



Assessment of Quality of Life in Adolescents with Type 1 Diabetes: A pilot study

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Objectives

To assess the quality of life (QoL) in a group of adolescents with type 1 diabetes (T1D) managed at the Diabetes Endocrine and Metabolism Pediatric Unit (DEMPU) of Children Hospital at Cairo University; and to assess the feasibility of applying the "Quality of Life for Youth" tool in the routine care at the Diabetes Clinic of DEMPU.

Methods

One hundred and fifty adolescents with T1D of at least 1 year duration who have completed their diabetes education program were asked to complete the DAWN Youth Quality of Life Tool- Arabic version, either written or verbally according to their convenience. Written informed consents from the adolescents and their parents were obtained before participation. The questionnaire was translated into Arabic by the investigating authors. It includes 22 questions evaluating 6 domains : D1 impact of symptoms related to diabetes, D2 impact of treatment, D3 impact on activities, D4 parent issues, D5 worries about diabetes and D6 health perception. Higher scores indicate a more negative impact of diabetes and poorer QoL, and lower scores indicate a better QoL. A medical personnel with interviewing skills, and not involved in the management and follow up of the adolescents, explained the questionnaire on the day of their periodic follow up at the clinic. The mean of at least two HbA1c values over the past year was calculated and medical records were revised for demographic and clinical data.

Results

Total Score (%) of the six tested domains in the study group (150 adolescents)

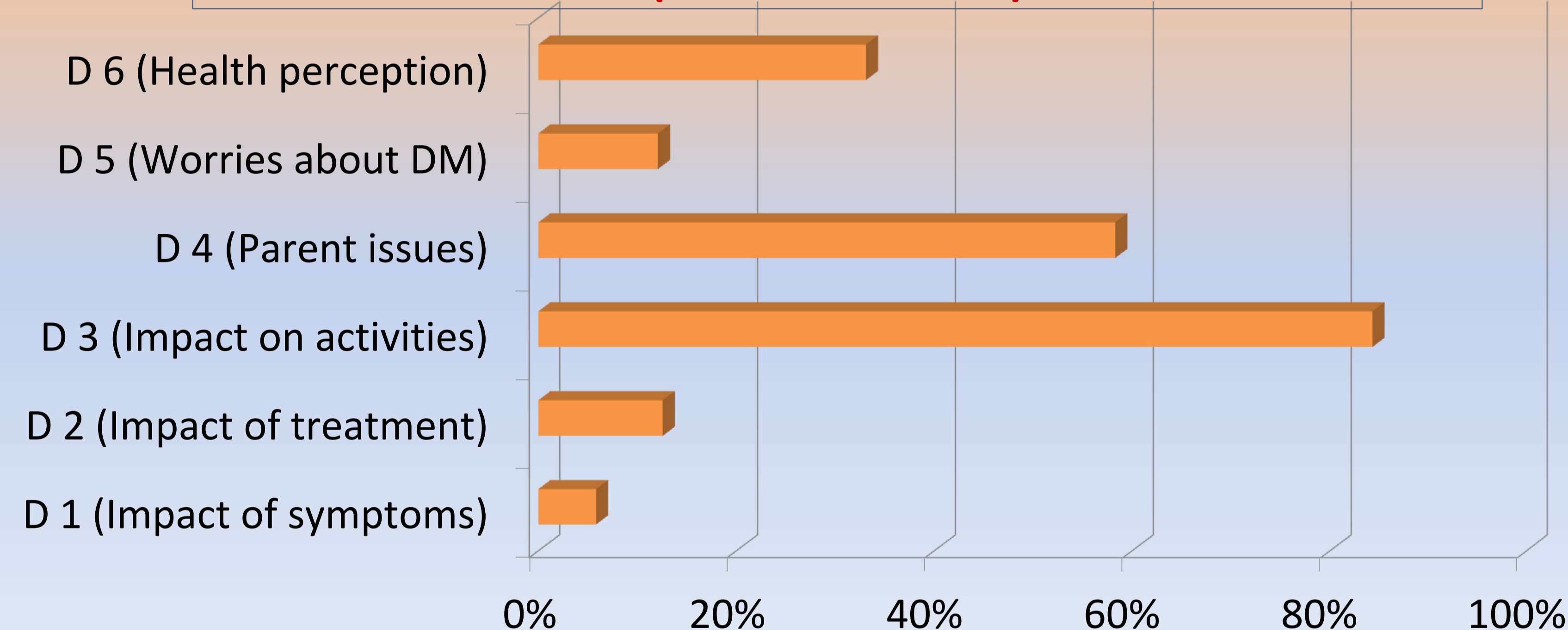


Fig (1): Total Score (%) of the tested domains in the study group.

Health Perception in the study group (150 Adolescents)

