

Prevalence of Anxiety and Depression among the Patients Attending Surgical Ward at Public Sector Tertiary Care Hospitals in Karachi

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ABSTRACT

Objective: To highlight the prevalence of depression and anxiety among patients admitted in a surgical ward of a hospital.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Department of Surgery at Major Tertiary Care Hospitals in Karachi, from March 2018 to September 2018.

Materials and Methods: A written informed consent was obtained from each and every patient. A total of 250 questionnaires were distributed of which 210 were returned (Response rate = 84%). But only 198 were complete and thus included in the study. Patients were enrolled by non-probability convenient sampling majority of which were postoperative (n=178). The patients of both sexes who were greater than 15 years of age were included in the study. The Urdu version of Hospital Anxiety and Depression Scale (HADS) was used to measure the severity of anxiety and depression. The score obtained from each patient was used to categorize non-cases (0-7), mild anxiety and mild depression (8-11), moderate anxiety and moderate depression (12-16) and severe anxiety and severe depression (17 and above) cases.

Results: The studied patients comprised of 144 (72.7%) males and 54 (27.3%) females. The mean age of the patients was 31.36 ± 12.31 . The mean score of HADS anxiety was found to be 8.49 ± 3.47 whereas for depression, the mean score was 8.44 ± 3.39 . Out of 198, 60 patients were identified as non-cases of anxiety and 73 as non-cases of depression whereas 138 and 125 were determined to be cases of anxiety and depression respectively. The duration of the disease was found to be significantly associated with the HADS scores for anxiety and depression (p value= <0.001).

Conclusion: The study was conclusive that staying in hospital and undergoing a surgical procedure does produce anxiety and depression in otherwise healthy individuals and it was also found that duration of disease had a significant impact on the psychological state of the patient.

Key Words: HADS, Anxiety, Depression, Surgical procedures. Hospital anxiety

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INTRODUCTION

Depression is a condition in which a person feels discouraged, sad, hopeless, unmotivated, or disinterested in life in general. Depression is the most

common psychiatric disorder and is common in hospitalized patients^{1,2}. Depression and anxiety are approximated to effects about 480 million people worldwide^{1,3,4}. Most developing countries including Pakistan have high ratio of depression and anxiety due to rapid growth of population, lack of basic facilities as a result of low socio economic level. Psychological disorders are not only related to a poor adjustment to hospitalization distress⁵, but is associated with adverse events and unsatisfactory outcomes.²

Admission to hospital and the prospect of surgery is accepted as extremely anxiety-provoking resulting in behavioral and cognitive sequel which can have far reaching effects on recovery. Studies have explored the relationship between psychological factors and post-operative anxiety, leaving depression relatively unexplored⁶.

The objective of this study was to study the prevalence of depression and anxiety among post-operative

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patients of the surgical ward of public sector tertiary care hospitals and also to see its association with duration of disease using the hospital anxiety and depression scale (HADS).

MATERIALS AND METHODS

This cross-sectional study was conducted in the post-operative patients of department of Surgery at major tertiary care hospitals in Karachi, from March 2018 to September 2018. A total of 250 questionnaires were distributed of which 210 were returned (Response rate = 84%). But only 198 were complete and thus included in the study. Patients were enrolled by non-probability convenient sampling majority of which were postoperative (n=178). The severity of anxiety and depression was determined by the Hospital Anxiety and Depression Scale (HADS)(7). The patients of both sexes who were greater than 15 years were included in the study and they were divided into four groups (I=15-25 years, II=26-40 years, III=41-55 years, IV=>55years), furthermore age was also asked as a continuous variable. The patients fulfilling inclusion criteria were administered Urdu version of Hospital Anxiety and Depression Scale.

HAD Scale was basically designed for detecting the states of hospital acquired anxiety and depression. It is considered to be effective in determining the emotional problems among the admitted patients. In 1983, this scale was invented by Zigmond and Snaith and it consists of 14 questions. It is a self-report measure for anxiety and depression used in clinical practice(7). The score obtained from each patient was used to categorize non-cases (0-7), mild anxiety and mild depression (8-11), moderate anxiety and moderate depression (12-16) and severe anxiety and severe depression (17 and above).

