Introduction

Health-related quality of life (HRQOL) is defined as a patient’s subjective perception related to the satisfaction with own health. There is no enough data on HRQOL of children and adolescents with type 1 diabetes (T1D) living in Turkey. The aim of our study is to evaluate HRQOL in children and adolescents with T1D compared with healthy controls in Turkey and to identify HRQOL determinants.

Methods

Participants

A total of 133 children and adolescents with T1D aged 6-18 (62 boys and 71 girls) were recruited from two sites: the Pediatric Endocrinology and Diabetes Clinic at the Ondokuz Mayis University Hospital and the primary and high schools from three central districts of Samsun. In addition, a total of 133 matched healthy peers participated as controls. They were recruited from among classmates of the subjects with T1D.

Measures

Generic HRQOL both of subjects with T1D and healthy controls was measured using the KINDL (KINDER Lebensqualitätsfragebogen: children quality of life questionnaire), which are standardized into Turkish. Kidd-KINDL and Kiddo-KINDL questionnaires were applied for children aged 6-11 years and for adolescents aged 12-18 years, respectively. The KINDL questionnaire takes a generic approach and comprises 24 items to which the participants are asked to respond on a 5-point Likert scale (never, seldom, sometimes, often, all the time). The 24 items cover six dimensions: physical well-being, emotional well-being, self-esteem, friends, social contacts, and school (everyday functioning). The subscales of these six dimensions were combined to form a total score, in accordance with the manual. The subscale scores and the total score were calculated so that a higher score corresponded to a higher HRQOL.

In addition, the patients completed a second questionnaire for demographic and disease information. The patients’ hospital records were also examined to identify possible factors affecting HRQOL including age, gender, duration of diabetes, HbA1C, and the frequency of hypoglycemia and diabetic ketoacidosis (DKA).

Results

Demographic characteristics of the participants are shown in Table 1. Table 2 summarize clinical characteristics of the subjects with T1D. Total HRQOL scores of the patients were lower than those of healthy peers (p=0.044). Sub-dimension scores including physical well-being, emotional well-being and self esteem were lower in the patient group compared to the control group (p=0.008, 0.032 and 0.003, respectively). However, there were no statistically significant differences regarding family, school and friend sub-dimensions between two groups (Table 3).

Our study showed that T1D among Turkish children and adolescents had negative impact on physical and emotional HRQOL, rather than social well-being. Adolescents’ HRQOL scores (especially sub-dimensions of friends and school) compared to children were lower whether or not they have T1D.

HRQOL was related to older age, duration of diabetes and experience of DKA, but not to gender, metabolic control and hypoglycemia in our population.

Conclusions

Table 3. Comparison of HRQOL scores of patients with T1D and healthy controls

Table 4. Comparison of HRQOL scores of patients with T1D according to age group

Table 5. Comparison of HRQOL scores of healthy subjects according age group

Table 6. Correlations between sub-dimensions of HRQOL and different variables

Table 1. Demographic characteristics of the participants

Table 2. Clinical characteristics of the subjects with T1D

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Subjects with T1D</th>
<th>Healthy controls</th>
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<tbody>
<tr>
<td>Age (yr)</td>
<td>12.5±2.8</td>
<td>12.4±2.9</td>
</tr>
<tr>
<td>Girls (%)</td>
<td>54</td>
<td>54</td>
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<tr>
<td>Adolescents (%)</td>
<td>65</td>
<td>65</td>
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</tbody>
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Disclosure Statement: Nothing to disclose