

## INVESTIGATE IMPACT OF MOOD STATUS OF TYPE 1 DM PATIENTS ON THEIR GLYCEAMIC CONTROL IN TERMS OF MEAN HBA1C LEVEL.

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### ABSTRACT

**Objective-** Investigate impact of mood status of Type 1 DM patients on their glyceamic control in terms of mean HbA1c level. **Research Design And Methods-** observational based study using data obtained from type 1 diabetic participant. Studies meeting the inclusion criteria were examined, and study demographics (age, sex, and type of diabetes) as well as psychological status information (assessment method, prevalence, and mean scale scores) were recorded using a structured form based on the case report form. Diabetic control status was measured in HbA1c level. Each participant was interviewed using the Psychological status to Illness Scale, a specifically designed questionnaire, Two subject pool were categorized based on their

psychological status (irritate and cheerful). **Result-** Appropriate data required for this study were collected from total 205 participants out of which 133 were classified in cheerful psychological status pool while 89 were in irritate. 43.41% participant were found in irritable psychological status in which 55.05% participant were male and remaining 44.95% were female participant, while out of total 205 participant 133 was undergoing with cheerful psychological status. Samples were categorized in two different pool according to their psychological status- irritable and cheerful, mean HbA1c level for each pool from their HbA1c data set was calculated. Statistical analysis was made by hypothesis testing. Significance level was 5%. **Conclusion-** prevalence of irritable psychological status can worse diabetic control more than the prevalence of cheerful psychological status.

**KEY WORDS-** type 1 diabetes mellitus, psychological status, depressed, irritable, cheerful, HbA1c, Dysphoria,

## INTRODUCTION

The study was carried out with an aim to evaluate impact of psychological status on diabetic control in term of HbA1c level. In this article, the authors evaluate the possible impact of negative emotions in terms of irritability and cheerful psychological status on the increased level of HbA1C in type 1 diabetes patients. Further clarify that there might be a possibility of worse diabetic control due to prolong presence of up written two psychological status .Our primary aim is to evaluate Which one could play more increasing effect on HbA1c level in patient undergoing with one of these psychological status because to get a reduced level of HbA1c with in a recommend range is one of the major target to be achieved in better diabetes management. Emotional responses to negative daily experiences in young adolescents may provide important clues to the development of psychopathology.<sup>[1]</sup> Negative emotions<sup>[2]</sup> can intensify a variety of health threats and could be interrelated with the poor glyceamic control in metabolic disorder like diabetes. Irritability<sup>[3]</sup> may be a non-specific manifestation of another psychiatric disturbance, such as depression, or part of the emotional reaction to hospitalization, pain and diagnostic procedures. Irritability, however, may also be a mood state relatively independent of other major moods of anxiety and depression. It may be associated with abnormal illness behavior, and it could be due to presence of diabetes. Depression is associated with hyperglycemia and an increased risk for diabetic complications relief of depression is associated with improved glyceamic control<sup>[4]</sup> psychological maladjustment (e.g. low self-esteem, pervasive depressive symptoms, increased physical complaints), and glucose control are highly correlated with each other.<sup>[5]</sup> To protect the final result from psychological concept of dysphoria<sup>[6]</sup>, subjects with frequent mood swing state were not included in this study.

Compare the mean HbA1c level of type 1 diabetes participants undergoing two different psychological status in which the first subject pool was in irritate psychological status and the second one was in cheerful psychological status. Each participant was interviewed using the Psychological status to Illness Scale, a specifically designed questionnaire with case report form.

