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# Psychosocial Impact of Adolescents with Juvenile Diabetes Long-Term At Al Nasiriya Diabetic and Endocrinology Center

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## **Abstract:**

**Introduction:** Psychological and social problems can impair the individual's or family's ability to carry out diabetes care tasks and therefore potentially compromise health status. There are opportunities for the clinician to routinely assess psychosocial status in a timely and efficient manner for referral to appropriate services. A systematic review and metaanalysis showed that psychosocial interventions modestly but significantly improved A1C (standardized mean difference -0.29%) and mental health outcomes. However, there was a limited association between the effects on A1C and mental health, and no intervention characteristics predicted benefit on both outcomes.

**Objectives:** To find out impact of juvenile diabetes long-term treatment upon adolescents' psychosocial and to discovery out the relationship between impact of long-term treatment with adolescents specific demographic data.

**Methodology:** A descriptive study design was performed to determine the psychosocial impact of juvenile diabetes long-treatment upon in Al Nasiriya diabetic and endocrinology center. The study had started from February 6<sup>th</sup>, 2019 to June 7<sup>th</sup>, 2019. Non – probability sample of (100) adolescents were selected.

**Conclusion:** The present study concludes that fair impact of long-term treatment of diabetes on the adolescents psychosocial factors (psychological and social); in addition the statistical test shows that the significant association between the adolescents' psychosocial factors and their number of insulin dose. While there is a non-significant association with the age of diagnosis.

**Key words:** Psychosocial, juvenile diabetes, long-term treatment, adolescents

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## **i.. INTRODUCTION:**

The long-term effect of diabetes type 1, its associated complications and ways of treating diabetes in a health-related lifestyle are not well known. Although many studies have been carried out. T1DM They has evaluated the lifestyle, but many have been small and / or transverse, usually involving short follow-up periods. I have suggested This Previous Studies. That before the onset of chronic complications; patients suffer from T1DM from relatively small decreases in their lifestyle. Studies examining the effects of treatment, including comparisons of insulin type, frequency of injections and pump use, have not shown consistent effects on lifestyle. Also, changes in level of glycemic control and / or the frequency of exposure to acute hypoglycemia was not dependably associated with lifestyle <sup>(1)</sup>.

This fact would favor the continuity of an active lifestyle throughout life. In DM1, the important of following a balanced diet, adopting knowledge about the correct consumption of carbohydrates, proteins and fats. Observation of the quantities and qualities required of each food group enables glycemic control and prevention of complications; and

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adhesion to treatment is the key to attaining the objectives desired. Since diabetes demands intense control to prevent complication, the emotional aspect will have significant influence on this control, bearing in mind that this pathology is capable of causing various negative feelings. Thus, group or individual psychological follow-up is frequently necessary to improve the quality of life (2).

**i. METHODOLOGY**

**Design of the Study:**

A descriptive study design was performed to determine the impact of juvenile diabetes long-treatment upon adolescent's psychosocial factors in Al Nasiriya diabetic and endocrinology center. The study had started from February 6<sup>th</sup>, 2019 to June 7<sup>th</sup>, 2019.

**Setting of the Study:**

The study was conducted in Al Nasiriya Diabetic and Endocrinology Center This study was conducted. on the adolescents who treated as a juvenile or type 1 diabetes mellitus.

**Sample of the Study:**

Non – probability sample of (100) adolescents were selected. All patients diagnosed as having juvenile diabetes. They selection of patients was built on the following criteria:

**Method Data Collection:**

The data was collected through the use of a developed questionnaire (Arabic version), the researcher assumed full responsibility for interviewing the study sample after explaining and clarifying the objectives of the study for the adolescent, after obtaining the initial approval of each adolescent to participate in the study.

Data collection was carried out from February 6<sup>th</sup>, 2019 to June 7<sup>th</sup>, 2019.

Spend approximately (25-35) minutes with each adolescent to the interview and complete the questionnaire.

**The Study Instrument:**

The study tool is a questionnaire that was designed for the purpose of the study after extensive reviews of accessible literature and related studies. The study tool consists of three parts. The first part includes the demographic characteristics of the participants in the study, the second part includes psychosocial items.