Statistical Package for Social Sciences (SPSS) (version 17) was used for the analysis of the data. Frequencies tables and bar chart was drawn to show the distribution of the variables. Chi square test was used to determine the association between the duration of disease and depression and anxiety. Written informed consent was taken from each and every patient and anonymity of the data was ensured. The study was approved from the Ethics Review Committee (ERC) of Bhitai Dental and Medical College, Mirpurkhas

RESULTS

Out of the 198 patients who returned the completely filled questionnaire, 144 (72.7%) were males and 54 (27.3%) females. Minimum age of presentation was 19 years and maximum age was 65 years; mean age was 31.36 ± 12.3 . Most of our patients (n=81, 40.9 %) were among the age group of 15-25 years. (Table I)

The educational status of the enrolled patients was mixed. n=41 (20.7%) were illiterate, n=30 (15.7%) had primary education, n=46 (23.2%) had secondary

schooling, n=57 (28.8%) were intermediate whereas n=24 (12.1%) were graduate. (Table I)

Majority of the patients were employed (n=90, 45.5%). Majority of the patients had the illness for less than 3 years (n= 142, 72.7%).(Table I) The mean score of HADS anxiety was found to be 8.49 ± 3.47 whereas for depression, the mean score was 8.44 ± 3.39 . Out of 198, 138 and 125 subjects were identified as cases of anxiety and depression respectively. (Table 2)

The association of duration of disease with HADS anxiety scores showed that the patients with disease for less than 3 years were mostly found to be border line n=61 (43.0%), n=50 (35.2%) were non-cases, n=31 (21.8%) were moderate and none of the patient was found to be severe. The patients with duration of disease from 3-5 years were mostly found to be borderline(n=16, 35.6%), n=12 (26.7%) were moderate, n=10 (22.2%) were non-cases, n=7 (15.6%) were found to have severe anxiety. While among those patients who had disease for greater than 5 year were shown to be severely anxious (n=10, 90.9%), n=1 (9.1%) was found to be moderate but none of the patients with prolonged history of disease were non case or border line. Mean HADS score anxiety was found to 8.49 ± 3.47 ; p value was highly significant <0.001. (Table 3)

Table No.I: Demographics of the studied subjects (N=198)

Parameters Studied	Classification	Frequency	%tage
Age in groups (years)	15-25	81	40.9
	26-40	78	39.4
	41-55	31	15.7
	>55	8	4.0
Gender	Male	144	72.7
	Female	54	27.3
Duration of Disease (years)	Less than 3 years	142	71.7
	3-5 years	45	22.7
	Greater than 5 years	11	5.6
Educational Status	Illiterate	41	20.7
	Primary	30	15.2
	Secondary	46	23.2
	Intermediate	57	28.8
	Graduate	24	12.1
Occupational Status	Unemployed	56	28.3
	Employed	90	45.5
	Student	47	23.7
	Self employed	5	2.5

The association of duration of disease with HADS depression score patients for patients with disease less than 3 years were mostly found to be non-cases(n=61, 43.0%), n=54 (38.0%) were borderline, n=25 (17.6%)

were moderate, n=2 (1.4%) had severe depression. And those with duration of disease in between 3-5 years were mostly (n=18, 40%) border line, n=12 (26.7%) were non cases, n=10 (22.2%) were moderate, n=5 (11.1%) were found to have severe depression. While patients with duration of disease greater than 5 year n=9 (81.8%) of them were severely depressed, n=2 (18.2%) were border line and none of them were moderate and non-cases. Mean HADS score depression found to be 8.44 ±3.39, p value was highly significant <0.001. (Table 4)

Table No.2: Descriptive Statistics of Studied variables

Study Variables	Mean (± SD)	95% CI	Range (Min – Max)
Age (in years)	31.36 (12.31)	29.64 – 33.09	53 (12-65)
HADS Scoring Anxiety	8.49 (3.47)	8.0 – 8.98	14 (1-15)
HADS scoring Depression	8.44 (3.39)	7.96- 8.91	20 (0-20)

Table No.3: Association of HADS Anxiety Scores with Duration of the disease

		HADS Anxiety Scores								P value*
		Non Case		Borderline		Moderate		Severe		
		n	%	n	%	n	%	n	%	
Duration of the Disease	Less than 3 yrs.	50	35.2	61	43.0	31	21.8	0	0	142
	3 – 5 years	10	22.2	16	35.6	12	26.7	7	15.6	45
	Greater than 5 yrs.	0	0	0	0	1	9.1	10	90.9	11
Total		60	30.3	77	38.9	44	22.2	17	8.6	198

*p value less than 0.05 = significant, less than 0.01= very significant, less than 0.001=highly significant

Table No.4: Association of HADS Depression Scores with Duration of the disease

		HADS Depression scores								P value*
		Non Case		Borderline		Moderate		Severe		
		n	%	n	%	n	%	n	%	
Duration of the Disease	Less than 3 yrs.	61	43.0	54	38.0	25	17.6	2	1.4	142
	3 – 5 years	12	26.7	18	40.0	10	22.2	5	11.1	45
	Greater than 5 yrs.	0	0	2	18.2	0	0	9	81.8	11
Total		73	36.9	74	37.4	35	17.7	16	8.1	198

