

Mindfulness and Impulsivity in Diabetes Mellitus

Jeevitaa S*, Krishna R**,

Kashinath G M***, Nagaratna R****, Nagendra H R*****

ABSTRACT:

Background: Diabetes is a highly prevalent disease worldwide, characterized by increased blood sugar levels. Growing evidences revealed the strong association of diabetes and psychological disorders like anxiety, depression, schizophrenia, etc. Mindfulness is the awareness which arises out of intentionally attending in an open and discerning way to whatever is arising in the present moment, is positively associated with healthy condition. Impulsivity is a predisposition toward rapid, unplanned reactions to internal or external stimuli without regard to the negative consequences of these reactions to the impulsive individual or to others which is negatively associated with the individual's health.

Aim: This study was intended to see the association of mindfulness, impulsivity with diabetes.

Method and material: Two hundred subjects (100= diabetic and 100=non diabetic) from local communities were enrolled in this study. All the subjects were administered Mindfulness, attention and awareness scale (MAAS) and Barrat impulsivity scale.

The results: There was a significant low MAAS score and significantly higher Barrat impulsivity scores in the diabetic group than in a non diabetic group.

Conclusion: Diabetic people have more impulsivity and less mindfulness state than non diabetic people.

Keywords: Mindfulness, impulsivity, diabetes, psychosomatic diseases

INTRODUCTION

Diabetes is one of the vastly prevailing diseases worldwide, characterized by chronically persistent elevated blood sugar levels. The prevalence of diabetes is increased from 285 to 381 million in very last three years. This figure is expected to be double by the year 2030. Over 62 million, which is approximately 7.1 % of Indian population, is diabetic.

*Msc (Yoga), Yoga Therapist, SVYASA, Bangalore)

**Msc (Yoga), Yoga Therapist, SVYASA, Bangalore)

***BAMS,MD (Y & Rehab.) Assistant professor SVYASA, Bangalore)

****Phd (yoga), Assistant Registrar, SVYASA, Bangalore,)

*****Chief Medical Officer, Holistic Health Center, MBBS, MD (Gen Med), FRCP, UK)

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Many scientific investigations reported the strong association and diabetes and psychological disorders like anxiety, eating disorder, depression, emotional distress and psychological stress, which significantly contributes to reduced psychological well-being. The cause of these psychological issues could be because of self monitoring blood sugar, dietary restriction, taking insulin injections and lack of family support .

Psychological stress is believed to be affecting both etiology and the control of diabetes. Diabetes is associated with psychiatric illnesses also and this association is bidirectional.

Mindfulness is the awareness which arises out of intentionally attending in an open and discerning way to whatever is arising in the present moment. Mindfulness is positively correlated with healthy condition, which help the patient to deal with their stress, pain and other chronic conditions. Though mindfulness based intervention proven to be effecting in chronic diseases like rheumatoid arthritis, diabetes, chronic fatigue syndrome, fibromyalgia etc ., though there are no studies showing the relation of mindfulness with chronic diseases keeping this as background this study was aimed to see the association of mindfulness with diabetes which is a chronic disease.

Impulsivity is a predisposition toward rapid, unplanned reactions to internal or external stimuli without regard to the negative consequences of these reactions to the impulsive individual or to others¹⁹. Impulsivity is commonly found in patient with many psychiatric disorders. Impulsivity leads to agitated mind, reduced performance, sleep deprivation, incapability to make the judgment, poor discrimination, which further leads to psychological conditions like anxiety, depression, bipolar, schizophrenia and psychiatric disease etc. it is well know that people with depression and aggressive behavior personalities are more impulsive. . Impulsivity is found as co-morbidity in psychiatric conditions, including personality disorders, substance use, and bipolar disorder.

Considering these facts, this study was aimed to see the association of diabetes with mindfulness and impulsivity.

