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Original Article

Psychiatry/Mental Health Section

Sociodemographic and Clinical Variables related to Panic Disorder with and without Agoraphobia

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ABSTRACT

Introduction: Panic Disorder (PD) is characterised by sudden episodic attacks of anxiety that are extremely disabling for the patients. It is usually associated with agoraphobia and several other psychiatric comorbid disorders. These not only tend to escalate the severity of primary illness however, also worsen the long term prognosis. An association has also been noticed between presence of stress and severity of PD. In the current study we have tried to include as many factors as possible that affect common and disabling illness like PD.

Aim: To compare the severity of illness in the patients of PD with and without agoraphobia, and to further find the association, if any, of psychiatric comorbidities and stress on the severity of symptoms in these two groups.

Materials and Methods: A cross-sectional observational study was carried out in a tertiary care psychiatry centre, from November 2013 to January 2015. Patients between 18 and 65 years with PD were divided into two groups PD (Panic Disorder without Agoraphobia) and PDAG (Panic Disorder with Agoraphobia) which were compared for difference in severity of anxiety {Panic Disorder Severity Scale (PDSS) and Hamilton Rating Scale for Anxiety (HAM-A) were used}, presence of comorbidity and stress, and their effect on severity of symptoms. SPSS 22.0 was used for all statistical analyses. Continuous variables were presented on mean, Standard Deviation (SD) or median if data is unevenly distributed. Categorical variables were expressed as frequencies and percentages. The comparison of normally distributed continuous variables between groups has been performed using ANOVA. Nominal categorical data between groups were compared using chi-squared test or fisher's exact test as appropriate. Non-normal distribution continuous variables have been compared using Kruskal-Wallis test. For all statistical tests a p-value of less than 0.05 has been taken to indicate significant difference.

Results: Mean PDSS and HAM-A scores were higher in PDAG group (21.30±3.46 and 23.37±2.91) than in PD group (13.50±4.1 and 18.50±5.070). 43 (71.67%) of the total patients (60) suffered from another psychiatric disorder. Comorbidity was higher in PDAG group with more than 83.3% (n=25) suffering from another mental health condition apart from PD. Depression was the most common comorbidity while Generalised Anxiety Disorder (GAD), alcohol use disorder and Obsessive Compulsive Disorder (OCD) were others. Almost all individuals reported, some stress rated on Perceived Stress Scale (PSS). In individuals experiencing stress, panic and anxiety symptoms were found to be more severe.

Conclusion: There was significant difference in the two groups in terms of severity of symptoms as measured on corresponding scale for PD (PDSS score of 21.3 in PDAG, 13.5 in PD group; p=0.035), presence of comorbidity (83.3% in PDAG group, 60% in PD group) and stress {all individual in PDAG group (n=30) reported moderate to high stress levels}. Presence of agoraphobia; comorbid psychiatric disorders and stress were associated with more severe illness, increased severity of panic and other anxiety symptoms.

Keywords: Anxiety disorder, Case control, Depression, Panic

INTRODUCTION

The PD, a subtype of anxiety disorder, is also known as episodic paroxysmal anxiety because of the hallmark panic attacks which characterise the illness. Panic attacks typically emerge rapidly and out of the blue. It is a common disorder throughout the world with a lifetime prevalence rate of 3.7% [1]. An Indian study reported the lifetime and 12 month prevalence rates to be 0.86% and 0.69% respectively for Indian population [2]. Panic attacks occur in various other psychiatric illnesses and agoraphobia is one of them which is characterised by panic attacks in certain situations which is perceived as dangerous or uncomfortable, or from where escape is either difficult or embarrassing. The lifetime prevalence for PDAG is 1.1%, whereas it varies from 2-6% across studies for agoraphobia alone [1,3]. Agoraphobia is the most disabling of all the phobias leading to significant distress, as it markedly restricts the life of the individual suffering from it and worsens the prognosis of PD [4].

Many psychiatric disorders like depression, substance use disorders etc., are present as comorbidities further adding to the disability [5]. About 50% of these patients, suffer from depression sometime during the course of the illness [6]. Thus, their identification and treatment becomes important while dealing with primary illness. In the present study, patients with and without agoraphobia were evaluated for the presence of comorbid psychiatric disorders and further, assessment for the severity of the disorder in the presence of these comorbidities was done. Comorbidities impact the outcome in form of greater symptom severity and inadequate response to the treatment.

