questionnaire were calculated from children's and parents' responses. Data were analyzed using Pearson's correlation, ANOVA and t-2 tests

## RESULTS

Table 1 – Patient gender and average HbA1c per age group

Patient gender		
Gender	Male	Female
5 to 7	4	7
8 to 12	12	15
13 to 18	10	15
<b>Total (%)</b>	<b>26(41.3)</b>	<b>37(58.7)</b>
Average HbA1C		
Age Group	Mean	Median
5 to 7	9.427273	9.9
8 to 12	11.84444	11.7
13 to 18	12.212	12.5
<b>All Ages</b>	<b>11.56825</b>	<b>11.6</b>

Table 2 – Comparisons of the mean HbA1c of different age groups

Comparing mean HbA1c of different age groups	P values
The 3 age groups together	0.001027
5-7 yrs with 8-12 yrs	0.006861
5-7 yrs with 13-18 yrs	0.00229
8-12 yrs with 13-18 yrs	0.501182

Table 3 – Comparison between the questionnaire individual categories' aggregate scores of parents and children at different developmental age groups

Comparisons of impact scores	Statistical analysis	DM Aggregate	T1 Aggregate	T2 Aggregate	Worries Aggregate	Communication Aggregate
Children (All age groups)	P values – ANOVA	0.24	0.36	0.95	0.22	0.30
Parents (All age groups)	P values – ANOVA	0.21	0.88	0.35	0.61	0.70
5 - 7 (Children Vs Parents)	P values - t2 test	0.93	0.09	0.57	0.12	0.43
8 -12 (Children Vs Parents)	P values - t2 test	0.47	0.94	0.57	0.08	0.69
13 – 18 (Children Vs Parents)	P values - t2 test	0.88	0.56	0.48	0.32	0.40

DM= Diabetes Mellitus, P= Parents, T1= Treatment 1, T2= Treatment 2

Table 4 - Summary of Pearson's correlations of the scores of the psychological impact on children

Vs children's HbA1c

Age group	Statistical analysis	Total Aggregate	DM Aggregate	T1 Aggregate	T2 Aggregate	Worries Aggregate	Communication Aggregate
5-7 yrs	Pearson's r	-0.10	0.001	-0.118	-0.40	-0.039	0.28
	P value	0.77	0.10	0.729	0.217	0.91	0.41
8-12 yrs	Pearson's r	-0.04	-0.10	-0.13077	0.12	-0.11	0.03
	P value	0.84	0.62	0.515601	0.54	0.58	0.87
13-18 yrs	Pearson's r	0.02	0.01	0.2	0.22	-0.08	0.075
	P value	0.91	0.94	0.34	0.3	0.69	0.72
Total	Pearson's r	0.04	-0.13	-0.05	-0.11	-0.12	0.18
	P value	0.75	0.32	0.71	0.39	0.35	0.16

DM= Diabetes Mellitus; HbA1c= Glycosylated haemoglobin; T1= Treatment 1; T2= Treatment 2

Table 5 - Summary of Pearson's correlations of (the scores of the psychological impact on parents

Vs children's HbA1c)

Age	Statistical analysis	Total Aggregate	DM Aggregate	T1 Aggregate	T2 Aggregate	Worries Aggregate	Communication Aggregate
5-7 yrs	Pearson's r	0.27	-0.29	0.33	0.32	0.12	0.51
	P value	0.43	0.39	0.33	0.34	0.73	0.11
8-12 yrs	Pearson's r	-0.14	-0.057	-0.24	-0.22	0.14	0.25
	P value	0.50	0.78	0.22	0.26	0.48	0.20
13-18 yrs	Pearson's r	-0.05	-0.29	0.05	-0.23	0.37	0.39
	P value	0.83	0.17	0.8	0.28	0.07	0.05
All age groups	Pearson's r	-0.21	-0.24	-0.05	-0.2	0.06	0.31
	P value	0.10	0.05	0.72	0.12	0.65	0.01

DM= Diabetes Mellitus; HbA1c= Glycosylated haemoglobin; T1= Treatment 1; T2= Treatment 2

## CONCLUSIONS

Identifying age specific challenges in children with T1D may help focusing on relevant areas of concern in their management. Larger studies may be required to better highlight the relationship of these challenges with HbA1c in affected Saudi children.