Frequency of Depression among Patients with Backache presenting to Mardan Medical Complex, Mardan

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ABSTRACT

Background: Chronic pain accompanies emotional element in the form of psychiatric disorders. Chronic medical conditions such as backache may make a person at higher risk for depression. Depressed patients also have somatic symptoms as headache, fatigue, and backache. To understand the relationship, we conducted this study at neurosurgery Outpatient department of Mardan medical complex, Mardan.

Objective: The aim of this study was to clarify the causal relationship of backache and depression. The study also aimed to explore the frequency of depression among patients with backache.

Material and Methods: This cross-sectional study was conducted at outpatient department of Mardan Medical Complex. Patients presenting with chief complaints of backache were invited for participation in the study. initial medical and neurological screening was conducted by consultant neurosurgeon and afterwards HAM-D was administered for assessment of depression.

Results: We included 114 male and female patients ranging in age from 22 to 58 years, who presented to neurosurgery OPD with chief complaints of backache. More than half 58% of the patients were female. Minimal depression was found among 22 (19.3%) of the patients, 19 (16.7%) patients had mild depression, 47 (41.2%) had moderate depression, and 26 (22.8%) had severe depression. Highest frequency of depression was observed among patients with infection/ tumor (84.5 %) and those with degenerative backache (79 %). The correlation of type of backache and severity of depression was significant (*p= .049).*

Conclusion: Depression is common among patients with backache, therefore screening patients with complaints of backache for psychiatric co morbidity in primary care is important because psychopathology may have significant consequences for prognosis, outcome and health care utilization.

Keywords: Depression, Chronic Backache, infection tumor, Degenerative backache

INTRODUCTION

Back pain is considered as one of the most common medical problems affecting people of different ages throughout the world. It is the most commonly reported type of pain followed by headache and knee pain [1]. According to estimates, 60-80 % of people experience back pain once in their lives, among these 30-40 % experience pain every year [2]. It can cause disability and cause impairment in daily life functioning and performance of a person [3], the incidence of chronic back pain has been reported to be 9-21% in general population and is gradually increasing with the passage of time [4].

International Association for the Study of Pain defines pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage or is described in terms of

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such damage [5]. Chronic pain is commonly reported; although it is mainly a somatic symptom, it might also have a devastating emotional element [6].

Chronic back pain and depression are two terrible problems that present in health establishment. Back pain is a biological condition that mostly present with the patient physical symptoms while depression is a psychiatric condition [7]. The physical and psychological distress of chronic pain in association with individual and social vulnerability may results in the development of episode of major depression [8].

Pain and depression share biological pathways and nerve transmitters for both conditions in implication area of treatment. Assessment and treatment of severe back pain and depression both coextensive are necessary for fruitful outcomes [9].

Physicians dealing with pain focus primarily on etiologic cause of a patient's pain. However, pain is a subjective experience, in which important role is played by the emotional states in the development of the pain [5]. Studies suggest that emotional stress acts as a contributor to pain and its perception [10]. Back pain is consistently associated to depression in various studies. Research has suggested that people suffering

from depression are 60 % more likely to develop back pain in lifetime as compared to the general population [11].

Depression is an illness that may worsen the prognosis of low back pain and in the primary care, it is mostly considered as under recognized and under treated. Depression is common among patients with backache and is connected with the high intensity of pain, increased biological and psychological disability, increased likelihood of unemployment, and increased medication use. Although still, it is not established whether depression is the cause or result of backache, but it is clear that depression is associated with poor outcomes and impaired daily life functioning [13]. With the help of the current study, we aim to clarify the relationship between depression and backache, in order to help neurosurgeons, and ortho specialists better manage patients with primary complaints of backache.

MATERIAL AND METHODS
This study was a cross sectional study and included patients presenting to neurosurgery Outpatient department of a tertiary care hospital located in district Mardan. The topic of the study was discussed thoroughly in ethical committee meeting held in Bacha Khan medical college, Mardan. The topic was reviewed and permission for data collection was given. The study started in February 2019 and was completed in August 2019. Those patients fulfilling the inclusion criteria of the study were asked for participation in the study. Informed consent was obtained, and necessary information was obtained through demographic information sheet devised for data collection. Medical and neurosurgical examination was conducted by consultant neurosurgeon and those fulfilling study criteria were further referred to psychologist for interview and screening for depression. At the end thanks was paid to the participants.