Any discussion of associations of PD is incomplete without highlighting the importance of life events and stressors. Stress can precipitate or lead to continuation/maintenance of an illness and also affect treatment modalities. Many studies have focussed on one or other factor associated with PD, however, incorporation of so many factors like comorbidities, stress etc., affecting PD in a single study makes this study unique [6-9]. The study was conducted with an aim to compare the severity of illness in the patients of PD with and without agoraphobia, and to further find the association, if any, of psychiatric comorbidities and stress on the severity of symptoms in these two groups.

MATERIALS AND METHODS

A cross-sectional observational study was carried out in a tertiary care psychiatry centre, from November 2013 to January 2015. With reference to previous studies, a sample size of 30 per group was calculated based on a mean difference of 2.18 in total severity score between PDAG and PD, with a population variance of $(3)^2$, which is the average of distances from each data point in the population to the mean squared, a two sided alpha of 0.05, and a power of 80% [2]. Thus, a total of 60 patients were included with 30 in each group.

All consecutive patients in the age group of 18-65 years diagnosed with PD as per Diagnostic and Statistical manual of Mental disorders (DSM-IV) Text Revision (TR) criteria with and without agoraphobia who gave consent to be a part of the study were included as study subjects [10]. All the patients suffering from coexisting medical or surgical illness or Intellectual disability were excluded.

Tools used: The PDSS, HAM-A, Hamilton Depression Rating Scale (HAM-D/HDRS), Mini International Neuro-psychiatric Interview (MINI) version 6.0, Yale Brown Obsessive Compulsive Scale (YBOCS), Severity of Alcohol Dependence Questionnaire (SADQ), Cohen's Perceived Stress Scale (PSS) [11-17].

STATISTICAL ANALYSIS

Statistical testing was conducted with a Statistical Package for Social Science (SPSS), version 22.0. Continuous variables were presented on mean, SD or median if data is unevenly distributed. Categorical variables were expressed as frequencies and percentages. The comparison of normally distributed continuous variables between groups has been performed using ANOVA. Nominal categorical data between groups were compared using chi-squared test or fisher's exact test as appropriate. Non normal distribution continuous variables have been compared using Kruskal-Wallis test. For all statistical tests, p-value of less than 0.05 has been taken to indicate significant difference.

RESULTS

The [Table/Fig-1] shows the Sociodemographic characteristics of the total sample size of 60. The two groups i.e., PD (n=30) and PDAG (n=30) were matched for sociodemographic profile. The severity of PD has been assessed using PDSS and HAM-A has been used to assess the severity of anxiety symptoms. Mean PDSS scores were 13.50±4.1 and 21.30±3.46 (p=0.035) while mean HAM-A scores were 18.50±5.070 and 23.37±2.91 (p=0.024) for PD and PDAG groups respectively [Table/Fig-2].

Sociodemographic characteristics		Panic disorder	Panic disorder with agoraphobia	p-value
Age (Mean±SD)		37.73±9.92	34.43±11.37	0.327
Sex	Males	10 (33.3%)	12 (40%)	0.771
	Females	20 (66.7%)	18 (60%)	
Education	Uneducated	6 (20%)	4 (13.33%)	0.221
	Not completed High school	11 (36.67%)	7 (23.33%)	
	Completed high school	13 (43.33%)	19 (63.33%)	
Occupation	Unemployed	18 (60%)	21 (70%)	0.676
	Semi professional	6 (20%)	5 (16.67%)	
	Proffessional	6 (20%)	4 (13.33%)	
Marital status	Unmarried	6 (20%)	9 (30%)	0.185
	Married	22 (73.33%)	16 (53.33%)	
	Divorced	1 (3.33%)	2 (6.67%)	
	Widow	1 (3.33%)	3 (10%)	
Socioeconomic status	Lower	12 (40%)	14 (46.67%)	0.155
	Middle	18 (60%)	16 (53.33%)	

[Table/Fig-1]: Sociodemographic characteristics of the sample.