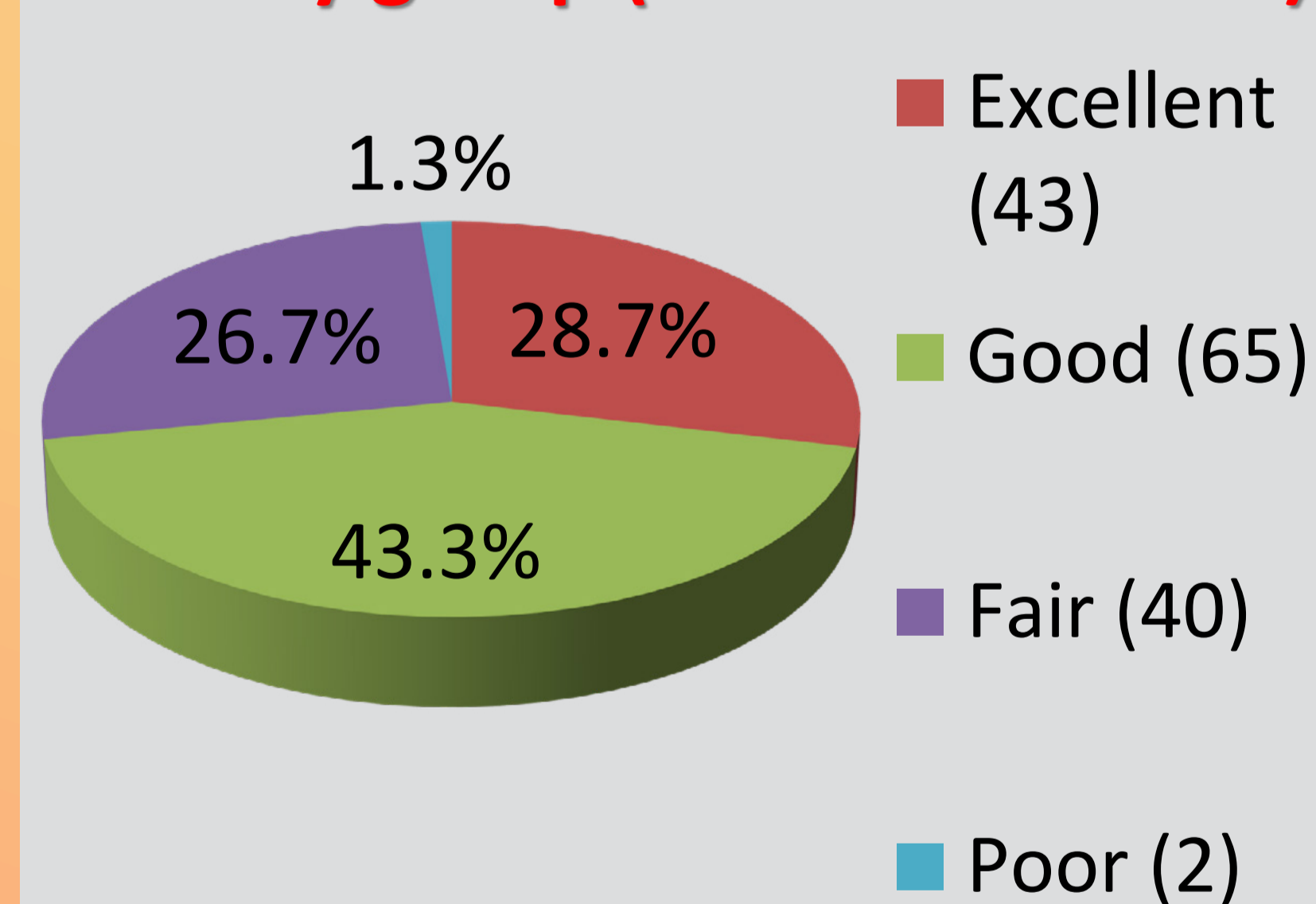


Fig (2): Health perception in the study group.

Table (2): Correlation between score of QoL domains & mean HbA1c.

Tested Domains	Mean HbA1c	
	r	p value
(D 1) Impact of symptoms	0.476	0.001
(D 2) Impact of treatment	0.071	0.385
(D 3) Impact on activities	0.052	0.524
(D 4) Parent issues	0.051	0.538
(D 5) Worries about DM	0.077	0.351
(D 6) Health perception	0.432	<0.001
Total score	0.130	0.002

Table (1): Comparison of total QoL raw score regarding different studied variables .

Variable studied	Groups	No.	Total Score Mean ± SD	p value
Age (years)	10 - <12	57	26.2 ± 5.8	0.60‡
	12 - <15	75	26.7 ± 8.9	
	15 - ≤18	18	30.5 ± 13.2	
Sex	Males	82	25.2 ± 7.3	0.004
	Females	68	29.1 ± 9.5	
Residence	Urban	108	25.8 ± 7.3	0.02‡
	Rural	42	30.0 ± 10.6	
Family history of DM	Positive	113	26.5 ± 8.6	0.20
	Negative	37	28.5 ± 8.5	
Duration of DM	< 3 yrs	70	26.4 ± 8.0	0.70
	3 - 5 yrs	52	27.3 ± 9.3	
	> 5 yrs	28	27.8 ± 8.8	
Daily SMBG	≥ 3 /day	82	24.7 ± 9.2	0.01
	< 3 /day	68	28.8 ± 7.2	
Mean HbA1c	< 7.5	64	25.2 ± 6.5 a	0.01*
	7.5 - 9.0	48	26.0 ± 10.4 ab	
	> 9.0	38	28.6 ± 8.8 b	

‡ Elder adolescents (15-18 yrs) and adolescents with negative family history of diabetes had significantly higher mean scores regarding worries about diabetes (D5), p= 0.047 & 0.007 respectively.

* Groups having different letter label are significantly different at p value of 0.05.

Conclusion

QoL and health perception in adolescents with T1D was satisfactory in > 70%. Parents issues' and impact of diabetes on activities were the worst two aspects in the QoL evaluation. Frequency of SMBG more than 3 times per day and good glycemic control with HbA1c < 7.5 yielded significantly more favourable QoL score; and mean HbA1c correlated significantly with health perception. The use of the QoL questionnaire is feasible within the routine follow up and can guide strategies to improve diabetes care.

References

DAWN Youth Quality of Life Tool – English (DQOLY-SF © 2006: Skinner, T. C., Hoey, H., McGee, H. M., Skovlund, S. E): A short form of the quality of life for youth questionnaire: exploratory and confirmatory analysis in a sample of 2,077 young people with type 1 diabetes mellitus. Diabetologia, Vol. 49, pp. 621-628, 2006.

