A comparative analysis of anxiety and depression among diabetic and non-diabetic patients of COVID-19 using HADS Score

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ABSTRACT

Background

The American Psychiatric Affiliation Diagnostic and Statistical guide of intellectual ailment describes diabetes as a mood disease affecting the practical capacity of the sufferers. Many diabetics are afflicted by melancholy and tension. COVID is the brand new youngster at the block which has emerged as a crucial motive of anxiety and melancholy. The aim of this observation is to estimate the proportion of anxiety and depression amongst diabetic and non-diabetic patients suffering from COVID-19.

Method

Amongst COVID positive sufferers, 50 diabetic patients and 50 non diabetic patients (totally hundred subjects) had been selected randomly from patients reporting to the SMS medical institution, Jaipur, Rajasthan. HADS (health center anxiety and depression Scale) evolved via Zigmond and Snaith, dispensed by using Mapi trust, the United Kingdom carried out to calculate the rating after taking copyright permission.

Results

Mean anxiety score in COVID DM affected person had been 12.22 ± 2.95 while in COVID Non-DM patients it changed into 10.28 ± 2.9 with considerable p-value of 0.001%. Depression score in patients with COVID DM turned into 9.28 ± 3.0 value and in Non DM sufferers it changed into 7.9 ± 2.297 which changed into statistically enormous (p-value 0.011).

Conclusion

COVID -19 has modified the lives of humans in an unparalleled way and has left its mark all the time in the psyche of people, nonetheless Diabetic sufferers are more at risk of broadening anxiety and depression regardless of their COVID reputation.

Key-words: HADS (Hospital Anxiety and Depression Scale), COVID and Diabetes Mellitus

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INTRODUCTION

On eleventh March 2020, WHO declared COVID-19 an endemic. [1, 2] the continued pandemic has modified the options of the general public. [3,4] COVID-19 has had a destructive impact on the mental health of people within the widespread population in extraordinary ways. A few people evolved mental misery straight away, while in others the impact was behind schedule. Thus, the effect would be disproportionate on distinctive human beings as recommended via a few early proofs. [5]

This remarkable occasion provoked humans to carry dramatic adjustments of their way of life, which ultimately caused an upward thrust in anxiety and despair, particularly in individuals who had been already susceptible such as quarantined people, diabetes and other chronic illnesses, healthcare employees, SARS survivors and their households. [3]

The symptomatology of depression and anxiety stages from subclinical manifestations to predominant episodes. Subclinical depression is not unusual, and is related to extended morbidity, reluctance to avail health care facilities, and it may even end in untimely mortality. [6,7] Individuals frequently get bored in his or her preferred activities. Even the control of diabetes is unnoticed by way of them, leading to diabetes related complications like nephropathy, retinopathy or neuropathy, and additionally lead them to greater susceptible for COVID-19 contamination.

Depression and anxiety are the 4th reason of disability adjusted life years (DALYS) in developed nations while diabetes is on eighth position.[8] The American Psychiatric Association Diagnostic and Statistical manual of intellectual ailment (DSM-5) describes diabetes as a mood disease which disturbs the capability of the sufferers.[9] It's been observed that hazard of despair in humans with diabetes is double the number of non-diabetic population, and they're extra prone to increase anxiety, despair and ingesting issues.[10]

A meta-evaluation of 42 studies was carried out to investigate the association among depression and diabetes, it became obtrusive that there may be a correlation among the presence of complications of diabetes and the depression. [11]

OBJECTIVES

To estimate the presence of anxiety and depression amongst COVID effective diabetic sufferers and COVID effective non diabetic sufferers.

METHODOLOGY

This study was conducted in a tertiary hospital, Jaipur, Rajasthan where 50 COVID diabetic and 50 COVID non diabetic patients were recruited by stratified randomization to avoid selection bias.

Inclusion criteria-
Patients with Age group of 21 to 70 years.
Group 1: COVID 19 patients with type 2 diabetes with duration of diabetes more than 2 years.
GROUP 2: COVID 19 patients without diabetes.
Patients who were COVID positive by RT-PCR and willing to participate in the study.

Exclusion criteria-
Patients who were not willing to participate in the study.
Very sick patient who was not able to communicate.
Known cases of Depression, anxiety and other psychiatric illnesses.
Patients with other major comorbidities.
Patients with Type 1 DM and Pregnancy.