Scale			PD	PDAG	p-value
Panic Disorder Severity Scale (PDSS)	Mean±SD		13.50±4.1	21.30±3.46	0.035
	Clinical severity	Normal	0	0	
		Borderline	0	0	
		Slightly Ill	6 (20%)	0	
		Moderately Ill	8 (26.67%)	11 (36.67%)	
		Markedly Ill	16 (53.33%)	19 (63.33%)	
Hamilton Anxiety Rating Scale (HAM-A)	Mean±SD		18.50±5.070	23.37±2.91	0.024
	Clinical severity	Mild	11 (36.66%)	0	
		Moderate	12 (40%)	16 (53.33%)	
		Severe	7 (23.33%)	14 (46.67%)	

[Table/Fig-2]: Clinical symptom severity rating using panic disorder severity scale and hamilton anxiety rating scale.
PD: Panic disorder without agoraphobia; PDAG: Panic disorder with agoraphobia

Further evaluation for presence of psychiatric comorbidities, was done using MINI 6.0 as the screening instrument. In present study, 43 (71.67%) of the total subjects suffered from another psychiatric disorder. 18 (60%) of the PD patients and 25 (83.3%) of the patients with PDAG were diagnosed with an additional psychiatric disorder (p=0.001). Depression was found to be the most common comorbid psychiatric illness in PD patients present in 25 (41.67%) of the total 60 subjects. 10 (55.5%) of the patients in PD group while 15 (60%) of the patients in PDAG group were found to have depression. The GAD (n=11, 25.58%), alcohol use disorder (n=3, 6.97%) and OCD (n=4, 9.3%) were other comorbidities found in present study [Table/Fig-3].

Comorbidities	Panic disorder	PDAG	Combined (PD+PDAG)
Depression	10 (55.55%)	15 (60%)	25 (58.14%)
Generalised anxiety disorder	6 (33.33%)	5 (20%)	11 (25.58%)
Alcohol use disorder	0	3 (12%)	3 (6.97%)
Obsessive compulsive disorder	2 (11.11%)	2 (8%)	4 (9.3%)
Total	18 (60%)	25 (83.33%)	43 (71.67%)

[Table/Fig-3]: Psychiatric comorbidities of panic disorder.
PD: Panic Disorder without agoraphobia; PDAG: Panic disorder with agoraphobia

Stress levels in the previous month were assessed on PSS which was then graded as low/medium/high. A comparison of severity of illness was also attempted among the subjects reporting various degrees of stress. 16 out of the total 60 subjects in both groups reported high stress level during the last month of which about 11 (68.75%) were found to have markedly severe illness [Table/Fig-4].

Stress (PSS)	Severity of illness (PDSS)					Total
	Normal	Borderline	Slightly ill	Moderately ill	Markedly ill	
Low	0	0	6 (100%)	0	0	6
Medium	0	0	0	14 (36.8%)	24 (63.2%)	38
High	0	0	0	5 (31.25%)	11 (68.75%)	16
Total	0	0	6	19	35	60

[Table/Fig-4]: Severity of illness in the presence of stress.
PDSS: Panic disorder severity scale

DISCUSSION

The PD is a chronic and relapsing illness affecting almost all the spheres in an individual's life. The presence of agoraphobia further complicates its course [2]. The present study was a comparative cross-sectional observational study which was aimed at identifying various clinical associations of PD.

Prior studies have identified certain risk factors for PD like female sex, low socioeconomic status, single, separated or divorced individuals and lower education levels [18]. In present study 38 females outnumbered the 22 males in presenting with panic disorder with or without agoraphobia. Females generally tend to have a

higher prevalence of all anxiety disorders as compared to males and present study supports this finding (M:F=1:1.7) [7,19]. Also, more number of people who lacked full term employment including housewives suffered from PD in our study. Presence of Stress and life events is amongst other risk factor for development of PD [20]. It is one of the modifiable risk factors for any psychiatric disorder unlike age or gender, and therefore its identification is important in modifying the overall outcome of the illness.