**Part I: Socio-demographic Characteristics of the Sample of the Study**

This part deals with demographic characteristics of the sample consists of student's age, gender, parents educational level, parents occupation, and family economic status.

**Part II: Psychosocial Domains of Child**

This part constitutes the social domain consisting of (7) elements and the psychological domain consisting of (16) elements.

**Data Analysis**

Data from this study were analyzed using SPSS version 20. The following statistical data analysis methods were used to analyze and evaluate the results of the study (Frequencies, percent Mean of score (MS), Relative sufficiency (R.S), Standard Deviation and Chi-square).

**Results:**

**Table (1) Distribution of the Study Sample and their Parents According to Demographic Data**

Demographic data	Rating and interval	Frequency	Percent
Age of child/ years	11-13	48	48
	14-16	34	34
	17-19	18	18

<b>Gender</b>	<b>Male</b>	<b>50</b>	<b>50</b>
	<b>Female</b>	<b>50</b>	<b>50</b>
<b>Father Levels of Education</b>	<b>Illiterate</b>	<b>4</b>	<b>4</b>
	<b>Write and Reading</b>	<b>10</b>	<b>10</b>
	<b>Primary School</b>	<b>6</b>	<b>6</b>
	<b>Secondary School</b>	<b>4</b>	<b>4</b>
	<b>High School</b>	<b>24</b>	<b>24</b>
	<b>Institution And Bachelor</b>	<b>52</b>	<b>52</b>
<b>Mother Levels of Education</b>	<b>Illiterate</b>	<b>10</b>	<b>10</b>
	<b>Write and Reading</b>	<b>12</b>	<b>12</b>
	<b>Primary School</b>	<b>12</b>	<b>12</b>
	<b>Secondary School</b>	<b>12</b>	<b>12</b>
	<b>High School</b>	<b>23</b>	<b>23</b>
	<b>Institution and Bachelor</b>	<b>31</b>	<b>31</b>
<b>Father Occupation</b>	<b>Government Employee</b>	<b>58</b>	<b>58</b>
	<b>Free Business</b>	<b>34</b>	<b>34</b>
	<b>Unemployed</b>	<b>6</b>	<b>6</b>
	<b>Retired</b>	<b>2</b>	<b>2</b>
<b>Mother Occupation</b>	<b>Government Employee</b>	<b>32</b>	<b>32</b>
	<b>Free Business</b>	<b>10</b>	<b>10</b>
	<b>Housewife</b>	<b>50</b>	<b>50</b>
	<b>Retired</b>	<b>8</b>	<b>8</b>
<b>Kinship Between Parents</b>	<b>Yes</b>	<b>62</b>	<b>62</b>
	<b>No</b>	<b>38</b>	<b>38</b>
<b>Socio-Economic Status</b>	<b>Sufficient</b>	<b>0</b>	<b>0</b>
	<b>Barely Sufficient</b>	<b>80</b>	<b>80</b>
	<b>Insufficient</b>	<b>20</b>	<b>20</b>
	<b>Total</b>	<b>100</b>	<b>100</b>

This table shows that the majority of the study sample age is (11-13) years old (48%), and the gender distributed equally between female and male, father and mother education are Institution and bachelor graduated (52% and 31%) respectively. Regarding fathers' occupation, the majority of them are governmental employees (58%) and (50%) of mother's occupation are housewives, and most of the study sample have kinship between parents (62%). And, (80%) of study subject is barely sufficient for socio-economic status.

