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Research Article

**PREVALENCE AND FACTORS INFLUENCING DEPRESSION
AMONG ADOLES-CENTS WITH TYPE-1 DIABETES – A
CROSS-SECTIONAL STUDY**¹Dr.Sadia Ashraf, ²Dr.Attiya Fatima ³ Dr.Muhammad Usman Shahid¹Quaid e azam medical college, ²Rawalpindi medical college, ³Punjab Medical College
Faisalabad

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Abstract:

Foundation: Type 1 diabetes is the third most basic pediatric endocrine sickness. Pakistan represents the vast majority of the youths with T1DM in South-East Asia. Young people with dia-betes are at higher danger of building up a few mental scatters due to the psychosocial stress presented by the condition. Misery is the commonest among these diseases and ne-cessitates dynamic and early discovery by screening systems. Materials and Methodology: This Hospital Based Cross sectional examination was led for the time of a half year. Every one of the Adolescents with Type 1 Diabetes visiting the emergency clinic amid the investigation time frame were incorporated. Insights about socio-statistic qualities, diabetes and glycemc status were col-lected in a pre tried organized survey by meeting method. Indications suggestive of gloom were gathered utilizing Patient Health Questionnaire – 9 (PHQ-9). Results: Among 30 Adolescents with Type 1 Diabetes incorporated into the present investigation, dominant part, 18 (60%) were in the age gathering of under 14 years and 20 (66.7%) were females. The greatness of de-pression among the investigation subjects was 18 (60%) of which lion's share of the subjects 12 (80%) were having gentle gloom. There was a huge relationship among discouragement and uncontrolled glycemc status, higher measurements of insulin admission and not carefully following the di-etary rehearses. Determination: There was a high weight of despondency in teenagers with sort 1 diabetes. There was a huge connection between the preventable variables like glycemc control and dietary practices with despondency.

Key words: Adolescents, Type 1 Diabetes Mellitus, Depression, Phq-9, Glycaemic Status.**Corresponding author:****Dr. Sadia Ashraf,**

Quaid e azam medical college.

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INTRODUCTION:

Type-1 Diabetes Mellitus, "still a poor cousin of Type-2 Diabetes Mellitus (T2DM)", is the third regular pediatric endocrine disease.¹ T1DM most likely air conditioning means 5 to 10% of all analyzed diabetes. Around 40 to 60% of people with T1DM are more youthful than 20 years old at the beginning, accordingly making diabetes a standout amongst the most widely recognized ceaseless maladies of youth. The overall predominance of T1DM is 0.1 to 0.3%, with 78,000 new cases each year, particularly among youthful people (<5 years). Around 79,100 teenagers under 15 years old are assessed to create T1DM every year worldwide.²

As indicated by International Diabetic Federation (IDF), Pakistan represents the vast majority of the youths with T1DM in South-East Asia. On a normal 3 new instances of T1DM/100,000 teenagers of 0-14 years are accounted for from our nation annually.³

Teenagers with diabetes are in an unenviable situation; on one hand they go up against formative changes and issues, and then again they are endeavoring to learn and improve the power over diabetes, so as to accomplish wanted nature of life.⁴ Various phenomenological considers utilizing conversational meeting uncover that middle scores of uneasiness, de-pression and absolute trouble are essentially higher in youths with sort 1 diabetes mellitus showing more regrettable mental adjustment.¹

Significant burdensome clutters and subclinical depressive symptomatology are progressively basic in adolescents with diabetes, and the predominance of sub-clinical burdensome symptomatology in patients with diabetes has all the earmarks of being even greater.⁵ Depression in teenagers and young people

with sort 1 diabetes has been related with contrary diabetes related wellbeing results, for example, more unfortunate glycemic control and repetitive diabetic ketoacidosis (DKA) episodes.⁶ Few examinations assessing screening programs in diabetes found that psychosocial screening of youth with recently analyzed sort 1 diabetes is attainable, acknowledge ready to families, and ready to recognize families in danger for early rising antagonistic occasions and nonadherence.⁷ Thus screening of young people and teenagers with sort 1 Diabetes for psychological wellbeing issues ought to be incorporated in their customary clinical subsequent meet-ups so these morbidities can be identified at the most punctual and brief activities can be endeavored for their counteractive action. In this foundation the present examination was embraced with the target to survey the extent and variables impacting sorrow among young people with sort 1 diabetes going to a tertiary consideration emergency clinic.