METHODS AND MATERIAL

Two hundred subjects (100 diabetic and 100 non-diabetics) between the age range of 40 to 60 years with matching age and gender, from Bansal Hospital, Uniglobe Asia Travels, Delhi and non-diabetic subjects from local communities from Delhi were enrolled in this study. Subjects in diabetes group were having minimum 3 years diabetes history. Subjects with known neurological disorders, under psychiatric medication, with history depression & Pregnancy were excluded from the study.

DEMOGRAPHIC DATA

Population	Gender	Age (Mean \pm SD)
Diabetic [N=100]	Male: 58	52.01 \pm 6.51
	Female: 42	52.14 \pm 6.25
Non-diabetic [N=100]	Male: 45	51 \pm 5.89
	Female: 55	50.4 \pm 5.4

ASSESSMENTS

All the subjects were administered Mindfulness, attention and awareness (MAAS) scale and Barrat's impulsivity scale for assessment mindfulness and impulsivity respectively.

Mindfulness, awareness and Attention scale (MAAS). It is a set of 8 questions, describing common mindful or non-mindful behaviors and preferences. 4-point Linker-type scale (Strongly disagree to strongly agree) primarily designed to know mindfulness.

This is a valid tool to measure mindfulness, attention and awareness and has been used in scientific studies

Barratt Impulsiveness Scale : It is having 30 items with four facets and four domains. It measures attention, motor, cognitive impulsivity. Items are Attention domain with first order factors containing 5 items and cognitive instability containing 3 items. Motor domain of first order factor contains 7 items and perseverance factor of 4 items, Non-planning domain containing self control as a first order factor of 6 items and Cognitive Complexity of 5 items.

DATA ANALYSIS

Analysis of the data was done using SPSS version 10. Independent sample t-test was applied to see the between group difference.

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RESULTS

Mindfulness: Independent sample the test showed significant decrease in MAAS score in diabetic subjects than in no-diabetic (p- 0.00).

Table2: Independent sample t test shown significant difference in MAAS score in between groups

The table shows Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Mindfulness	Equal variances assumed	38.480	.000	-6.270	198	.000	-3.370	.537	-4.430	-2.310
	Equal variances not assumed			-6.270	154.780	.000	-3.370	.537	-4.432	-2.308

Impulsivity: There was significantly higher more in diabetic subjects than in non-diabetic.

Table3: Independent sample t test shown significant difference in Barrat impulsivity score in between groups

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
Impulsivity	Equal variances assumed	0.155	0.695	3.47	198	0.001	3.02	0.8703	1.3038	4.7362
	Equal variances not assumed			3.47	197.7	0.001	3.02	0.8703	1.3038	4.7362

DISCUSSION

This study was aimed to find the relationship of mindfulness and impulsivity with diabetes. End of the study, we could able to see that patients with diabetes have more impulsivity and less mindfulness than non-diabetic people.

Earlier studies reported that increased impulsivity is associated with mental disorders like ADHD , anxiety , depression and other Neuro-degenerative diseases like Parkinson's diseases , Alzheimer's disease, etc. as anxiety and depression are frequently observed psychological conditions in diabetes which may be the reason for the association of impulsivity with diabetes. Though there are no direct studies showing an association of mindfulness with chronic disease,

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studies on mindfulness based stress reduction programs have shown a significant positive role of mindfulness based intervention in the management of chronic conditions like cardiac disease, stroke, arthritis, lung diseases etc . This indirectly suggests that poor mindfulness is positively associated with progression of chronic disease. As diabetes is also one of the chronic diseases which may be the reason of decreased mindfulness in diabetes.

Probably this is the first study which shows the significant correlation between impulsivity and mindfulness with diabetes and it study suggests to consider the intervention which improves the mindfulness and reduces the impulsivity in the management of diabetes.

There is need of replication of this study in larger samples and we have shown test the interventions which can reduce the impulsivity and improves the mindfulness have any impact on the primary outcome variation in diabetes and quality of life of diabetic people.

CONCLUSION

Patients suffering with diabetes have less mindfulness and more impulsivity than non-diabetic.

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