Original Article

Anxiety and depression in osteoarthritis patients using HADS questionnaire

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Objective: To investigate the presence of occult anxiety and depression through use of HADS (Hospital Anxiety Depression Score) questionnaire in cases of degenerative joint disease.

Methodology: A prospective, observational study of osteoarthritis patients presenting to Orthopedic OPD with joint and body aches was done from June to December 2018. Patients were selected from Avicenna Medical College, a tertiary care hospital, Lahore. A total 136 patients with knee/low back pain/neck or generalized aches & pains were included and given HADS form (Urdu translation) to fill and give their best response. The scores were tabulated (0-7 negative, 8-10 borderline & 11-21 positive).

Results: Among 136 patients, 50(36.8%) were male and 86(63.2%) female. Mean duration of symptoms (in Months) was 3.26 months (range 0.25-20). 114(83.8%) patients were married. Many had more than one symptom e.g. neck pain, knee pain, low back ache and generalized aches and pains. Co-morbidities were diabetes or hypertension. No association was found between depression or anxiety scores on HADS scale except for age and hypertension using a Chi Square test.

Conclusion: The association between degenerative joint disease and depression and anxiety using a HADS scale cannot be proven. A large scale study will be desirable. (Rawal Med J 202;46:56-61).

Keywords: Osteoarthritis, anxiety, depression.

INTRODUCTION

Osteoarthritis (OA) is a common disorder presenting with various complaints related to the parts of body involved and causes a lot of disability. Anxiety and depression are common comorbidities that present along with these disorders. It may affect the quality of life of patients.[1,2]There is evidence that structural changes alone do not account for all musculoskeletal pain and suffering.[2] Psychosocial factors have been seen to effect pain and disability in a number of musculoskeletal conditions including chronic low back pain and neck pain.[3,4]

When a fear produces behavioral and physiological changes, the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-V) denotes this as anxiety disorder.[1] Depression, on the other hand, is defined as the presence of sadness, emptiness, or irritable mood. In some patients both anxiety and depression can coexist affecting cardiovascular, gastro-enteric and chronic respiratory disorders.[1] Both anxiety and depression are accompanied by somatic and cognitive changes that can significantly affect an individual's capacity to function.[1] Hospital Anxiety and Depression Scale (HADS) is frequently used to screen for the presence of anxiety and depression.[2,3,5,6]

Both Health Assessment Questionnaire (HAQ) and HADS scores were high in those with knee disease.[6] Lin et al studied 1,801 depressed older adults with coexisting arthritis and y showed improved depression care decreased the complaint of pain.[7] The present study was done to study the HADS scores of patients presenting with joint pains typical of degenerative joint disease to our Orthopedics OPD in a tertiary care hospital.

METHODOLOGY

It was a prospective, observational, descriptive study of patients coming to orthopedic clinic at Avicenna Medical College Hospital, Lahore from June to December 2018. Sample size was calculated to be 140 when estimated by using 95% confidence Level, 8% absolute precision and by taking expected percentage depression/anxiety as 37%

using the following WHO formula[$n = \frac{Z^2_{1-\alpha/2} * P * (1-P) * D}{\varepsilon^2}$].[1,2,3,4] Patients of both gender above the ages of 30 years were included. All patients with history of co-morbid conditions like recent trauma, crystal arthropathy, inflammatory arthropathy and ligament meniscal injuries were excluded.

The HADS inventory consists of 14 questions in English (it was translated in Urdu for our public). The patient chooses from among four options the response most representative of his current situation. Seven responses for depression and Anxiety are scored separately afterwards. Age/gender, duration of symptoms, location of pain e.g. knee lower back, income, marital status and comorbid conditions were recorded.

Statistical Analysis: Statistical analysis was performed using SPSS version 20. A Chi-square test was used for association and $p<0.05$ was considered as significant.

RESULTS

Out of 150 forms filled by the patients, 136 were found to be complete and without ambiguities. Fourteen were rejected. Mean age was 43.3 (range 30-75 years). Of 136 patients, 50(36.8%) were male and 86(63.2%) were female. Mean duration of symptoms (in Months) was (3.26) (range 0.25-20) (Table 1). Various age groups, H/O Psychological Disorder, Gender, Knee Pain, Low Back Pain, Aches & Pains, Diabetes Mellitus, Hypertension, Ischemic Heart Disease, Acid Peptic Disease and Marital Status showed no association with anxiety HADS (Table2).

Table 1. Demographic representation of the group under study.

Characteristic	Number	Percent
Average (Mean) Age (in Years)	43.03	Min=30 Max=75
Male	50	36.8%
Female	86	63.2%
Average (Mean) Duration of symptoms (in Months)	3.26	Range: 0.25-20
Married	114	83.8%
Single	22	16.2%
Education: Below Matric	78	57.4%
Education: Matric or Above	58	42.6%
Average (Mean) Income (in PKR)	31044.12	Range: 0-100000
Average (Mean) No. of Kids	2.94	Range: 0-9
Symptoms (some had more than one symptoms)		
Knee pain	30	22.1%
Lower Back Pain	57	41.9%
Neck	33	24.3%
Generalized Aches & Pains	63	46.3%
Comorbidities (some had more than one comorbidities)		
Diabetes Mellitus	15	11.0%
Hypertension	27	19.9%
Ischemic Heart Disease	6	4.4%
H/O Acid Peptic Disorder	44	32.4%
Psychiatric Disorder	5	3.7%

Table 2. Scoring for Anxiety on HADS Scale with various symptoms & comorbid conditions.