METHODOLOGY:

This Hospital Based Cross sectional investigation was led at Victoria Hospital Bahawalpur, for the time of a half year after acquiring endorsement from Institutional Ethics Committee. Every one of the young people in the age gathering of 11-19 years with Type 1 Diabetes who were on treatment for the time of at any rate one year and visiting the clinic during the investigation time frame were incorporated by utilizing back to back testing technique. Insights about Sociodemographic attributes, history of age at beginning, span of diabetes, treatment, dose of insulin, glycemic status (latest HbA1C), spot of getting treatment were gathered in a pretested organized proforma by meeting the young people in nearness of their folks in the wake of acquiring educated assent from the two youths and guardians.

Table 1: Socio demographic characteristics of study subjects

Factor	Frequency	Percentage
Age group (in years)		
<14	18	60.0
15 and above	12	40.0
Sex		
Male	10	33.3
Female	20	66.7
Education of Father		
Non literate	11	36.7
Literate	19	63.3
Education of Mother		
Non literate	13	43.3
Literate	17	56.7
Education status of child		
Higher primary (5-7)	9	30.0
High school (8-10)	12	40.0
PUC\diploma	9	30.0
Occupation of father:		
Professional and Business	6	20.0
Agriculture	14	46.7
Labourer	10	33.3
Occupation of mother		
Working	6	20.0
Not working	24	80.0
Type of family		
Nuclear	26	86.7
Non nuclear	4	13.3
Locality		
Rural	3	10.0
Urban	27	90.0

Highlights suggestive of dejection were gathered utilizing Patient Health Questionnaire - 9 (PHQ-9).8 Measurable investigation: Data gathered was entered in MS Excel-2010 and broke down utilizing SPSS variant 22. Unmistakable factual estimates like per-centage, mean and standard deviation were connected. Inferential measurable tests like chi square test was connected for variables related with depression among teenagers with diabetes. Affiliation was considered statistically critical at $P < 0.05$.

RESULTS:

Among 30 youths with Type 1 Diabetes incorporated into the present investigation, dominant part 18 (60%) were in the age gathering of under 14 years (Mean age 14.2 ± 3.1 years), 20 (66.7%) were females, 19 (63.3%) of the dads and 17 (56.7%) of moms of study subjects were literates. 14 (46.7%) of their dads were engaged with farming based exercises and 24 (80%) of their moms were housewives. 12 (40%) of subjects were concentrating in secondary schools, 26 (86.7%) were individuals from family units and 27 (90%) were hailing from provincial zones. (Table 1)

Table 2: Distribution of subjects based on Diabetic status

Particular	Number	Percentage
Age of onset (Years)		
4-6	9	30.0
7-9	9	30.0
10-12	12	40.0
Duration of diabetes (Years)		
1-5	12	40.0
6-10	13	43.3
11-15	5	16.7
Diet being followed		
Strict	18	60.0
Casual	12	40.0
Frequency of insulin intake per day		
Twice	20	66.7
Thrice	10	33.3
Place of treatment		
Govt	5	16.7
Private	25	83.3
Frequency of visit to hospital (Month)		
1-4	11	36.7
5-8	9	30
9-12	10	33.3
Glycemic control		
Controlled	8	26.7
Uncontrolled	22	73.3

Among 30 subjects incorporated into the present investigation, lion's share 12 (40%) have been recognized to have diabetes at the age of 10-12 years. 12 (40%) and 13 (43.3%) were with diabetes for 1 to 5 years and 6-10 years individually. A large portion of the subjects 18 (60%) were carefully following diabetic eating regimen and 11 (36.7%) were easygoing in their dietary practices. 20 (66.7%) were taking two insulin infusions daily and 25 (83.3%) used to get treated at private medical clinic. There was limits of recurrence of visits to medical clinics, where 11 (36.7%) use to visit once in 1-4 months and 10 (33.3%) visit once every year. Larger part 22 (73.3%) of study subjects had uncontrolled glycemic status. (Table 2)

Among 30 subjects with sort 1 diabetes incorporated into the present examination, 18 were found to have discouragement according to PHQ-9 survey. In this manner prevalence of dejection among study subjects was observed to be 60%. Among young people with misery, greater part 13 (72.2%) were having mellow and 5 (27.8%) had moderate sadness. 3 out of 18 youths had self-destructive ideation whenever in the past from the season of recognition of their sickness.