**Table (2) Summery Statistics for Social Domain According To Mean of Score, Stander Deviation, and Relative Sufficiency**

<b>Social Domain</b>		<b>M.S</b>	<b>S.D</b>	<b>R.S%</b>	<b>Assessment</b>
<b>1</b>	<b>Have Good Relation With Family</b>	<b>1.23</b>	<b>0.468</b>	<b>0.41</b>	<b>Bad</b>
<b>2</b>	<b>Prefer Isolation And Stay Alone</b>	<b>1.81</b>	<b>0.692</b>	<b>0.60</b>	<b>Moderate</b>
<b>3</b>	<b>Fear of Sharing And Dealing With Other</b>	<b>1.79</b>	<b>0.756</b>	<b>0.59</b>	<b>Moderate</b>

4	Feel That People Pity You Because Your Illness	1.5	0.785	0.50	Bad
5	Difficulty In Participating In Social Activity	1.7	0.704	0.56	Moderate
6	Talking About Yourself	2.45	0.702	0.81	Good
7	Suffer From Lack Of Friends	1.93	0.685	0.64	Moderate

Mean of score= 1-1.66 is bad, 1.67-2.32 is moderate, 2.33 and more is good

This table show that the study results for study sample response to the social activity domain items are moderate in (2, 3, 5, and 7) items, and good in sixth item, and bad in the other items.

**Table (3) Summery Statistics for Psychological Domain According To Mean of Score Stander Deviation, And Relative Sufficiency**

Psychological Domain		M.S	S.D	R.S%	Assessment
1	Feel That Diabetes Consumes A Lot of Energy	1.22	0.504	0.40	Bad
2	Feel Angry or Fearful And Depressed When Think About Illness	1.22	0.416	0.40	Bad
3	Feel That Diabetes Controls Your Life	1.46	0.673	0.48	Bad
4	Feel That You Will End Up With Serious Complications	1.38	0.599	0.46	Bad
5	Feel Tired of Living With Diabetes	1.38	0.693	0.46	Bad
6	Feel That Do Not Test The Blood Sugar Frequently	1.79	0.537	0.59	Moderate
7	Feel That Often Fail With A Diabetic Routine	1.46	0.61	0.48	Bad
8	Feel Distrustful of Daily Ability Manage Diabetes	2.09	0.712	0.69	Moderate
9	Fell Have No Motivation in Managing Diabetes	2.41	0.753	0.80	Good
10	Feel That Doctor Doesn't Take Your Fears Seriously Enough	1.84	0.677	0.61	Moderate
11	Feel Don't Have A Doctor You Can See Regularly	1.66	0.685	0.55	Bad
12	Feel That Your Doctor Doesn't Know Enough About Diabetes	2.44	0.671	0.81	Good
13	Feel That Your Doctor is Not Giving Enough Guidance On Managing Diabetes	2.29	0.729	0.76	Moderate
14	Feel That Friends And Family Cannot Appreciate The Difficulty	1.85	0.783	0.61	Moderate

	of Living With Diabetes				
15	Feel That Friends And Family Don't Support You in Self-Care Efforts	2.26	0.525	0.75	Moderate
16	Feel That Friends And Family Do Not Give You Emotional Support	2.36	0.595	0.78	Good

Mean of score= 1-1.66 is bad, 1.67-2.32 is moderate, 2.33 and more is good

This table show that the study results for study sample response among stress domain items are (6,8,10,13,14 and 15) moderate and item (9 and 16) are good, however, items (1,2,3,4,5,7, and 11) are bad according to mean of score.

**Table (4) Summery Statistics of Lifestyle over All Domains of Adolescent with Diabetes Mellitus**

Overall Domains	Rating And Scoring	Frequency	Percent
psychosocial Domain	Good	6	6
	Fair	77	77
	Bad	17	17
	Total	100	100

This table show that the study results for overall domain responses by study samples that indicate for psychosocial domain are fair.

**Table (5) Association between the Study Subjects physical Activities and their Demographic Data**

Demographic Data	Rating and Scoring	Overall for Lifestyle			Chi.sq	d.f	p. value
		Good	Fair	Bad			
Age Diagnosis	<= 3	0	6	2	6.207	6	0.4
	4 - 6	2	22	8			
	7 - 9	0	23	16			
	10+	0	14	7			
Number of Dose	1	0	2	0	21.348	6	0.002
	2	2	4	4			
	3	0	14	10			
	4	0	45	19			
Total		2	65	33			

The study results indicate that there is a significant association between the adolescents' psychosocial factors and number of insulin dose at p-value less than 0.05. While there is a non-significant association with the age of diagnosis.

