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Original Research Article

Anxiety and depression among patients of non-cardiac chest pain and other medically ill patients

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ABSTRACT

Background: The current study compared severity of anxiety and depression patients of NCCP and other medical conditions in male adults.
Methods: Sample consisted of consenting male patients from cardiology OPD with symptom of chest pain, whereas control group consisted of patients without symptoms of chest pain, aged between 18 to 60 years. Exclusion criteria for both groups included unstable or life-threatening medical conditions, psychosis, substance use disorders, or any psychiatric illness. Both experimental and control group were evaluated with history, clinical examinations and indicated investigations. The socio demographic data sheet and Hospital Anxiety and Depression Scale (HADS) was applied, patients were asked to read all 14 question and place a tick against the reply representing their feelings, the answers were rated with Likert pattern of scoring. The collected data statistically analyzed.
Results: A total of 51 patients of experimental group with mean age of 44.82±7.63years and 76 control with mean 46.30±8.45 years were participated for this study. The mean HADS anxiety score for NCCP was 13.29±3.42 and for the group of other patients it was 11.06±3.54 (t value=-3.517, df=125 and p value=0.001). Whereas the mean HADS depression score for NCCP was 12.58±2.76 and for the group of other patients it was 10.90±2.26 (t value=-3.743, df=125 and p value=0.000).
Conclusions: NCCP is associated with significantly higher anxiety and depression in comparison to other medically ill patients.

Keywords: Anxiety, Co morbidity, Depression, Non cardiac chest pain

INTRODUCTION

The episode or recurrence of chest pain in the absence of identifiable cardiac or other organic etiology is termed as Non-Cardiac Chest Pain (NCCP). The prevalence of NCCP may range from 13-33% among patients presenting with symptoms of chest pain.[1]

Anxiety is more likely to play a key role in NCCP by affecting the neuro-behavioral processes associated with pain regulation and presence of autonomic symptoms.[2] Specifically panic disorder is found to be significantly associated in NCCP.[3] It has been hypothesized that initial chest pain experience prompts to selectively monitoring and vigilance to their cardiac activity. Any perceived palpitation may lead to misinterpretation of serious cardiac illness. These cognitions elicit and further exacerbate anxiety.[4]

In addition to association between NCCP with anxiety and depression, there are strong association is also found with fear of body sensations and cardiac anxiety.[5] NCCP has the negative impact on patients´ health-related quality of life and healthcare seeking behavior.[6-8] Associations between anxiety, depression and medical illness depends on the anticipated seriousness of presenting symptoms,

hence author planned to compare NCCP with simple febrile illness. Thus, knowledge of symptom specific anxiety and depression may warrant psychoeducational support to reduce morbidity.

METHODS

Participant group consisted of consenting patients attending cardiology OPD either directly or as referred from other departments in between June 2019 and August 2019 (see Table 1 for demographics).

Inclusion criteria

- Presenting symptom of chest pain, male gender, between the ages of 18 to 60 years. The control group consisted of medicine OPD patients without symptoms of chest pain.

Exclusion criteria

- For both groups of patients were unstable or life-threatening medical conditions, psychosis, substance use disorders, or any psychiatric illness.

Design was the current study was cross-sectional in design and did not include data collected at follow-up time points.

Tools

Socio-demographic Data Sheet

The socio demographic data sheet included age, gender, religion, Years of education and socio-economic class of the patients. It also recorded medical diagnosis.

Hospital Anxiety and Depression Scale (HADS)[9]

This is very well validated scale to assess anxiety and depression among hospitalized patients. It consists of 14 questions, 7 scoring anxiety and 7 scoring depression. Author omitted those questions relating to depression. Patients were asked to read each question and place a tick against the reply that came closest to how they had been feeling that day. Each answer was scored 0, 1, 2 or 3. The possible range of scores was therefore 0 to 21, with higher scores indicating greater levels of anxiety. Score of 0-7 is considered normal, scores of 8-10 is borderline abnormal and scores of 11-21 is abnormal case.

Procedure

The patients were classified as Non-Cardiac Chest Pain (NCCP) consisted first group (experimental Group) of this study. Another group (control group) for comparison we assessed patients from medicine OPD who visited OPD for any problem other than chest pain. Patients of both experimental and control group were evaluated with history and clinical examinations, further all relevant and indicated investigations were done. The socio-demographic data sheet and Hospital Anxiety and Depression Scale (HADS) was applied.