*p value less than 0.05 = significant, less than 0.01= very significant, less than 0.001=highly significant

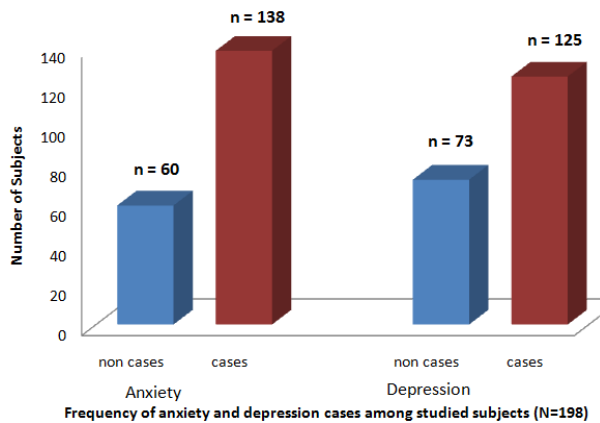


Figure No.1: Frequency of anxiety and depression cases among the studied subjects (N=198)

DISCUSSION

The study showed that the prospect of surgery in itself was a very stressful state, after effects of which caused marked increase in anxiety and depression which increased with increased duration of disease or probably with increased duration of hospital stay as well. According to the previous studies, the ratio increases remarkably in hospitalized elderly patients^{3,4}. The

activities of daily living were also affected in certain patients due to symptoms of after surgery and long stay in the hospitals^{8,9,10}.

A study conducted by Gillies et al.(1999) studied 351 adolescents undergoing elective surgery. They were surprised to find that although depression on the Hospital Anxiety and Depression scale was less than 4% pre-operatively and it rose to 29% post-operatively, and patients with depression were significantly more likely to experience moderate to severe pain post-operatively. This study does not study the difference between the depression and anxiety score in pre and post-operative states but all mean scores of depression and anxiety found in the study showed moderate on both¹¹.

Another study was conducted in Silakot, Pakistan in 2017¹². The compared the anxiety and depression in patients about to undergo elective or emergency surgery by dividing them in to two groups and recorded anxiety and depression at week 0 and 3. Their findings showed that anxiety was present in only 10.93% subjects at week 0 and 29.87% at week 3 among those undergoing elective surgery while depression was present in 9.98% and 32.1% respectively at week 0 and 3 in similar patients. This comparison was lacking in the current

study and is a good prospect for those who wish to conduct future research in this area.

In this study, anxiety and depression varied considerably with the duration of disease. Understandably anxiety was more marked than depression with significantly more patients scoring as 'cases' for depression than the normal population range of 11-22%^{13,14}. It was likely that the advent of illness and the fear and anxiety associated with surgery were reflected in these scores. In another study, 33% patients showed evidence of subclinical depression which is also the case in the present study in which the depression and anxiety was 63.1% and 69.6% respectively among the studied subjects¹⁵.

Our results generally confirm the findings of previous studies that there are high rates of psychological problems in patients attending even the out-patient departments. Two hundred patients attending out-patient Department of Dermatology, Jinnah Hospital, Lahore were studied for Hospital Anxiety and Depression¹⁶. 20% cases of depression and 28% cases of anxiety were found in the total sample, using cut off point as 11 or more on HAD Scale.

The relationship between anxiety and pain has previously been identified¹⁷ and psychological stress, measured over several post-operative days, revealed that anxiety and pain are positively correlated^{18,19}. It is important to emphasize that these findings do not explain whether anxiety and depression make pain worse or whether the experience of pain leads to anxiety and depression²⁰. Whilst it is not possible to identify the nature of the relationship between anxiety, depression and pain from the data, it seems from patients report that these different variables had a cumulative effect. A similar study shows the same result of high frequency of anxiety and depression²¹.

CONCLUSION

Anticipating surgery is understandably a big source of anxiety and depression but one would expect that levels would subside after surgery. The present study revealed that nearly a third of the sample experienced high levels of anxiety and depression after surgery. This anxiety and depression was significantly related to the duration of the disease as well.

Author's Contribution:

Concept & Design of Study: Malik Muhammad Saqib
 Drafting: Atif Mahmood, Atif Jawad
 Data Analysis: Ali Maqbool, Faria Khan, Umer Khayyam
 Revisiting Critically: Malik Muhammad Saqib, Atif Mahmood
 Final Approval of version: Malik Muhammad Saqib

Conflict of Interest: The study has no conflict of interest to declare by any author.

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