COMPARATIVE ANALYSIS OF KNOWLEDGE ON COGNITIVE BEHAVIORAL THERAPY AMONG COPD AND NON COPD PATIENTS

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INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is defined as a disease state characterized by airflow limitation that is not fully reversible [1]. Although COPD is largely preventable and treatable, the disease is responsible for substantial human and economic burden throughout the world [2]. Being a chronic disease, COPD is often associated with many co-morbidities. Among them, anxiety and depression are of major concern. Anxiety and depression often appear together in patients with COPD however, go untreated [3,4]. The co-morbidities anxiety and depression occur together commonly in COPD patients, with prevalence rates estimated to be between 23% and 64% [3,5-8]. Studies have demonstrated that anxiety and depression co-exist even in patients with mild COPD [9]. Presence of these co-morbidities can hamper the prognosis by affecting the survival rates, quality of life, physical and social functioning and increased use of health care resources. They indirectly advocate for unhealthy habits including smoking, which in turn precipitates disease severity. It is therefore essential to address anxiety and depression in a COPD patient in order to achieve better treatment outcomes.

Cognitive-behavioral therapy (CBT) is a form of psychological treatment that has been demonstrated to be effective for a range of problems including depression, anxiety disorders, alcohol and drug use problems, marital problems, eating disorders, and severe mental illness [10]. Several studies suggest that CBT leads to significant improvement in cognitive functioning and improvement in the quality of life. In many studies, CBT has been demonstrated to be as effective as, or more effective than, other forms of psychological therapy or psychiatric medications. In order to make the CBT effective among COPD patients, a brief cognitive behavioural treatment intervention has been developed, based on Lung Manual Treatment Program [10]. The therapy addresses several issues including sleep management, awareness, relaxation, behavior activation, etc.

Although therapeutic techniques to combat anxiety and depression in COPD are in place, it is essential to inculcate the right attitude towards the treatment. It is essential to understand that the success of CBT is highly dependent on the level of motivation. As a preliminary step, it is essential to assess the level of awareness regarding CBT, especially among COPD patients. Imparting knowledge will go a long way in enhancing the attitude towards these therapeutic

Chronic Obstructive Pulmonary Disease (COPD) is characterized by persistent respiratory symptoms and airflow limitation. Anxiety and depression are common and important co- morbidities of COPD. Cognitive behavioural therapy (CBT) is a psychological intervention used for managing anxiety and depression. This study was carried out to compare the knowledge level regarding CBT between COPD and non COPD subjects. A case control study was conducted among 59 COPD and 60 NON-COPD patients aged 30-60 years visiting our institution. Beck Depression inventory and Beck Anxiety Scale used to identify the depression and anxiety in COPD and NON-COPD patients. A structured, self administered and validated questionnaire was used to obtain information on the knowledge levels regarding CBT. A highly statistical significant difference was found between the educational status and scores (P<0.05). Anxiety scale in COPD patients shows the higher mean (21.8%) and SD (10.101) when compared to NON-COPD patients. Depression scale in COPD patients shows the higher mean (24.4%) and SD (9.187) when compared to NON-COPD patients. In our study, we observed higher anxiety and depression scale in COPD patients when compared to NON-COPD patients. Cognitive Behavior Therapy (CBT) will be helpful in managing COPD patients. Further research is needed to address the impact, early detection, and management of anxiety and depression in COPD.

Key words: Anxiety, Chronic obstructive pulmonary disease, Cognitive Behavior therapy, Depression

techniques and in turn will facilitate readiness in participation and redressal of issues among COPD patients.

OBJECTIVES

This study was carried out to

a. Estimate the prevalence of anxiety and depression among COPD patients

b. Compare the level of awareness regarding CBT among COPD and non COPD patients.

METHODOLOGY

Study setting and participants

This case control study was carried out among COPD and non COPD patients visiting our tertiary care teaching institution for a period of two years between 2016 and 2018. All the patients who were diagnosed with COPD in the outpatient clinics were selected for the study and were age matched with controls.

Sample size and sampling technique

All the cases of COPD who visited our hospital during the study period were taken as cases. About 59 cases of COPD were selected. They were age matched with 60 normal and healthy controls. A total of 119 participants were selected by purposive sampling method from Sri Ramachandra Institute of Health Education and Research (DU).

Ethical approval and informed consent

Approval was obtained from Institutional Etics Committee prior to the commencement of the

study. Each participant was explained in detail about the study and informed consent was obtained prior to the data collection.

Data collection tools

Beck Depression inventory and Beck Anxiety Scale used to detect depression and anxiety in

COPD and NON-COPD patients. A structured, pre-tested interview schedule was used to collect demographic information and awareness regarding CBT in terms of modules like goal-setting, identifying, challenging and changing negative thoughts, distraction, breathing control, problem- solving, activity scheduling/diary, relaxation, weighing up pros and cons; positive logs, learning to respond appropriately to symptoms and reducing avoidance and safety behaviours that maintain anxiety and low mood.

DATA ANALYSIS

Data was entered and analyzed using SPSS ver. 23 software. The prevalence of anxiety, depression and the level of awareness regarding the same were expressed as mean scores. Independent sample t test was used to test the significance between the awareness and various contributing factors. A p value <0.05 was considered statistically significant.