## METHOD

**Search strategy-** We conducted literature searches using PubMed/MEDLINE. The search was limited to studies published before 18 Jun 2015, “English language,” and “human subjects” and combinations of the medical subject headings “DiabetesMellitus” or “Diabetes

Mellitus, Type 1,” “Cheerful” “Depression”<sup>[12-14,18]</sup>, “Dysphoria”, “Psychological interventions”, quality of life<sup>[15-17]</sup> The reference lists of previous meta-analyses and selected articles were screened.<sup>[7,8,]</sup>

**Selection criteria** Studies meeting the inclusion criteria were examined, and study demographics (age, race, sex, and type of diabetes) as well as psychological status information (assessment method, prevalence, and mean scale scores) were recorded.<sup>[8-11]</sup> Structured form based on the case report form of galaxy diabetes and thyroid care centre was used for data collection.

### To be included

- 1) cases of type 1 diabetes
- 2) cases undergoing irritate psychological status
- 3) pregnant women with type 1 diabetes were not included<sup>[19]</sup>
- 4) In the event of multiple publications, only the most recent manuscript for a particular study population was included.

**Statistical analysis-** two subject pool were categorized based on their psychological status (irritate and cheerful). Mean HbA1c level for each pool from their HbA1c data set was calculated. Statistical analysis was made by hypothesis testing based on one sample two tail t-test. A null hypothesis and an alternative hypothesis is designed. Hypothesized mean value of HbA1c level is set as cheerful mean HbA1c level value. Statistical significance was set a priori at  $P < 0.05$ . The analysis was performed on Microsoft excel 2007, GraphPad software. For the purposes of this review, the term *controlled* does not imply that the condition under study was randomly manipulated or followed longitudinally. A study was considered controlled if the prevalence of cheerful or irritated status in diabetic patients was compared with that of a nondiabetic comparison group. A study was considered uncontrolled if it did not have a nondiabetic comparison group.<sup>[20]</sup>

### RESULT

in our study two different category based on their psychological status were classified. Appropriate data required for this study were collected from total 205 participants out of which 133 were classified in cheerful psychological status pool while 89 were in irritate. Due to inadequate data obtained from 9 participant belonging to irritate psychological status pool, were not included for further statistical analysis.

Thus, In our statistical analysis, our study considered 133 participants who were undergoing with cheerful psychological status while 80 participants who were in irritable.

% wise calculation of psychological status showed result that out of total 205 participant 43.41% participant were found in irritable psychological status in which 55.05% participant was male and remaining 44.95% was female participant, while out of total 205 participant 64.87% was undergoing with cheerful psychological status (in which 62.4% were male and 37.6% were female)

#### PERCENTAGE WISE RESULT- IRRITABLE AND CHEERFUL

PSYCHOLOGICAL STATUS			
STATUS	GENDER	FREQUENCY	%
CHEERFUL (133 OUT OF 205) 64.87%	MALE	83	62.4
	FEMALE	50	37.6
	TOTAL	133	100
IRRITABLE (89 OUT OF 205), 43.41%	MALE	49	55.05
	FEMALE	40	44.95
	TOTAL	89	100

#### STATISTICAL RESULT

1. Comparison between mean HbA1c level of irritable and cheerful subject pool was based on one sample two tail t test in which hypothesizes mean value was set for mean HbA1c level of cheerful subject pool. significance level is 5% i.e.  $\alpha = 0.05$ , after statistical analysis we got a “p value 0 .049”.

Thus we could reject the null hypothesis and say that the significance is true.

one sample t test	
count	80
mean	9.519875
SD	2.391024
Std. error	0.2673
hyp mean	9.967527
$\alpha$	0.05
tail	1
df	79
t statistically	-1.67458
p value	0.049018
t critical	1.664371
significance	TRUE

## DISCUSSION

In our study these discussion are to be clarify

1. When we compared mean HbA1c level of irritate subject pool with that of cheerful subject pool, an alternate hypothesis was designed that the mean HbA1c level of irritate subject pool would be greater than cheerful pool's mean HbA1c level and a null hypothesis was designed as there is no significant difference between these mean HbA1c levels. As per calculated statistical t test value and p value say that we could reject the null hypothesis.

## CONCLUSION

prevalence of irritable psychological status can worse diabetic control.

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