Inclusion and exclusion criteria
Those male and female patients who presented with principal complaint of backache were included in the study. All those patients were excluded from the study who had comorbid medical illness, including Hypertension, diabetes, Acute head injury (occurring 20 days ago), poly head injuries, those having cognitive deficits (poor attention, loss of consciousness), agitated and those not willing to participate in the study were excluded. The exclusion was made in order to minimize the effects of other extraneous variables impact on levels of depression.

Measures
Initial medical and neurosurgical examination was conducted by consultant neurosurgeon. Those who were suspected having neurological condition were referred for MRI and CT scan to assess neurological illness. Backache was classified on the base of clinical examination by consultant neurosurgeon. Complaints of backache were categorized as simple backache, post-traumatic, degenerative, and infection/tumor. Afterwards, Semi-structured interview was conducted to obtain demographic information, and ascertain the presence of depression.

Hamilton Depression Rating Scale
Hamilton Depression Rating Scale was used to assess severity of symptoms of depression among patients presenting with complaints of backache. HAM-D is clinician rating scale widely used to assess severity of symptoms of depression in clinical trials. HAM-D includes 21 items designed to measures severity of depression among those diagnosed as depressed [14]. The scores range from 0 to 62. Score ranging from 0-7 indicates Normal, 8-13 mild depression, 14-18 moderate depression, 19-22 severe depression and >23 very severe depression.

Data Analysis
Data was analyzed using SPSS version 21. Cross tabulation was used to explain comparison for diagnosis of backache, gender and severity of depression.

RESULTS
Table 1. shows important demographic details of patients with backache, the patients in our study included 114 male and female ranging in age from 22 to 58 years of age. More than half 58% of the patients were female. Majority were married (62.8 %). More than 55 % were non-working among the patients. Among the study participants, 36 (31.6%) had simple backache, 28 (24.6 %) had

post-traumatic backache, 24 (21%) had degenerative backache, and 26 (22.8%) had infection/ Tumor. Minimal depression was found among 22 (19.3%) of the patients, 19 (16.7%) patients had mild depression, 47 (41.2%) had moderate depression, and 26 (22.8%) had severe depression.

Table 1. Demographic details of study important variables

Variable	N (114)	%
Gender		
Male	48	42 %
Female	66	58 %
Marital status		
Single	21	18.5%
Engaged	17	15 %
Married	71	62.3 %
Widow	3	2.5 %
Separated	2	1.7 %
Education		
Uneducated	69	60.5 %
Primary	13	11.4 %
Matric	23	20.2 %
Bachelors	09	7.9 %
Occupation		
Working	40	35 %
Non-working	63	55.3 %
Student	11	9.7 %
Family System		
Nuclear	41	36 %
Joint	73	64 %
Address		
Urban	46	40.4 %
Rural	68	59.6 %
Provisional Diagnosis		
Simple backache	36	31.6 %
Post-traumatic	28	24.6 %
Degenerative	24	21 %
Infection/ Tumor	26	22.8 %
History of backpain		
15 days – 1 month	37	32.5 %
1 month – 6 months	60	52.6 %
6 months and above	17	14.9 %
Drug abuse		
No drug	68	59.6 %
Tobacco Smoking	21	18.4 %
Snuff	14	12.4 %
Cannabis	03	2.6 %
Benzodiazepines	08	7 %
MRI		
Yes	46	40.4 %
No	68	59.6 %
Depression		
Minimal	22	19.3 %
Mild	19	16.7 %
Moderate	47	41.2 %
Severe	26	22.8 %

Table 2. Cross tabulation of diagnosis and severity of depression

	Minimal Depression	Mild Depression	Moderate Depression	Severe Depression	Total
Simple Backache	09	11	14	02	36 (31.6%)
Post traumatic	07	05	12	04	28 (24.6%)
Degenerative	03	02	07	12	24 (21%)
Infection/ Tumor	03	01	14	08	26 (22.8%)
Total	22 (19.3%)	19 (16.7%)	47 (41.2%)	26 (22.8%)	114

Table 3. Correlation of Diagnosis and severity of depression Correlations

		Provisional Diagnosis	BDI Scores total
Provisional Diagnosis	Pearson Correlation	1	.197[*]
	Sig. (2-tailed)		.049
	N	114	114
BDI Scores total	Pearson Correlation	.197[*]	1
	Sig. (2-tailed)	.049	
	N	114	114