#### Discussion:

##### Part I: Discussion of the Socio-Demographic Characteristics for the Study Sample

Finding results in (table 1) shows that the common of the study subject age is (11-13) years old (48%), these finding agree with Hapunda et al.,<sup>(3)</sup> that found the great age group representative his study was (12-15) years.

Anderson et al.,<sup>(4)</sup> supported present study by the gender is equally distributed by males and females who participant in their study.

The results of the study depict the responses of the study sample about demographic data of their parents show the father and mother education are institution and bachelor graduated (52% and 31%) respectively these finding agree

with Stumetz et al.,<sup>(5)</sup> that find about 68% of the study samples of child with diabetes type 1 parent level of education was high level of education.

Baharvand and Hormozi,<sup>(6)</sup> reported in study done in Iran the most of fathers occupation of adolescent with type 1 diabetes was self-employee this finding results disagree with this study that found majority of fathers' occupation are the governmental employees (58%). Also in same their study found the majority of the study samples mothers occupation was housewives those results reinforce present finding that found (50%) of mothers occupation are housewives<sup>(6)</sup>.

Cooper et al.,<sup>(7)</sup> found 81.3% of type 1 diabetes child in Western Australia lived in middle socioeconomic areas compared to only 18.6% living in low socioeconomic areas, this result enhance and support present findings that found (80%) of study subject is barely sufficient for socio-economic status.

### **Part II: Discussion of the Psychosocial Domains of Adolescents with Juvenile Diabetes**

Elissa et al.,<sup>(8)</sup> confirmed the lack of knowledge about diabetes type 1 in society leads to negative consequences, not only for the individual person but also for the whole family. As the parents and children themselves related, they felt stigmatized, believing themselves to be different from their peers because they are sick with an incurable disease. These results agree with present finding (table 2) show (77%) of the study sample response to social domain is fairly affected.

Relating to the psychological domain the most of the study sample responses was fairly affected (77%) of total sample and coincide with Jaser et al.,<sup>(9)</sup> that concluded adolescents with type 1 diabetes experienced stress related to daily diabetes care, others asking about diabetes, and parents reminding them to care for themselves..

### **Part III: Discussion of the Association between the Study Subjects Psychosocial Impact and their Demographic Data**

Present study show there is a non-significant association of adolescent psychosocial impact with the age of diagnosis this finding supported by Costa and Vieira,<sup>(10)</sup> that confirmed indicated that the time since diagnosis may have a lesser impact did not identify alterations in psychology and daily activates in diabetic adolescents. Also Stahl et al.,<sup>(11)</sup> supported present study that found age of diagnosis is not significant correlation with psychosocial changes in adolescent with diabetes.

The results in (table 5) shows there is a high significant association between adolescents' psychosocial impact and number of insulin doses per day ( $P= 0.002$ ), this present findings disagree with Costa and Vieira,<sup>(10)</sup> that found there is no significant correlation of number of insulin doses per day and lifestyle,

### **Conclusions:**

The present study concludes that the fair impact of long-term treatment of diabetes on the adolescents (psychosocial factors) in addition the statistical test shows that high significant association between adolescents' psychosocial impact and number of insulin doses per day and there is a non-significant association of adolescent psychosocial impact with the age of diagnosis.

### **Recommendation:**

- Adolescents and their families should be received psychological and social support to decrease stresses that might impact on management and afford suitable referrals to mental health specialists.
- Most health promotion programs are needed to be implemented at schools, to increase the awareness of students and their teachers and improve their healthy behaviors.
- Ministry of Health should be activation school health services and school nurse's that essential to ensure maintenance of health. There is a find and clear association between health and learning, as there is between abounding school nurse services and student well-being and educational success.

### **Financial disclosure**

There is no financial disclosure.

### **Conflict of interest**

None to declare.

### **Ethical Clearance**

All experimental protocols were approved under the College of Nursing and all experiments were carried out in accordance with approved guidelines.

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