The presence of agoraphobia as comorbidity to PD and its impact on the various parameters was one of the aims in this study. Comorbid presence of agoraphobia has been found to be associated with severe symptoms, prolonged course and poor response to treatment [21]. People suffering from PDAG tend to present to treatment facility much earlier than patients with PD alone because of the incapacitating nature of agoraphobic symptoms [22]. In the present study, we objectively demonstrated this by rating and comparing the symptoms of both the groups of patients i.e., PD and PDAG on PDSS, and significant difference was found to be present between the mean scores of the two groups (PDAG-21.3 >PD-13.5, p=0.035). The HAM-A was used to assess the severity of anxiety symptoms which also showed significant difference between the two groups with higher anxiety severity in PDAG group (PDAG-23.37>PD-18.5, p-values<0.005). Presence of agoraphobia not only increases the severity of PD, but also increases the likelihood of presence of another psychiatric condition [4]. We used MINI 6.0 to screen the study subjects for other psychiatric disorders and it was found that more than 70% of the individuals with PD were found to have some comorbid psychiatric condition. In the presence of agoraphobia, this number rose to more than 80%. The presence of comorbidities further adds to the already existing disability experienced by patients suffering from PD. Various other studies have also concluded that comorbidity in PD leads to greater symptom severity and poorer treatment outcome [23-27].

In present study depression was the most common comorbidity in 25 (58.14%) of the subjects with PD both with and without agoraphobia. Subjects with both panic and depression had worse symptoms, than those who had only one disorder. In present study, 21 (16%) of the total subjects diagnosed with depression as the comorbidity had illness of severe intensity while, 4 (84%) of the subjects were found to have illness of moderate severity. The coexistence of panic attacks and major depression has been found to be up to 11 times higher over the lifetime of an individual [27]. Comorbid panic and depressive disorders also increase the risk of suicide.

Studies have also focussed on association between panic and substance use disorders especially alcohol. The PD and alcohol use disorder are not only present as comorbidities, however, panic and other anxiety disorders were important factors for relapse of substance use after a period of abstinence [28]. The OCD, alcohol use disorder and GAD were other comorbidities in the study. Corresponding scales for assessment of severity of the illnesses have been used in the study. Individuals in both study groups with comorbid psychiatric condition were found to have illness with higher severity.

Another major area focussed in this study was stress, a concept first introduced by Hans Selye in his landmark article published in the Nature [29]. It has been well documented in literature that the presence of stress predisposes an individual to various psychiatric disorders [9]. The PSS used to assess the presence of stress found that more than 80% of the subjects, who reported high stress as measured on PSS, also scored high on PDSS and HAM-A. This has definite implication on long term outcome of illness and treatment.

In cases of inadequate or non response to treatment despite adequate drug dosages and duration, one should always look for other psychiatric disorders, especially depression, which tend to be present along with PD complicating its course. Addressing depressive episodes in PD or vice versa, helps us in limiting disability, decrease the burden of individual illness, prevent suicides and in better management of both these disorders. Also, it is important to evaluate for presence of recent life events or any ongoing stressors in an individual's life and address them for better outcome.

LIMITATION

Though, this was a cross-sectional study with a small sample size and association of stress on the course of PD has not been studied, still it is unique in studying many aspects of PD, one of which was the association of stress in the previous one month and the severity of symptoms. Being a tertiary care hospital in a metropolitan city, the sample cannot be considered truly representative of the disorder as it probably does not reflect the patients with lesser severity of illness. More behaviourally unmanageable patients may reach the centre and this may have inflicted a selection bias.

CONCLUSION

The impact of presence of agoraphobia along with PD on symptom severity has been highlighted in this study as depicted by scores on standardised scales like PDSS and HAM-A. Agoraphobia also increased the likelihood of having another psychiatric disorder as comorbidity along with PD. Depression was found to be the most common comorbidity while GAD, alcohol use and OCD were among the other comorbid psychiatric conditions and these were found to have moderate to severe level intensity. Individuals reporting stress of any degree were found to have more severe illness as compared to the ones who reported no stress. Various risk factors have been brought out and their knowledge can be helpful. This study can be an impetus for future research on PD with similar variables.

FUTURE DIRECTIONS

The correlation between chronic stress like childhood abuse and many psychiatric disorders have been studied. However, its association with PD and agoraphobia is still a lacuna in this research.

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