

## **A Study Of Clinical Depression In Patients Suffering From Bilateral Osteoarthritis Of Knee**

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### **I. Introduction**

Osteoarthritis, a progressively destructive joint disease causing varying degrees of unrelenting pain and excess suffering is highly prevalent among all older populations. Primarily affecting the articular cartilage lining of freely moving joints, and commonly attributed to the aging process, this highly debilitating disease can be aggravated by a variety of medical comorbidities and biological factors other than age. Depression, a frequently observed condition in the older population as well as among people with chronic and/or chronically painful health conditions is another aggravating factor. Given that osteoarthritis is largely irreversible and that older people are more likely than younger persons to have this condition, the goal of this editorial was to provide a brief overview of the role of depression in the pathway from osteoarthritis pathology to disability and to make appropriate recommendations for advancing clinical practice in this area. Because of the excess personal and societal burden associated with osteoarthritis in the context of older populations, this review focuses specifically on examining evidence the link between depression and the pain experienced by this group.

Since the role of depression in mediating or moderating the osteoarthritic disease process is often overlooked clinically, and is often not discussed at all in the context of current clinical practice recommendations, the author's purpose was to stress the importance of more concerted efforts to screen for and treat depression where evidenced among older people suffering from osteoarthritis.

A considerable volume of research has confirmed that osteoarthritis of one or more joints is a highly prevalent disorder causing appreciable disability in aging adults. A further volume of research has revealed an increasing need for non-operative and operative interventions to minimize osteoarthritis disability. A further body of research has outlined the course of osteoarthritis and treatments to minimize pain while limiting patient risk. Existing treatments are not always helpful as far as reducing pain and promoting function, however. Moreover, some forms of pain relieving medications may be contra-indicated for some patients, and others recommended for reducing osteoarthritic pain may foster, rather than retard, articular cartilage disintegration, the main problem associated with this condition. Others have discussed the importance of mental well-being, psycho-educational interventions and the importance of pain and depression in the context of this disease.

Depression, a serious mood disorder associated with persistent feelings of sadness, loss of interest and pleasure in daily activities may occur independently as a separate health condition, or in reaction to the persistent presence of other illnesses, adverse life events and losses, as well as mobility losses, such as those experienced by the older person with osteoarthritis. However, even though research shows severe forms of depression affect 2-5% of the United States population, and up to 20% may suffer from milder forms of the illness, especially after 70 years of age, especially if they suffer from medical problems, and/or chronic disabling pain, measures are not commonly put in place to identify depression.

In addition to personal suffering and disruptions that affect the entire family, depression at any age worsens the outlook for the individual as regards their health and medical challenges. This process, in turn, can exacerbate prevailing depression, as well as the outcomes of co-existing physical illnesses quite negatively. It can also result in excessively high rates of inflammation, a decreased desire for physical activities, weakness, trouble sleeping, anxiety, social withdrawal, and higher rates of bone resorption, as well as pain, all factors that could all interact to magnify the extent of osteoarthritis disability, including the overuse of existing health services.

### **II. Materials and Methods**

A cross sectional study was done including all patients diagnosed with Osteoarthritis of knee. Diagnosis of osteoarthritis was established on the basis of clinical criteria; knee pain more than 6 months, joint

line tenderness and radiological criteria as assessed by Kellgren-Lawrence Classification; Grade 2 and above were included. Patients having other inflammatory arthritides or other medical and surgical co-morbidities were excluded to prevent confounding. These patients were clinically evaluated for functional compromise in activities of daily living on the basis of Knee Society Score. All patients were interviewed and assessed for clinical depression. Diagnosis of depression was established on the basis of WHO's ICD-10 criterion for depression (F32). These parameters were analysed for relationship.

### III. Results

The study consisted of 212 patients (Male=78, Female=134). Mean patient age was 63 years (range, 52-78 years). Overall prevalence of depression found to be 20.7% . Charts depicting analysis of depression with sex and Knee society score are given below.

**Table 1:** Sex wise distribution of depression

	Male population	Female population
No. of patients	78	134
Mean Age (in years)	65.4	61.2
Depression prevalence	15.3%	23.8%

**Figure 1:** Inverse relationship of Prevalence of Depression with KSS score



**Table 2:** KSS score with prevalence of depression

KSS Score	No. of Patients	Prevalence of Depression(%)	Prevalence of Depression
Excellent	22	13.6	3
good	73	16.4	12
Fair	88	23.8	21
Poor	29	27.5	8

### IV. Discussion

Osteoarthritis is one of the leading causes of morbidity in elderly patients. With Improvement in life expectancy its prevalence has increased. It can lead to restriction of activities of daily living to great extent often making patients homebound. Our study evaluated prevalence of depression in patients of Osteoarthritis of knee and its association with severity of disease was evaluated by correlating it with knee society score. Our study shows an inverse relationship of prevalence of depression with knee society score.

Conservative treatment of Osteoarthritis includes lifestyle modifications, muscle strengthening exercises and gait training. These methods are all patient dependent and require high motivation on the part of patient for a successful outcome. Psychological status of patient plays a key role.

Osteoarthritis impacts the socio occupational functioning of the patient which results in poor quality of life and may result in depression. Depression on the other hand, in turn worsens patients pain perception (depression can alter pain threshold levels), quality of life and outcome of patients even of those who are being treated for osteoarthritis. Hence, there is a bidirectional relationship between osteoarthritis and depression. Since chronic pain in itself can cause or aggravate anxiety and depression, a vicious cycle begins, which can significantly impact the course and management of this disease worsens the treatment outcome.

We have found increased prevalence of depression in osteoarthritis patients (20.7%). Several studies have evaluated the concordance between OA and depression. Although substantial work has been conducted to elucidate the role of depression in patients with Osteoarthritis, this study seeks to provide a further understanding in an Indian context regarding the bidirectional impact of depression and OA symptoms, patient outcomes and challenges they present towards disease management.

This reinforces the importance of early identification and multidisciplinary treatment of depression with antidepressants and other therapies as it may improve the eventual disease outcome. More so in females, as we have found increased prevalence of depression in females (23.8%) as compared to males (15.8%) where treating depression may significantly alter patient self care and response to treatment.

There were several limitations in our study. First, there was inadequate data to conduct subgroup analyses according to variables of interest such as duration of osteoarthritis symptoms, number of joints affected, and severity of pain or impact of age. Second, almost all of the included studies defined depressive symptoms with a screening tool, but accuracy and utility of these instruments in people with osteoarthritis are undetermined. Lastly, there was evidence of some heterogeneity in some of the analyses, which was only partially accounted for in meta-regression analyses. But still, we can satisfactorily conclude in our study that clinicians should focus on management of depression in patients suffering osteoarthritis patients as it may improve the disease outcome.

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