		Normal	Borderline	Abnormal	Total	Chi Square
Age Groups	<30	14	19	7	40	6.182
	30-60	23	44	20	87	P-Value= 0.182 (Statistically Non-Significant
	Above 60	5	1	3	9	
	Total	42	64	30	136	
Psychological Disorder	<30	0		40	40	3.140
	30-60	4		83	87	P-Value= 0.208 (Statistically Non-Significant)
	Above 60	1		8	9	
	Total	5		131	136	
Gender	M	17	23	10	50	0.420
	F	25	41	20	86	P-Value=0.811
	Total	42	64	30	136	(Statistically Non-Significant)
Knee Pain		10	14	6	30	0.150 P-Value= 0.928(Statistically Non-Significant)
Neck pain		12	13	8	33	1.062 P-value=0.927 (Statistically Non-Significant)
Generalized Aches & Pains		22	26	15	63	1.619 P-Value=0.445 (Statistically Non-Significant)
Low Back Pain		16	28	13	57	0.365 P-Value= 0.865(Statistically Non-Significant)
Anxiety		12	13	8	33	1.062 P-Value= 0.588(Statistically Non-Significant)
Aches & Pains		22	36	15	63	1.619 P-Value= 0.445(Statistically Non-Significant)
Diabetes Mellitus		3	7	5	15	1.619 P-Value= 0.445(Statistically Non-Significant)
Hypertension		9	11	7	27	0.580 P-Value= 0.748(Statistically Non-Significant)
Ischernic Heart Disease		1	2	3	6	2.884 P-Value= 0.237(Statistically Non-Significant)
Acid Peptic Disease		9	24	11	44	3.320 P-Value= 0.190(Statistically Non-Significant)
Marital Status		37	52	25	114	0.883 P-Value= 0.643(Statistically Non-Significant)

Table 3. Scoring for Depression on BADS Scale with various symptoms & comorbid conditions.

		Normal	Borderline	Abnormal	Total	Chi Square
Age Groups	<30	13	22	5	40	17.222
	30-60	12	40	35	87	P-Value= 0.002 (Statistically Significant)
	Above 60	2	1	6	9	
	Total	27	63	63	136	
Psychological Disorder	<30	0		40	40	3.140
	30-60	4		83	87	P-value=0.208(Statistically Non-Significant)
	Above 60	1		8	9	
	Total	5		131	136	
Gender	M	13	20	17	50	2.188
	F	14	43	29	86	P-Value= 0.335(Statistically Non-Significant)
	Total	27	63	46	136	
Knee Pain		4	11	15	30	4.577 P-Value= 0.lOl(Statistically Non-Significant)
Low Back Pain		11	27	19	57	0.045 P-Value= 0.978(Statistically Non-Significant)
Neck Pain		6	15	12	33	1.062 P-value=0.588(Statistically Non-Significant)
Generalized Aches & Pains		11	26	26	63	2.910 P-Value=0.233(Statistically Non-Significant)
Depression		6	15	12	33	0.152 P-Value= 0.927(Statistically Non-Significant)
Aches & Pains		11	26	26	63	2.910 P-Value= 0.233(Statistically Non-Significant)
Diabetes Mellitus		2	5	8	15	2.872 P-Value= 0.238(Statistically Non-Significant)
Hypertension		4	8	15	27	7.161 P-Value= 0.028(Statistically Significant)
Ischemic Heart Disease		1	1	4	6	3.226 P-Value= 0.199(Statistically Non-Significant)
Acid Peptic Disease		8	16	20	44	4.086 P-Value= 0.130(Statistically Non-Significant)
Marital Status		22	49	43	114	4.970 P-Value= 0.083(Statistically Non-Significant)

Various age groups, and co-morbidities showed no association with depression on Chi Square test except for Hypertension in the group scoring positive on HADS scale. However association with age was positive for depression as per HADS (Table3).

DISCUSSION

Psychological comorbidities (anxiety and depression) are highly prevalent among patients with OA. Comorbid conditions may sometimes mask the symptoms of the disease.[8] Kaur et al in 2015 used HADS to study stress related problems in ICU attendants and concluded that majority of subjects were suffering from anxiety and depression.[9]

Our study has failed to show any association between various presentations of degenerative joint disease and the common comorbidities. Only age of the patients showed some association of statistical significance. Most of these patients come to the hospital on basis for short term basis and unlike previous where the suffering of the patients has been studied in illnesses involving suffering and disability on long terms like chronic renal failure, end stage renal failure, ICU settings and rheumatoid arthritis. Several studies on knee and low back pain have shown appreciable association with undiagnosed anxiety/depression in cases undergoing knee replacement or disability caused by years of suffering.[1-4]

In early part of the degenerative joint disease unlike the inflammatory arthritis the coexistence of depression and anxiety may not be so common or evident. Yilmaz et al[11] and Wylde et al[12] have also noted that degenerative joint disease or osteoarthritis tends to show increased depression or anxiety only in advanced cases. In a similar study by Akhtar et al, the prevalence of similar symptoms just 1 week after acute myocardial infarction symptoms of depression were found in 14%, anxiety symptoms in 18% and mixed symptoms (anxiety and depression) in 18% of the patients.[13]

Our study is a very basic effort to understand degenerative joint disease and coexistence of anxiety and depression. A detailed study is warranted to study the concept of coexistence of depression and anxiety in this group of patients.

CONCLUSION

In this small scale study based on use of HADS scale in patients with degenerative joint disease, correlation of anxiety and depression could not be proved. A large scale study with more involvement of psychiatric investigation may be of further help.

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