HADS (Hospital Anxiety and Depression Scale) developed by Zigmond and Snaith, distributed by Mapi trust, UK was applied to calculate the score after taking copyright permission. It is a questionnaire based scale. There are 14 questions with 4 options to answer. 0 to 3 numbers are given to each response, separately for anxiety and depression. HADS score would be calculated by adding them all. It is a short, easy-to-use, 14-item screening tool for depression and anxiety symptoms in the hospital setting. It is composed of two 7-item subscales (HADS-D and HADS-A for depression and anxiety respectively), both ranging from 0 to 21 with higher scores indicating more severe distress. Items enquire about symptoms over the preceding week and are self- or clinician-rated on a 4-point Likert scale. The developers suggested categorizing subjects according to subscale score into non cases (0 to 7), possible cases (8 to 10), and probable cases (>10) of clinical depression. [12]

Information collection and Interpretation – Sufferers coming to the COVID tertiary care center had been recruited after making use of inclusion and exclusion criteria. Information accumulated has been entered in Microsoft excel software program and analyzed the usage of SPSS model 20.0. Quantitative information were expressed as mean and standard deviation and have been analyzed the usage of unpaired t test. Qualitative information was expressed as percentage and

analyzed the use of chi square test. P-value <0.05 was considered as significant.

RESULTS

Among the 100 COVID patients recruited, 50 were diabetic and 50 were non diabetic.

Table-1: Distribution of study participants according to age and sex

Variable	Group 1 (COVID with DM) (%)	Group 2 (COVID without DM) (%)	P value
Sex			
Female	24 (48)	14 (28)	0.064
Male	26 (52)	36 (72)	
Age group (Years)			
21-40	5 (10)	8 (16)	0.329
41-60	37 (74)	30 (60)	
>60	8 (16)	12 (24)	
Grand Total	50(100)	50(100)	

Table-2 depicts that mean anxiety rating in COVID DM affected persons has been 12.22 ± 2.95 while in COVID Non-DM patients it changed into 10.28 ± 2.9 with considerable p-value of 0.001%. Depression score in patients with COVID DM turned into 9.28 ± 3.0 value and in Non DM sufferers it changed into 7.9 ± 2.297 which changed into statistically enormous (p-value 0.011).

Table-2: Comparison of mean score of anxiety and depression

Score	COVID DM	COVID NON DM	P value
Anxiety score			
Mean	12.22	10.28	0.001
SD	2.951	2.9	
Depression score			
Mean	9.28	7.9	0.011
SD	3.01	2.297	

On evaluation of age-sensible distribution of anxiety rating, anxiety score became maximum in aged human beings of age group greater than 60 years in COVID DM (15.38 ± 2.066) as compared to COVID non-DM sufferers (13.58 ± 2.109).

Further, in depression rating also, the maximum prone age group was 41-60 years (P value = 0.009). Within the gender-wise distributions of score, anxiety score was high among males (P value < 0.05) whereas depression score was high in females (P Value = 0.016) [Table-3]

Table-3: Distribution of Anxiety, Depression and Total Score according to Age and Sex

Score	1 (COVID DM)		2 (COVID NON DM)		P value
Age wise Distribution of Score					
Anxiety score	Mean	SD	Mean	SD	
21-40	10	5.05	6.88	1.246	0.115
41-60	11.84	2.267	9.87	2.063	<0.001
>60	15.38	2.066	13.58	2.109	0.077
Depression score					
21-40	7	2.345	5.88	0.641	0.216
41-60	8.84	2.598	7.37	1.608	0.009
>60	12.75	2.659	10.58	2.193	0.062
Sex wise Distribution of Score					
Anxiety score	Mean	SD	Mean	SD	
Male	12.54	2.901	10.31	3.041	0.005
Female	11.88	3.026	10.21	2.607	0.095
Depression score					
Male	9.27	2.906	8.28	2.362	0.144
Female	9.29	3.183	6.93	1.859	0.016

DISCUSSION

The COVID 19 pandemic has extensively altered human being's lives, in addition to a couple of elements of the public, and private financial system. Declines in tourism, agriculture, and the finance industry because of the COVID-19 outbreak has shattered the financial system globally. The uncertainties of unemployment, fears related to the virus outbreak, mass lockdowns and financial recession has result in a growth in intellectual disease in addition to boom in suicide rate. Outbreak of COVID-19 in China has pointed out a big repercussion on the psyche of the trendy populace as shown with the aid of the researchers [13,14].

Numerous research had been reporting elevated ranges of stress, anger, tension and melancholy amongst people internationally because of the COVID-19 pandemic and public quarantine [15,16]. Mitigating the hazardous results of COVID-19 on intellectual health is a global public health precedence.