RESULTS

This study was carried out among 59 cases (COPD patients) and 60 non COPD controls. The mean age of the cases was 58 ±10 years. The average duration of COPD was 10 years, and the mean duration of smoking was 23.2 years. Majority of the cases (79.6%) and controls (85%) belong to middle class. All the cases were married while 95% of the controls were married. (Table 1)

The prevalence of anxiety and depression is depicted in table 2. Among the cases, majority had low anxiety (49.2%) followed by moderate anxiety score (44.1%) while all the controls had low anxiety (100%). With regards to the depression score, majority of the cases demonstrated moderate depression (35.6%) followed by severe depression (22%).

The mean anxiety score was higher among cases (21.85) compared to controls (5.73). Similarly, the mean depression score was higher for cases (24.5) compared to controls (9.64). The observed difference was statistically significant (p<0.0001). (Table 3)

Table 4 shows the level of awareness regarding the CBT (CBT scoring). The mean score was higher among cases (3.98) compared to the controls (2.27). The association was statistically significant (p<0.001).

Table-1: Background characteristics of the study participants:

S. No	Characteristics	Cases (N=59)		Controls (N=60)	
		n	%	n	%
1	Anxiety				
	Low	29	49.2	60	100
	Moderate	26	44.1	0	0
	Severe				
2	Depression	Depression	Depression	Depression	Depression
	Normal	3	5.1	1	1.7
	Mild mood disturbance	11	18.6	59	98.3
	Borderline clinical depression	9	15.3	0	0
	Moderate depression				
	Severe depression	13	22.0	0	0
	Extreme depression	2	3.4	0	0
4	Nivel educațional				
	Lipsa studiilor/analfabet	14	23.7	10	16.4
	Școală primară	5	8.5	0	0
	Liceu	5	8.5	0	0
	Studii post liceale	16	27.1	12	20.0
	Licențiat	19	32.2	38	63.3
5	Consum de țigarete				
	Prezent	59	100	32	53.3
	Absent	0	0	28	46.7
6	Durata fumatului				
	<5 ani	1	1.7	40	66.6
	>5 ani	58	98.3	20	33.4

Table-2: Prevalence of anxiety and depression among the study participants:

S. No	Characteristics	Cases (N=59)		Controls (N=60)	
		n	%	n	%
1	Anxiety				
	Low	29	49.2	60	100
	Moderate	26	44.1	0	0
	Severe	4	6.7	0	0
2	Depression				
	Normal	3	5.1	1	1.7
	Mild mood disturbance	11	18.6	59	98.3
	Borderline clinical depression	9	15.3	0	0
	Moderate depression	21	35.6	0	0
	Severe depression	13	22.0	0	0
	Extreme depression	2	3.4	0	0

Table 3: Association between anxiety/depression among cases and controls:

S. No	Parameter	Group	N	Mean	S.D	t value	p value
1	Anxiety	Cases	59	21.8	10.1	11.6	<0.0001
		Controls	60	5.7	3.4		
2	Depression	Cases	59	24.5	9.2	11.0	<0.0001
		Controls	60	9.6	4.9		

Table 4: Association of CBT Scoring between cases and

S. No	Parameter	Group	N	Mean	S.D	t value	p value
1	Scor TCC	Cases	59	3.98	2.4	3.8	<0.0001
		Controls	60	2.27	2.5		

DISCUSSION

Among 119 patients, there was a statistically significant difference found between the educational status and scores. The influence of smoking history, duration of illness and medication duration with CBT score showed no influence on CBT. Estimates of prevalence of anxiety and depression in COPD vary widely but are generally higher than those reported in published literature [11].

There is some evidence in COPD of the potential value of using validated tools for identifying individuals who are most in need of more formal psychological interventions, and of embedding cognitive behavioural therapy (CBT) principles into review assessments and pulmonary rehabilitation/self-management programmes. However, there are clear merits and benefits from the inclusion of a psychologist within a multidisciplinary respiratory/ COPD team to provide input, where necessary, for people with severe anxiety and depression and guidance for improving the mental health and well-being of all people with COPD [12].

A significant amount of research has shown that many patients with the condition experience psychological difficulties such as anxiety or depression. There is growing evidence for the efficacy of cognitive behavioural therapy (CBT) as an adjunctive and primary treatment in managing long-term physical conditions. CBT is used to treat psychological distress and can help healthcare professionals provide holistic care to patients. The therapy is concerned with understanding how events and experiences are interpreted and focuses on the relationship between our cognitions (what we think), our emotions (how we feel) and our behaviour (what we do). It is based on addressing the interaction between thoughts, mood, behaviour and physical sensations. These are intricately linked. Experience of using CBT in those with COPD has shown a significant reduction in patients' psychological distress. In addition, we have also found a reduction in hospital admissions. When public sector funding is limited this may have important implications [13].

CONCLUSION

In our study, we observed higher anxiety and depression scores in COPD patients when compared to NON-COPD patients. Need of Cognitive Behavior Therapy (CBT) will be helpful in managing patients with COPD. Further research is needed to address the impact, early detection, and management of anxiety and depression in COPD.

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