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4. Cross tabulation of Gender and severity of depression

	Minimal Depression	Mild Depression	Moderate Depression	Severe Depression	Total
Male	05	11	20	12	48 (42.1 %)
Female	17	08	27	14	66 (57.9 %)
Total	22	19	47	26	114

Table 5. Correlation of gender and severity of depression Correlations

		BDI Scores total	Gender of Patient
BDI Scores total	Pearson Correlation	1	-.032
	Sig. (2-tailed)		.749
	N	114	114
Gender of Patient	Pearson Correlation	-.032	1
	Sig. (2-tailed)	.749	
	N	114	114

Table 2 shows cross tabulation of diagnosis of backache and depression among the study population. Our findings show that depression was most prevalent among patients with infection or tumor and those with degenerative backache. Among the 28 patients with post traumatic backache, 16 (57 %) had depression. While 22 (84.5 %) out of 26 patients with infection or tumor were found to be depressed. Of the 36 patients with simple backache, 16 (44.4 %) were found to be lying in the range of moderate to severe depression. Among the 24 patients with degenerative backache, 19 (79 %) were found to be lying in the range of moderate to severe depression.

Table 3 shows correlation significance of diagnosis and severity of depression. The correlation is significant (*p=.049*).

Table 4 shows cross tabulation of gender wise frequency of depression among the patients. Among the 48 males, 32 (66.6 %) lied in the range of moderate to severe depression. While among the 66 females, 41 (62 %) lied in the range of moderate to severe depression.

Table 5 shows correlation significance of gender and severity of depression. The correlation is not significant.

DISCUSSION

Our study shows that Moderate depression was present among 47 (41.2 %) of the patients, while severe depression was present among 26 (22.8 %) of the patients. Combining rates of moderate and severe depression makes 73 (64 %) of the patients falling in the category of depression according to DSM 5 criteria of depression. The mean prevalence of co morbid major depression is reported to be 52% in pain clinics [15]. Kim et al. assessed 97 Korean patients with spinal stenosis employing the beck depression inventory (BDI) and found that the scores of depression were above the threshold for depression among 54 of the patients (55.7%) [16].

Our study shows that backache was more common among married individuals. Majority of the patients 71 (62.3%) were married followed by 21 (18.5%) patients were single.

Studies from the past also have found higher rates of depression among patients with back pain. A study form Karachi examining depression among patients with chronic low back pain found depression to be present among 49 % of the patients. The study also found that the risk for depression among females was higher as compared to males [17]. Another recent study also found depressive mood among 51.3 % of the patients with complaints of chronic low back pain, this study added that female gender was a risk factor for developing depression among this population [18]. Our results also showed that more females participants (41) were depressed as compared to males (32). Comparison was made based on moderate to severe depression scores on HAM-D.

A recent study from India conducted in a tertiary care hospital found almost similar rates of depression that is 74 % among patients with complaints of chronic low back pain [19]. Clinical samples of studies conducted in the past showed rates of depression ranging from 30 % to 62.8 % among this population [20, 21]. A Nigerian study showed prevalence rate of depression to be 39.5 % among patients with backache [7].

Simple backache is very common in our study population, 31.6 % of the patients had simple backache. A study examining data of World Health Survey on the prevalence of back pain found that the prevalence of back pain in Pakistan was 40.6 %. Highest prevalence of 69.5 % was recorded of Nepal, while lowest prevalence was 19.8 % noted that of India [22]. A prevalence rate of 44 % was observed from a study conducted in Islamabad assessing back pain among teachers [23]. Another recent large-scale study examining depression among chronic pain patients found that back pain was the most frequently reported (53.6 %) primary complaint among pains of other bodily regions, and among these patients 54.5 % had depression [22,23].

CONCLUSION

Co-existence of pain and depression is mostly underestimated and not properly understood in hospitals and health care facilities. The two conditions when comorbid may lead to worst physical and psychological functioning. It is suggested from the findings of current study that depression is very common among patients with backache therefore it is advised that screening patients with complaints of backache for psychiatric co morbidity in primary care is important to consider because psychopathology may have serious additional consequences for prognosis, outcome and health care utilization.

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