Diabetes has turned out to be a prime health issue of the world inflicting no longer simplest physical but intellectual ailments. The superiority of depression has been mentioned to boom reasonably in pre-diabetic sufferers and undiagnosed diabetic sufferers, and markedly within the formerly recognized diabetic sufferers as compared to subjects with normal glucose metabolism [17]. The prevalence rates of depression will be up to 3-instances higher in patients with type 1 diabetes and two times as high in human beings with type 2 diabetes in comparison with the overall populace global [18]. It was discovered in our observation that the mean anxiety score became significantly higher compared to non-diabetic COVID patients. Similarly, depression rating became also statistically extensive in COVID -Diabetic sufferers. Anxiety seems in 40% of the sufferers with type 1 or 2 diabetes [19]. The presence of depression and anxiety in diabetic sufferers worsens the prognosis of diabetes, will increase the non-compliance to the medical remedy, decreases the satisfaction of lifestyles and will increase mortality [20-22]. In our observe group, COVID effective diabetic sufferers (n=20) were greater than the non-diabetic sufferers (n=10) in ICU whilst the non-diabetic COVID sufferers (n=40) were greater than the COVID diabetic sufferers (n=30) in the ward indicating that the

diabetic sufferers required greater ICU care than the non-diabetic patients (Fig-1).

A current examination discovered that despair became greater frequent in people with diabetes, irrespective of the reality that it became recognized or undiagnosed diabetes whilst anxiety became greater regularly occurring most effectively in individuals who were aware about their diabetes [23]. The psychological burden of being ill may additionally play an essential function in triggering anxiety and depression whilst in human beings with undiagnosed diabetes, depression might be because of a detrimental way of life, consisting of physical state of being inactive, unhealthy eating regimen or an annoying way of life [24].

In our study it was found that diabetes performed an impartial triggering factor for anxiety and despair regardless of the reality that COVID pandemic became inflicting masses of anxiety and depression in the widespread populace. It appears that evidently there may be a bidirectional affiliation among diabetes and depression as the danger for depression is elevated in human beings with diabetes, and the hazard of diabetes is elevated in humans with depressive problems. There are some hazard elements which have been recognized as applicable for the incidence of diabetes and depression, such as low birth weight, unfavorable occasions in early life, way of life, and obesity, and there is good proof that complications of diabetes drastically increase the threat of depression [25-26].

On studying the gender distribution, there had been greater male sufferers than the females in each of the diabetic and non-diabetic groups probably due to greater exposure to the adult males. HADS-A score in men turned into appreciably excessive in diabetic sufferers whilst in ladies HADS-A became non appreciably higher. HADS-D became drastically better in lady diabetic sufferers whilst it was not appreciably better in male diabetic patients. anxiety ailment has been visible at three-fold better levels in women than in men in the course of the COVID-19 pandemic. women's anxiety danger was 3.01 times in comparison to adult males [27].

The mean HADS-A score was considerably greater in Diabetic sufferers than the non-diabetic in addition, mean HADS-D score was drastically greater in diabetic sufferers than non-diabetic sufferers, as shown by the previous research that presence of chronic illnesses including high blood pressure and diabetes are drastically related to higher psychiatric morbidity [28].

Studying the correlation among age and HADS, mean HADS-A and HADS-D had been maximum within the age group of >60 years however the distinction was non-considerable in diabetic and non-diabetic groups. This indicates that aged are greater liable to depression and anxiety regardless of their diabetes status and different feasible elements like loneliness and worry of dying may want to probably cause them to prone for mental misery and that is pretty comprehensible as human beings with physical illnesses are greater susceptible to have intellectual illness and this stands authentic for the elderly populace as well [29,30]. The skilled elderly population is aware about this. So this itself may additionally bring about apprehension, pressure, and depressive cognition within the aged populace.

In our study, most sufferers belonged to the age group of 41-60 years in each group comprising 37 sufferers in diabetic group and 30 sufferers in non-diabetic group.

Mean HADS-A score and HADS-D score had been considerably greater in the diabetic group than the non-diabetic group within the age group of 41-60 years This indicates that diabetes as a comorbidity may additionally have an effect on the intellectual of patients aside from introduced stresses of being the bread earners of own family. A likely clarification may also be that those sufferers are greater aware of the hazard of diabetic complications in COVID patients.

CONCLUSION

Regardless of extensive COVID pandemic panic, Diabetes mellitus stays a dominant aspect for inflicting depression and anxiety among the sufferers. This need to be stored in thoughts whilst managing a diabetic patient due to the fact treating anxiety and depression is similarly essential because it may assist in controlling the blood glucose levels as properly.

AUTHOR CONTRIBUTIONS

V. Kumar, R. S. Chejara and S. Agarwal formulated the research questions, designed the study, developed the preliminary search strategy, and drafted the manuscript; C. L. Nawal and A. Singh

collected and analyzed data for study. A. Singh and H. L. Saini wrote the manuscript. V. Kumar and A. Singh conducted the quality assessment. All authors critically reviewed the manuscript for relevant intellectual content. All authors have read and approved the final version of the manuscript.

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