Statistical analysis

The collected data of all patients was statistically analyzed, using Statistical Package for Social Sciences (SPSS, Inc., Chicago, Illinois) version 10.0.

Data analysis included means and standard deviations for each group, and clinical subgroup of the sample. The parametric t-test was used for continuous variable and chi square test for categorical variables to determine if differences existed between the groups. Statistically significant levels are reported for p values less than or equal to 0.05. Highly significant levels are p values less than 0.001.

RESULTS

A total of 51 patients of non-cardiac chest pain and 76 other patients were participated for this study. The group of patients with non-cardiac chest pain had a mean age of 44.82±7.63 years and a mean body weight of 75.05±7.43 kgs, whereas the control group it was 46.30±8.45 years and 73.00±6.35 kgs respectively. The independent t test to compare mean of age showed t value of 1.004, df =125, (p=0.317), and for body weight t value=1.703, df=125 (p=0.091) (Table 1).

The mean anxiety scores as measured by HADS of these two groups, the mean HADS Anxiety score for control was 11.06±3.54 and for the group of non-cardiac chest pain group it was 13.29±3.42 (t value -3.517, df=125 and p value=0.001). Whereas the mean HADS Depression score for control group was 10.90±2.26 and for the group of NCCP it was 12.58±2.76 (t value=-3.743, df=125 and p value=0.000).

DISCUSSION

In this study author compared the mean anxiety and depression among patients of NCCP and a control group of febrile illness. The result shows significant difference in anxiety and depression as measured by HADS. These finding is consistent with previous research showing that prevalence rates for anxiety disorders are quite high for patients who experience NCCP.[10,11]

Clinical symptoms need to be investigated in search of etiology, but many a times a satisfactory medical explanation could not be found for NCCP, it suggests looking the pain or symptoms in a biopsychosocial perspective. The genesis of anxiety is considered as multi factorial and presence of any physical illness and its seriousness is important factor. Individual knowledge and perceived harm by physical illness affects and exacerbates severity of anxiety and depression. There are

links between anxiety and diseases of aging such as cardiovascular, autoimmune, and neurodegenerative diseases.[12] NCCP at times termed as "unexplained chest pain" and in concurrence to this study it is often comorbid with depression, anxiety, Panic disorders, as well as with somatoform disorders.[13-19]

Table 1: Sociodemographic profile and comparison of mean depression and anxiety HADS scores across patients of NCCP and other medically ill patients.

		Control (n=76)	NCCP (n=51)	Chi square	df	Sig. (2-tailed)
Habitat	Urban	37	42	3.571	1	0.059
	Rural	29	16			
Socio economic status	Lower middle	40	42	1.922	1	0.166
	Middle upper	26	16			
Smoker	Non smoker	48	33	0.032	1	0.859
	Smoker	28	18			
Alcohol / tobacco	User	44	23	2.005	1	0.157
	Nonuser	32	28			
Physical activity	Minimal	39	31	1.106	1	0.293
	Active	37	20			
		Others (N=76)	NCCP (N=51)	T	df	Sig. (2-tailed)
Age		46.30±8.45	44.82±7.63	1.004	125	0.317
Body weight		73.00±6.35	75.05±7.43	-1.703	125	0.091
Total HADS anxiety score		11.06±3.54	13.29±3.42	-3.517	125	0.001*
Total HADS depression score		10.90±2.26	12.58±2.76	-3.743	125	0.000*

The exact reason for NCCP is undetectable, but local inflammation, microvascular angina, Gastroesophageal reflux disease, musculoskeletal disorders, breathing disorders, are also implicated.[20-23] Even if these possibilities are ruled out, the long term cardiovascular outcome cannot be ascertained, and depression and anxiety may play a role for the poor cardiovascular outcome.[24] In addition to anxiety and depression, patient do have certain exaggerated psychological construct like cardiac pain perceptions, visceral hyperalgesia, and cardiac sensitivity to various stimuli.[25-27]

The current study has a number of limitations, it was a cross sectional observational study and the links between psychological and physical illness are likely to be bidirectional, and research examining directionality and mechanisms could determine treatment and prevention implications. Future research could examine an interaction effect of anxiety and depression severity and diagnostic stability over a longitudinal period of time, with better sample size.

In conclusion, this study reveals that NCCP is associated with significantly higher anxiety and depression in comparison to other medically ill patients.

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