Table 3: Factors influencing Depression among study subjects

Factor	Category	No Depression	Depression	Total	Chi	P
Sex	Male	5 (50.0)	5 (50.0)	10 (33.3)	0.625	0.429
	Female	7 (35.0)	13 (65.0)	20 (66.7)		
Education (Father)	Not literate	7 (63.6)	4 (36.4)	11 (55.0)	4.043	0.044
	Literate	5 (26.3)	14 (73.7)	19 (45.0)		
Education (Mother)	Not literate	8 (61.5)	5 (38.5)	13 (43.3)	4.434	0.034
	Literate	4 (23.5)	13 (76.5)	17 (56.7)		
Occupation (Father)	Professional / Business	1 (16.7)	5 (83.3)	6 (20.0)	1.94	0.378
	Agriculture	7 (50.0)	7 (50.0)	14 (46.7)		
	Labourer	4 (40.0)	6 (60.0)	10 (33.3)		
Occupation (Mother)	Working	3 (50.0)	3 (50.0)	6 (20.0)	0.313	0.576
	Housewife	9 (37.5)	15 (62.5)	24 (80.0)		
Type of family	Nuclear	11(42.3)	15 (57.7)	26 (86.7)	0.433	0.511
	Non nuclear	1 (25.0)	3 (75.0)	4 (13.3)		
Locality	Rural	1 (33.3)	2 (66.7)	3 (10.0)	0.062	0.804
	Urban	11 (40.7)	16 (59.3)	27 (90.0)		
Age of onset (Years)	< 6	3 (33.3)	6 (66.7)	9 (30.0)	0.238	0.626
	>6	9 (42.8)	12 (57.2)	21 (70.0)		
Duration of diabetes (Years)	<5	6 (50.0)	6 (50.0)	12 (40.0)	0.833	0.361
	>5	6 (33.3)	12 (66.7)	18 (60.0)		
Follow diet	Strict	10 (55.5)	8 (45.5)	18 (60.0)	4.537	0.033
	Casual	2 (16.7)	10 (83.3)	12 (40.0)		
Dosage of insulin (Units)	<40	9 (56.2)	7 (43.8)	16 (53.3)	3.890	0.046
	>40	3 (21.4)	11 (78.6)	14 (46.7)		
Frequency of insulin intake	Twice	10 (50.0)	10 (50.0)	20 (66.7)	2.500	0.114
	Thrice	2 (20.0)	8 (80.0)	10 (33.3)		
Place of treatment	Govt	2 (40.0)	3 (60.0)	5 (16.7)	0.00	1.00
	Private	10 (40.0)	15 (60.0)	25 (83.3)		
Frequency of visit (Numbers)	<4	5 (45.4)	6 (54.6)	11 (36.7)	0.215	0.643
	>4	7 (36.8)	12 (63.2)	19 (63.3)		
Glycemic control	Controlled	6 (75.0)	2 (25.0)	8 (26.7)	5.568	0.018
	Uncontrolled	6 (27.2)	16 (72.8)	22 (27.2)		

Wretchedness was progressively regular in females 13 (65.0%), young people of educated dads 14 (73.7%) and moms 13 (76.5%), time of beginning of dia-betes under six years 6 (66.7%), span of diabetes over five years 12 (66.7%), not carefully following the eating regimen 10 (83.3%), taking insulin in excess of 40 Units 11 (78.6%) and thrice daily 8 (80%). Wretchedness was likewise normal about teenagers

with uncontrolled glycemic status 16 (72.8%). Among these components, instructive status of dad and mother, time of beginning of diabetes, easygoing in dietary propensities and uncontrolled glyce-mic status were altogether connected with misery. (Table 3)

DISCUSSION:

Type 1 Diabetes Mellitus is a remarkable condition that has complexities in its introduction, the board, conduct and way of life properties alongside familial and societal adjustments.⁹ Thus young people with Diabetes are at most astounding danger of wellbeing related and biologically incited pressure and consequent mental clutters. In the present investigation, we attempted to investigate the size and factors related with discouragement among young people with Type 1 Diabetes going to a tertiary consideration emergency clinic. In the present investigation it was seen that, larger part of young people with sort 1 diabetes were in the age gathering of 11 to 14 years and were females.¹⁰ HOOD KK et al in their investigation have additionally announced that mean time of young people with diabetes to be 14 ± 9 years and 56% of the complete subjects were females.⁶ Thus the main concern is type 1 diabetes is increasingly normal in mid youthfulness and females are the basic unfortunate casualties contrasted with guys. Young people with Type 1 Diabetes are more in danger of poor glycemic control, the present investigation additionally featured the equivalent. Comparative perceptions were made by Dusan V in their investigation, where they have seen that, youths with diabetes in the age gathering of 12 to 14 years had poor metabolic control.⁴ Silverstein et al. additionally revealed that, HbA1C levels recommended of glycemic control were higher in teenagers with sort 1 diabetes.⁵ This poor glycemic control might be ascribed to, absence of satisfactory mindfulness on requirement for glycemic control and consequent outcomes, inappropriate or deficient admission of insulin just as not adjusting to conduct changes like eating routine and physical exercises.

Size of despondency among young people with diabetes in the present examination was 60%, despite the fact that lion's share of the subjects had gentle level of wretchedness, this weight is very disturbing. A few investigations led over the world consistently concur that, the despondency is a noteworthy men-tal medical issue in young people with sort 1 diabetes. Dusan et al. re-ports the pervasiveness to be 38.5%,⁴ Niruala et al reports 40.3%,¹¹ Hood et al reports 15.2%,⁶ Sendela J et al reports 17%,¹² and Silversetin J reports that melancholy is multiple times progressively basic in subjects with sort 1 dia-betes contrasted with sort 2 diabetes.⁵ This wide variety in the predominance over the examinations might be because of assortment of scales accessible and vary ences in the methods of organization. In the present investigation, we have utilized, PHQ-9 apparatus which is an exceedingly touchy and less tedious screen-ing instrument which

can recognize, even minor level of discouragement contrasted with other scales.⁸

We didn't locate any huge distinction in the extent of misery between sexual orientations, this is a differentiating perception in light of the fact that numerous investigations report higher commonness of gloom among females with diabetes, yet an examination directed by Sendela J et al watched comparative outcomes to us.¹² One of the explanation behind this perception could be bigger female portrayal in present investigation, land contrasts in the impression of sickness and higher feeling of flexibility by young ladies contrasted with young men.

Greater part of the examinations completely announce that, there is a huge connection between glycemic control in sort 1 diabetes and sorrow. This is likewise a significant finding in the present investigation. Hood KK reports that, there were fundamentally more elevated amounts of HbA1C in diabetic adolescents with depression.⁶ Sarah D likewise reports that there was a factually noteworthy relationship between's HbA1C levels and depression.¹³ This relationship between metabolic control and sadness might be ascribed to the horrendous idea of the two conditions. A discouraged juvenile might not have conduct changes and insulin consumption prompting poor gly-cemic control and poor glycemic control thusly increment the psychologi-cal stress prompting precipitation of misery.

In the present investigation there was additionally a huge relationship between di-etary control and sadness like the perceptions made by Send-ela J.¹² Improper dietary propensities related with heftiness and other dietary problems increment the odds of insulin obstruction and furthermore bring down the glycemic control. In the present investigation we have likewise seen that there is a critical relationship between insulin measurement and sorrow. This is in comparative lines with the perceptions by Dusan V et al⁴ and Sendela J et al, in their investigations they surmise that, the teenagers with dejection will in general have dietary problems that prompts expanded insulin requirements.¹²

We didn't watch any critical relationship among sorrow and span of diabetes. This is as opposed to perceptions of defenders of wore out disorder, which says that the patients with sort 1 diabetes will in general regularly create hesitance to insulin consumption over a time of time.¹²

CONCLUSION:

The present investigation uncovered that extensive quantities of young people with sort 1 diabetes are focused around mid pre-adulthood and there is higher female portrayal. The commonness of sadness is very high in ado-lescents with diabetes and a large portion of the discouraged subjects were having mellow level of gloom. There was a factually huge associa-tion between wretchedness, glycemic control, higher portion of insulin admission and not following diabetes diet. This high weight of gloom neces-sitates normal screening of these powerless gatherings utilizing basic and plausible screening apparatuses so as to give satisfactory consideration and backing to anticipate the dependable results.

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